

Connectivity to be trusted.

Annual Report 2017

Bittium



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CEO's Review

The year 2017 was financially challenging for Bittium. Net sales decreased 19.6 per cent year-on-year and was EUR 51.6 million. Operating loss was EUR -6.2 million. This loss was caused by the decrease in the net sales and significant R&D investments to enable the Company's long-term growth.

The share of the services-based net sales decreased significantly, as expected, and remained at EUR 34.9 million, being EUR 16.9 million less than in the last year. The decrease in the services business net sales was mainly caused by the termination of a significant customer cooperation with a global network equipment manufacturer. Bittium has won new R&D services projects for wireless products, however, it has not been able to replace the decrease in the net sales in total.

The share of the product-based net sales grew to EUR 16.3 million which was EUR 4.4 million more than in the last year. The increase in the net sales resulted from the product portfolio extension to medical remote monitoring and measuring of biosignals as well as from the increased deliveries of Bittium Tough Mobile™ LTE smartphones. However, the product-based net sales was below our targets due to the changed schedule of the startup of the deliveries of the mobile devices designed for the Mexican governmental authorities from the year 2017 to 2018.

In line with our strategy, we continued investments into our product business to enable future growth. The year 2017 was significant for us in terms of R&D investments. The investments in own products and product platforms were EUR 15.0 million, which is 29.1 per cent of net sales. The investments focused mainly on extending the tactical communication product offering targeted for defense industry as well as

on different terminal products and their related software development, targeted for Mobile Security and Public Safety markets. We started the development of new software-defined radio based Bittium Tough SDR™ product family that includes tactical handheld and vehicle radios and continued the development of the secure Bittium Tough Mobile smartphone and the research and development its next generation. We also launched a new software version for our Bittium SafeMove® product family.

Product development of products for measuring and monitoring of biosignals was also continued. Bittium Faros™ ECG-measuring devices' built-in algorithms for detection of arrhythmias have received medical device approval in Europe. We continued to develop our new Medical Technologies product and service area and started cooperation with a Finnish health care service provider Coronaria Hoitoketju's subsidiary Coronaria Analyysipalvelut Oy. Through this joint ownership Bittium and Coronaria aim at gaining synergies from Bittium's device and system development and the interfaces formed by Coronaria's clinical medicine and services.

The cooperation with the Finnish Defense Forces continued. The development of the tactical communication system Bittium Tactical Wireless IP Network™ (TAC WIN), used by the Finnish Defence Forces, continued and the product deliveries for this communication system were continued. The use of the Bittium TAC WIN system within the Finnish Defence Forces' branches expands to the Air Force. In addition we made two important agreements with the Finnish Defence Forces for the coming years; a Framework Agreement that continues the deliveries of Bittium TAC WIN products in the years 2018–2020 and a Letter of Intent concerning the purchase of new

Software-Defined Radio (SDR) based tactical radios and the preparations of the purchase.

The new phase of the ESSOR (European Secure Software defined Radio) programme was started, where the operational capabilities of ESSOR High Data Rate Waveform (HDR WF), meant for joint operations between defense forces of different countries, will be enhanced further. Bittium is part of the ESSOR programme and will bring the new functionalities of the radio wave form also to the new Bittium Tough SDR radios.

The development of Bittium Tough Mobile smartphone continued further and the National Cyber Security Centre–Finland of the Finnish Communications Regulatory Authority granted approval for the Mobile Security and Public Safety targeted Bittium Tough Mobile LTE smartphone and related back-end system to process material that is classified nationally as Confidential. Bittium Tough Mobile's unique dual-boot functionality for the Confidential classification level makes it possible to operate the device with two completely separate operating systems: Public and Confidential. The operating system classified as Public is meant for personal communications with access to e.g. Google programs, and Confidential is completely isolated and hardened for secure authority. We signed a contract with the Finnish Defence Forces for the delivery of Bittium Tough Mobile LTE smartphones and related Bittium Secure Suite™ back-end system classified for Confidential level. Although the cyber security threats are increased, the development of Bittium Tough Mobile's markets have been slower than expected.

We continued the development of our operations, and we were awarded with ISO 13485:2016 certificate, which covers the

design, development, manufacturing and related services for the entire product life cycle of medical devices. The quality management system based on ISO 13485:2016 standard is a major competitive advantage and supports Bittium's strategy for Connectivity Solutions' product and service area.

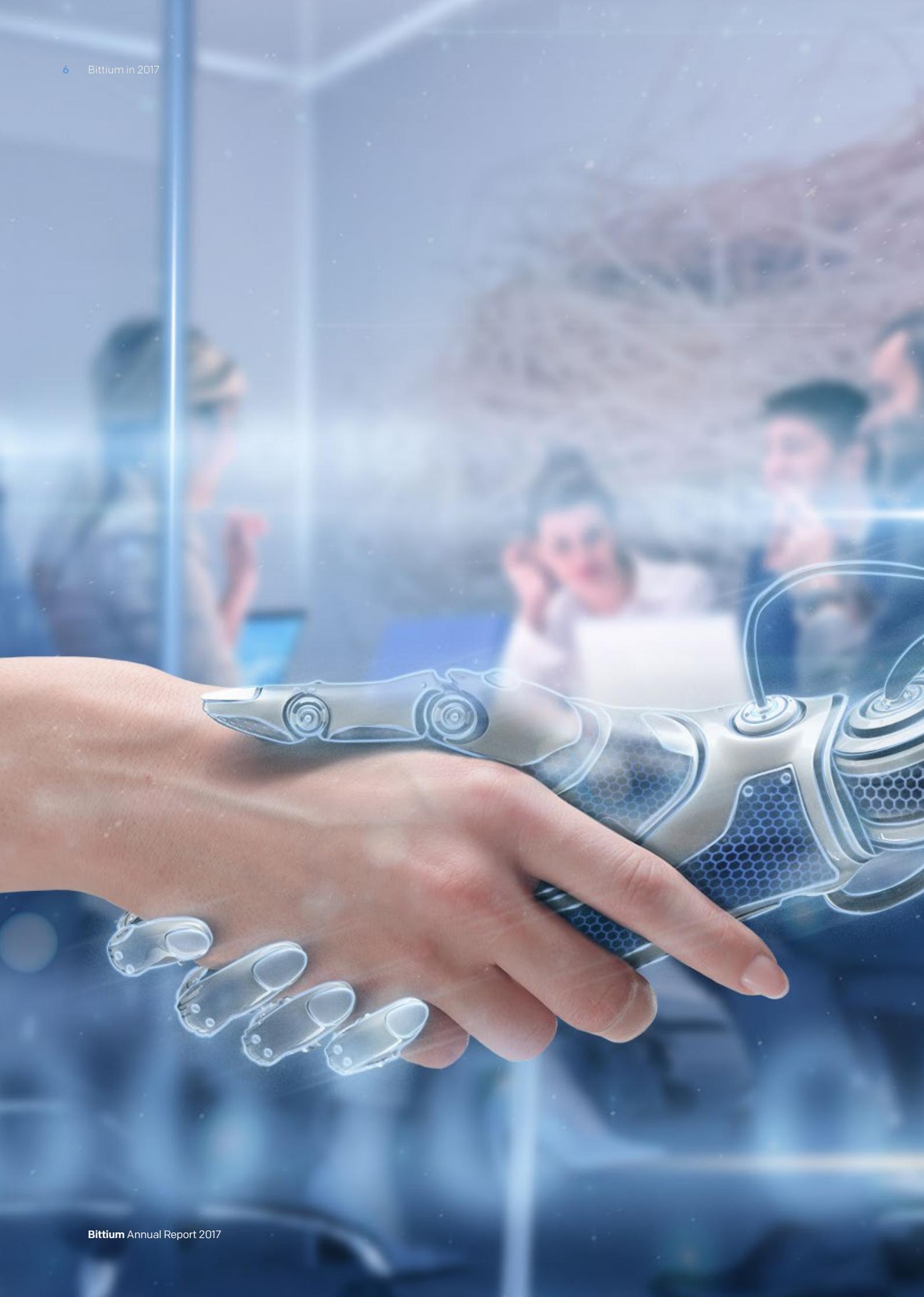
We have continued to build this Company to enable long-term growth. We will continue investments in enabling organic growth and in searching for inorganic growth opportunities in all our product and service areas.

I want to thank our personnel and partners for the remarkable investments and numerous great achievements during 2017. I want to express my thanks to our customers for their loyalty and trust, as well as our shareholders for supporting the Company's long-term growth.



Hannu Huttunen
CEO





Bittium in 2017

Financial Performance

Bittium's net sales in January-December 2017 decreased by 19.6 percent year-on-year to EUR 51.6 million (EUR 64.2 million, in 2016).

The share of the product-based net sales was EUR 16.3 million (EUR 11.9 million, in 2016), which resulted mainly from the product deliveries of the tactical communication system, product deliveries of Bittium Tough Mobile LTE smartphones and related security software, and deliveries of products for measuring and monitoring biosignals. The increase in the product-based net sales year-on-year resulted mainly from product sales in the medical business acquired at the end of 2016 and increased deliveries of Bittium Tough Mobile LTE smartphones.

The share of the services-based net sales decreased significantly and was EUR 34.9 million (EUR 51.8 million, in 2016). The decrease in the services business net sales was caused by the termination of significant customer cooperation with a global network equipment manufacturer. Bittium has won new R&D services projects for wireless products, however, it has not been able to replace the decrease in the net sales in total.

Operating loss was EUR -6.2 million (operating profit of EUR 2.5 million, in 2016). This loss was caused by the significant decrease in the net sales and significant R&D investments.

Cash flow from operating activities was EUR -0.0 million (EUR -1.7 million, in 2016). Net cash flow was EUR -32.0 million, in-

cluding the EUR 10.7 million dividend payment in April and the investments made into the Company's new office building in Oulu, Finland and into own product development (EUR -279 million, in 2016, including the EUR 10.7 million dividend payment and the investments made into the Company's new office building in Oulu, Finland). Equity ratio was 85.6 percent (87.0 percent, December 31, 2016). Net gearing was -52.9 percent (-70.3 percent, December 31, 2016).

Bittium continued R&D investments in its own products and product platforms and the amount of R&D investments increased significantly during 2017. R&D investments in 2017 were EUR 15.0 million (EUR 6.9 million in 2016) which was 29.1 percent of net sales (10.8 percent of net sales in 2016). EUR 5.8 million were capitalized (EUR 0.9 million in 2016). The amount of capitalized R&D in-

Consolidated Financial Statements

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME, MEUR	2017 12 months	2016 12 months
Net sales	51.6	64.2
Operating profit / loss	-6.2	2.5
Financial income and expenses	0.4	0.6
Result before tax	-5.8	3.1
Result for the period from continuing operations	-4.8	3.5
Result for the period from discontinuing operations	1.7	
Result for the period	-3.1	3.5
Total comprehensive income for the period	-3.2	3.5
Result for the period attributable to:		
Equity holders of the parent	-3.1	3.5
Total comprehensive income for the period attributable to:		
Equity holders of the parent	-3.2	3.5
Earnings per share from continuing operations, EUR	-0.133	0.098



vestments in the balance sheet at the end of 2017 were EUR 11.9 million (EUR 6.4 million in 2016).

Bittium's Products and Services

Bittium is specialized in the development of reliable and secure connectivity and communication solutions and mobile information security solutions leveraging its 30 years legacy of expertise in advanced radio communication technologies.

Bittium offers its customers also healthcare technology products and services in biosignal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine based on its over 30 years of expertise in measurement technologies.

Bittium's business operations are divided into three product and service areas: Defense & Security, Connectivity Solutions and Medical Technologies.

Defense & Security

In the Defense & Security product and service area Bittium offers globally leading products and services for its customers in the defense, security and public safety markets. Bittium's competitiveness in these markets is based on trust and reliability, hi-quality products and services, as well as on advanced technology and security know-how developed within the company during more than 30 years.

Bittium Tough Mobile™ is a secure and durable Android-based LTE smartphone combining the latest information security and commercial device technologies. Bittium Tough Mobile incorporates a hardware-based security platform, which enables strong device security as well as deep integration of both customers' own and third-party software security solutions. This dedicated hardware is essential for building layered mobile security solutions.

In addition, Bittium Tough Mobile's features include for example a programmable Push-to-Talk button (PTT), glove-usable 5" full HD display, IP67 level water and dust protection, and MIL-STD-810G level shock resistance. Bittium Tough Mobile and related management system and VPN encryption solution have received official Confidential level encryption product classification in Finland from the Finnish Communications Regulatory Authority where material can be transferred between a smartphone and connected back end solutions on top of creating and processing of classified information.

Bittium Secure Suite™ is a device management and encryption software product that complements Bittium Tough Mobile smartphone with a scalable set of new software services for remote management, remote attestation and securing the network connections of the device. Bittium Tough Mobile smartphone and Bittium Secure Suite form a unique, complete, reliable system for processing and transferring sensitive and classified material and securing critical communication.

Bittium Specialized Device Platform™ is a versatile device platform leveraging latest mass market mobile device hardware and software technologies. The platform enables companies to roll-out fully customized mobile devices in various form factors (incl. module, smartphone, tablet and smart watch) faster and with lower development risks. The platform has been productized to public safety, security, industrial and smart watch markets. One of the major products based on this platform is the Bittium Tough Mobile secure smartphone.

Bittium SafeMove® Mobile VPN software enables the utilization of all IP based applications and networks by securing the connections between the work station and corporate services immediately from startup of the phone. With Bittium SafeMove, for

instance home care workers are allowed to have full access to the same systems and applications they would have on a hospital desktop, enabling safe and real-time access to patient records.

Bittium SafeMove® Analytics is an advanced monitoring and reporting module that helps organizations to monitor network connectivity and performance to improve productivity and user experience. The Analytics tool continuously gathers connectivity data such as connectivity status, speed, throughput and bytes transferred, network type and Wi-Fi network information. It is also easy to enhance the tool with positioning information if GPS data is available. In addition the new security features enable immediate report of possible security deviations in the mobile phones used by the employees. This enables reacting to the cyber threats without any delay, for example by disconnecting device that reported the deviation, from the company network for the time of clearance of the situation.

Bittium Tactical Wireless IP Network™ (TAC WIN) is a Software-Defined Radio based wireless broadband network system intended for military and public safety use. With the system MANET (mobile ad hoc network), link, and connection networks can be formed into one logical IP network quickly, no matter where location is. Bittium TAC WIN is compatible with existing fixed and wireless network infrastructures. The core of the system is a tactical router that enables users to freely form both wired and wireless broadband data transfer IP connections. Tactical router enables also connections to different types of terminals and other communication systems connecting them into one communication network. In addition to the router, the system comprises of three types of radio heads, and each radio head covers its own frequency band area and can be used for flexible formation of optimized network topologies for different communication needs. All the products of the system are designed for harsh conditions, and thanks to the system's automated functions the implementation of the system can be done quickly. Due to the

Bittium Tough SDR Handheld™ and Bittium Tough SDR Vehicular™



software-based functionality of the Bittium TAC WIN system, it can be easily updated with additional performance cost-efficiently during the whole lifespan of the system.

Bittium Tough VoIP™ product family's products enable tactical IP calls and broadband data transfer even in demanding conditions. Products are easily integrated to existing IP infrastructure. The product family consists of a range of tactical IP-based communication products, including distributed VoIP service network for tactical environment, Bittium Tough VoIP Service; Voice over IP clients, Bittium Tough VoIP Field Phone and Bittium Tough VoIP Terminal; and network extension unit, Bittium Tough VoIP Network Extender; and Bittium Tough VoIP Service software.

Bittium Tough VoIP Field Phone™ is a SIP (Session Initiation Protocol) compliant client that provides interoperability with other SIP clients and server implementations available in the market, and incorporates functionality that enables introduction of VoIP services in dynamic self-forming networks independent from server.

Bittium Tough VoIP Terminal™ is a wireline VoIP phone that can be operated either as an part of Bittium Tough VoIP solution or as an IP terminal together with a third-party equipment.

With the **Bittium Tough VoIP Network Extender™**'s SHDSL (Symmetric-High-Speed Digital Subscriber Line) connectivity, an IP network can be extended over long distances using conventional field wire. The Network Extender also features Ethernet and SHDSL connections to external networks and devices. With these products it is possible to provide wired connectivity and enhanced reliability of VoIP services regardless of availability of network services. The products are also easily integrated to existing IP infrastructure and are fully interoperable with commercial equipment.

Bittium Tough VoIP Service™ is a software product, which can be used to connect both fixed data network users and wireless tacti-

cal data network users to the same voice service network.

Bittium Tactical LTE Access Point™ is a solution providing LTE access to the Bittium TAC WIN network. With the solution, different troops can benefit from cost-efficient and high-speed multimedia data and VoIP services by using commercial smartphones as well as special terminals intended for authority use.

Bittium Tough Comnode™ fulfills the data transfer needs for mobile troops by functioning for example as a VoIP phone (Voice over IP), an IP router (Internet Protocol), and an SHDSL repeater (Symmetrical High-speed Digital Subscriber Line). Additionally, Bittium Tough Comnode also provides SIP (Session Initiation Protocol) server functionalities of the tactical voice network for commercial VoIP terminals and enables using also legacy Combat Net Radios (CNR) as part of the IP-based tactical communication system (Radio over IP, RoIP).

New Bittium Tough SDR™ Product Family in Development

Bittium Tough SDR product family consists of **Bittium Tough SDR Handheld™** and **Bittium Tough SDR Vehicular™** radios. The new product family expands Bittium's offering from the current Bittium Tactical Wireless IP Network (TAC WIN), used for forming a tactical broadband mobile IP backbone network, to individual soldier and vehicular level tactical radios. This enables bringing broadband data transfer and voice to all mobile troops starting from brigade level and all the way across the battlefield to an individual soldier.

Connectivity Solutions

In the Connectivity Solutions product and service area Bittium provides professional design services and technology expertise in the areas of wireless devices, network infrastructure, and IoT solutions. Bittium also conducts R&D in the technology areas of 5G, Artificial Intelligence (AI), Robotic Process Automation (RPA), and Cloud Solutions. Bittium has long experience in

system design, technology integration, wireless radio and antenna technologies, and power optimized, small form-factor device development. The understanding of industry-specific requirements, strong competence in R&D services, wireless devices, digitalization and information security along with the ISO 13485:2016 quality certificate, covering the devices, and equipment for health care (issued in autumn 2017) enable Bittium to create solutions which bring clear added value to our customers and partners.

Bittium Wearable Platform for Health Monitoring™

is a wearable device platform integrated with four sensors: 3-axis accelerometer, Optical Heart Rate (OHR), skin temperature and EmoGraphy skin conductance sensor. These sensors allow the measurement of person's stress level, fatigue and sleeping quality. The wearable platform provides an easy way to develop and test new healthcare-specific products and services such as remote patient monitoring or professional driving applications.

Medical Technologies

In the Medical Technologies product and service area Bittium offers its customers healthcare technology products and solutions in biosignal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine. Combining healthcare technologies with Bittium's long-term experience and competence in wireless and security technologies gives Bittium good conditions to serve its customers in healthcare sector by offering them new kinds of products and services.

Bittium Faros™ is a versatile ECG device that is used for early detection of cardiac abnormalities in everyday life. Bittium Faros is ultra-small and lightweight,



Bittium
Cardiac
Navigator™

which enables precise long-term full disclosure ECG measurements for long-term Holtering, cardiac event monitoring, mobile cardiac telemetry and assessing autonomic nervous system functions.

Bittium Faros outpatient monitoring solutions include several software options for cardiac monitoring. The built-in arrhythmia detection algorithms of the Bittium Faros device are used for event recording and mobile event monitoring. This technology enables earlier repatriation of patients and even better ability to react to potentially emerging arrhythmias faster.

Bittium Cardiac Rehabilitation System™ is a solution for cardiac rehabilitation real-time monitoring for up to 16 patients simultaneously. The system offers safety and efficiency for cardiac rehabilitation by showing each patient's heart rate, ECG and changes in ST-segment. Utilization of the latest wireless technology allows complete freedom to choose different exercises in various training environments.

Bittium Cardiac Navigator™ is a completely new type of solution for the analysis of clinical Holter ECG recordings. Its user-friendly and informative data presentation and intuitive analysis tools make the software efficient and easy to use when analyzing multiple days of ECG recordings. Bittium Cardiac Navigator is designed for scanning longer measurements efficiently in a shorter time and thus speeding up the final diagnosis.

Bittium Cardiac Explorer™ offers a quick and flexible way of working with event-based ECG arrhythmia analysis. The biggest benefits of the software are having full disclosure ECG always available, full access to the events identified by the device, total control on the reporting content and the ability to analyze an unlimited amount of measurement data.

Bittium NeurOne™ is one of the quickest and most accurate EEG measuring devices in the world designed for clinical and research use. Bittium NeurOne system enables fully synchronized group measuring of up to 30 persons simultaneously for example in different types of psychological studies. The solution is optimized for use with transcranial magnetic stimulators (TMS-EEG), with optional possibility to use it during magnetic resonance imaging procedures (fMRI-EEG).

Bittium BrainStatus™ is a wireless compact EEG amplifier, which is used together with a disposable easy and quick to wear Bittium BrainStatus electrode headband for example to diagnose epileptic seizure and brain stroke. Bittium BrainStatus enables quick measurement in field conditions as well as in hospitals, thus making the treatment process of the patient faster. Bittium BrainStatus can be used for remote and wireless real-time EEG monitoring or data can be recorded in the device memory.

Business Development in 2017

Loss of a Big Customer Case in Service Business

In the year 2017, the share of the services-based net sales decreased as expected caused by the termination of significant customer cooperation with a global network equipment manufacturer during the first half of the year. Despite of decreased net sales caused by the termination of the cooperation the demand for Bittium's R&D services developed positively, however, it wasn't able to replace the decrease in the net sales in total.

The product development project, started in May 2015, to develop Android-based mobile devices that use both terrestrial and satel-

lite connection for the MEXSAT system of the Mexican Ministry of Communication and Transportation, was completed in summer 2017. The first product orders were expected to come during 2017, but due to the internal reasons of Mexican governmental customers, the first phase of the product deliveries was delayed to be mainly started in 2018. Therefore Bittium had to lower its financial guidance for the year 2017.

ISO 13485:2016 Quality Certificate for Design, Development and Manufacturing of Medical Devices and Equipment

Bittium was awarded the ISO 13485:2016 certificate, which covers the design, development, manufacturing and related services for the entire product life cycle of medical devices. The quality management system based on ISO 13485:2016 standard is a major competitive advantage and supports Bittium's strategy in Connectivity Solutions' product and service area. Medical technologies combined with strong expertise in wireless technologies and security provides Bittium with excellent opportunities to serve its customers in the healthcare sector with offering them new R&D services that meet the quality system standard requirements.

Product Business Grew Significantly

Bittium continued significant investments in developing its product business and the share of the product-based business turned to growth. Bittium aims at growth in international defense, public safety and mobile security markets.

New Version of Bittium Tough Mobile™ for the Confidential Classification

Bittium Tough Mobile and related management system and VPN encryption Bittium Secure Suite have generated a lot of interest in the information security and public safety markets. Bittium has been actively seeking for, and has found a few suitable partners

and resellers who have taken Bittium Tough Mobile as part of their own product portfolio and/or solution for their customers. The product deliveries of Bittium Tough Mobile continued during the whole year.

The awareness of information security risks is growing and the interest towards secure mobile devices is increasing, however, the development of the public safety and information security markets have been somewhat slower than expected. Bittium estimated that Bittium Tough Mobile sales volume will be somewhat lower than expected.

In January, Bittium signed a contract with the Finnish Defence Forces for the delivery of Bittium Tough Mobile LTE smartphones and related Bittium Secure Suite back-end system classified for Confidential level. The contract signifies a strategic decision to reinforce the information security of the wireless communications of the Finnish Defence Forces. In order for a phone and a related back-end system to achieve the Confidential level classification, there are specific information security requirements regarding the processing of classified information, secure wireless transfer of files, and other possible communication, which need to be met.

At the Critical Communications Europe exhibition in February, Bittium launched a new Confidential classification level version of the Bittium Tough Mobile C's with its back-end system. Bittium Tough Mobile's unique dual-boot functionality for the Confidential classification level makes it possible to operate the device with two completely separate operating systems: Public and Confidential. The operating system classified as Public is meant for personal communications with access to e.g. social media applications. The operating system classified as Confidential is completely isolated and hardened for secure authority and information security use. The entity enables the user to have only one device for calls and messaging for both personal and for demanding information security needs, thus eliminating the need to carry two separate devices. In September, the National Cyber Security

Centre-Finland of the Finnish Communications Regulatory Authority granted approval for the Mobile Security and Public Safety targeted Bittium Tough Mobile LTE smartphone and related Bittium Secure Suite back-end system to process material that is classified nationally as Confidential. Bittium's mobile solution is the first one in the world to receive official Confidential level encryption product classification. The mobile solution can be used for creating and processing classified information, as well as for transferring it between smartphone and connected back-end solutions.

Bittium Tough Mobile C smartphone was showcased at Cyber Security Nordic event in Helsinki, Finland in the end of September.

New Software Version for Bittium SafeMove® Product Family

The investments in product development of Bittium SafeMove product family were also continued and in November Bittium released the new version of the Bittium SafeMove® software product portfolio. The latest software version introduces an intuitive user interface and further enhances information security for demanding environments. The new functionalities enable faster response to security threats; and efficient implementation of broadband applications with mission-critical data on moving vehicles.

The Bittium SafeMove® security solutions were exhibited at HETT Show 2017 in London, UK in September.

Efforts to Bring Bittium's Product Portfolio Tactical Communications Products to International Defence Markets Continued

Bittium continued efforts to bring its products and services, targeted to defense industry, to the international defense markets, and Bittium received purchase orders for a tactical communications system from its customers in Asia and Europe and delivered a pilot system to a new European customer.

Bittium's products targeted to defense industry were showcased e.g. at DSEI exhibition in UK, Defence Communications event in Poland, and at Milipol exhibition in France.

The Development of Bittium TAC WIN System Continued

The cooperation with the Finnish Defence Forces continued. The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued as well as the product deliveries for this communication system.

In March, Bittium received a purchase order from the Finnish Defence Forces for further development of the software package (waveform) for the Bittium TAC WIN system. Bittium also received a purchase order from the Finnish Defence Forces for the Bittium TAC WIN system products, which are meant for tactical communications. Both orders are part of the renewal of the Finnish Army's M18 command, control and communications system, where the Software-Defined Radio based Bittium TAC WIN system forms the core of the Army's tactical wireless IP network.

In June, Bittium received a purchase order for supplying the Finnish Air Force with Bittium TAC WIN system. The order is part of the modernization of the radio network performance of the Air Force's bases with a Software-Defined Radio based IP radio system. With the order the use of the Bittium TAC WIN system within the Finnish Defence Forces' branches expanded to the Air Force.

In July, the Finnish Minister of Defence Jussi Niinistö authorized Finnish Defence Forces to purchase Bittium TAC WIN system products. Bittium and the Finnish Defence Forces signed a Framework Agreement for the purchase of Bittium TAC WIN system products in August. The Framework Agreement covers the years 2018–2020, and if materialized in full, the total value of the agreement is EUR 30 million (excl. VAT). According to the Framework Agreement, Finnish Defence Forces will issue separate purchase orders for the products each year.

The New Bittium Tough SDR™ Product Family

Bittium started the development of the new tactical Software-Defined Radio Based Bittium Tough Mobile product family that includes the tactical Bittium Tough SDR handheld for individual soldier use and Bittium Tough SDR vehicle radios for vehicular level tactical use. The new product family expands Bittium's tactical communication product portfolio from Bittium TAC WIN and its products that form a mobile tactical IP network to radios that bring broadband data transfer and voice to all mobile troops; from combat vehicles to all the way to an individual soldier. This enables bringing broadband data transfer and voice to all mobile troops starting from brigade level and all the way across the battlefield.

At the time of the launch, Bittium and the Finnish Defence Forces signed a Letter of Intent concerning the purchase of new Software-Defined Radio (SDR) based tactical radios and the preparations of the purchase. The Letter of Intent encompasses products belonging to the new Bittium Tough SDR product family: tactical handheld radio Bittium Tough SDR Handheld and tactical vehicular radio Bittium Tough SDR Vehicular. The products are intended for renewing the Finnish Defence Forces' existing stock of field radios with modern, SDR based broadband data transfer radios to support the reformed combat doctrine. The tactical radios are compatible with Bittium Tactical Wireless IP Network (TAC WIN) SDR based system already used by the Finnish Defence Forces.

According to the Letter of Intent, Bittium will develop the products with its own R&D investments and the Finnish Defence Forces will support the development work by ensuring that the products are suitable for their purposes and by making preparations for the purchase of the products. The Letter of Intent does not bind the parties entering into a purchase agreement. Entering into purchase agreement requires that the Finnish Ministry of Defence first authorizes the

purchase, based on which Bittium and the Finnish Defence Forces would then make a separate purchase agreement. Based on the Letter of Intent, if materialized in full, the total value of the purchase agreement would be approximately EUR 130 million distributed over about 10 years. The Letter of Intent is in force until the binding purchase agreement comes into effect or until December 31, 2019. Should the purchase materialize in full, it would have a significant impact on Bittium's net sales from the year 2019 onwards.

The New Bittium Tough Comnode™

Bittium expanded its tactical communications offering by launching a versatile Bittium Tough Comnode terminal. The device fulfills the data transfer needs for mobile troops by functioning for example as a VoIP phone (Voice over IP), an IP router (Internet Protocol), and an SHDSL repeater (Symmetrical High-speed Digital Subscriber Line). Bittium Tough Comnode is compatible with Bittium Tactical Wireless IP Network (TAC WIN) system, Bittium Tough SDR tactical radios, and Bittium Tough VoIP products, as well as offers diverse connectivity options also to third-party equipment and systems.

In December, Bittium received a purchase order from the Finnish Defence Forces for versatile Bittium Tough Comnode terminal. The purchase order concerns the final phase of the terminal's productization over a duration of nine months and the delivery of a batch of the terminals to the Finnish Defence Forces after the end of the productization phase. Bittium Tough Comnode will fulfill the data transfer needs of the Finnish Defence Forces' mobile troops by functioning for example as a VoIP phone (Voice over IP), an IP router (Internet Protocol), and an SHDSL repeater (Symmetrical High-speed Digital Subscriber Line).

ESSOR (European Secure Software Defined Radio) Program Continued to the Second Phase

Bittium has been part of the European ESSOR programme since it started in 2009. The aim of the programme is to develop the European Software Defined Radio technology in order to improve the capabilities for cooperation in coalition operations.

In November, the joint venture a4ESSOR (Alliance for ESSOR) was awarded a contract by OCCAR (Organisation Conjointe de Coopération en matière d'Armement) to start a new phase of the ESSOR (European Secure Software defined Radio) programme, called ESSOR Operational Capability 1 (OC1). Bittium is part of the OC1 phase that continues the ESSOR programme. During the OC1 phase, the operational capabilities of ESSOR High Data Rate Waveform (HDR WF), meant for joint operations between defense forces of different countries, will be enhanced.

With the development of the operational capabilities of the ESSOR HDR WF during the OC 1 phase the new functionalities will be available also for the Bittium Tough SDR family of radios. The duration of the ESSOR OC1 phase is 45 months and the value of the contract is around EUR 50 million. The value of the contract will be divided along the duration of the OC1 phase and between the five participant companies: Bittium, Indra, Leonardo, Radmor, and Thales. The contract did not change Bittium's financial outlook for the year 2017.

The Development of Medical Technologies Products and Solutions Continued

In November 2016, Bittium acquired companies specialized in healthcare technology and services. During 2017 Bittium continued to develop its products and solutions of its Medical Technology product and services area and sales efforts to bring the products abroad was continued. Bittium exhib-

ited these innovative products and solutions for neuroscience at Society for Neuroscience 2017 conference in the U.S.A and the Bittium Faros ECG device and software for analyzing cardiac event-based ECG and long-term Holter measurements at Medica exhibition in Germany.

In June, Bittium sold its remote diagnostic service business to Coronaria Analyysipalvelut Oy, a subsidiary of Coronaria Hoitoketju. According to the agreement Bittium supplied its web-based service kardiolog.fi used in monitoring cardiac abnormalities to Coronaria's use. Kardiolog.fi service is used by more than 70 Finnish health centers and private medical centers. The net sales of Bittium Medanalytics Ltd in 2016 was EUR 0.4 million. Further, Bittium Technologies Ltd, part of Bittium group, acquired 25 percent of the shares in Coronaria Analyysipalvelut Oy. Through this joint ownership Bittium and Coronaria aim at gaining synergies from Bittium's device and system development and the interfaces formed by Coronaria's clinical medicine and services.

In May, Bittium Faros ECG-measuring devices' built-in algorithms for detection of arrhythmias received medical device approval in Europe. The algorithms can be used to automatically identify sequences in the heart measurement data. Early detection of atrial fibrillation can be used to predict the risk of brain stroke and to prevent its emergence with timely treatment initiation.

Bittium launched new software for analyzing cardiac event-based ECG measurements and long-term Holter measurements at ESC Congress in Barcelona, Spain. The new software, together with the versatile Bittium Faros ECG measuring device, allows the follow-up and detection of cardiac arrhythmias as well as in-depth analysis of long-term recordings.

Market Outlook

Bittium's customers operate in various industries, each of them having their own industry-specific factors driving the demand. A common factor creating demand among the whole customer base is the growing need for higher quality and secure data transfer. Due to the technology and measuring competences accrued over time and long history in developing mobile communication solutions, Bittium is in a good position to offer customized solutions for its customers.

The following factors are expected to create demand for Bittium's products and services in 2018 and beyond:

- In the mobile telecommunications, the investments to develop 5G technology increases, which creates demand for Bittium's R&D services. There is a wide range of frequencies allocated for this technology thus creating the need to develop multiple products to cover the market and creating demand for R&D services for development of product variants.
- As the digitalization evolves, the secure IoT (Internet of Things) has become a significant development area in many industries. The increasing need of companies to digitalize their operations, collect data wirelessly and transfer it to the internet and cloud services generate need for Bittium's services and customized solutions. There is a need for secure connected devices for consumers' free-time applications and demanding industrial usage that collect information through their sensors and connect the devices securely to the internet and cloud services. Also the integration of different systems and technologies play an important role in enabling complete digitalization service. To ease and speed up the processing of large data amounts there are different kinds of learning systems and devices under development that use different kinds of artificial intelligence (AI) technologies.
- The use of LTE technology, smartphones and applications continues to increase in special verticals such as public sa-

fety creating demand for Bittium Tough Mobile secure LTE smartphone and other customized special terminals based on Bittium's own product platform. The awareness of mobile security risks is growing and the interest towards secure mobile devices is increasing. Also the interest towards LTE-SAT-hybrid devices with terrestrial and satellite connections has grown to further improve the functionality of authorities' critical connections. The implementation of LTE-based devices in Public Safety markets has been slower than expected due to the delay of the device processor functionalities required by the authorities. The sale of the secure terminal products is expected to develop moderately according to the nature of public safety markets.

- Using public network connections in portable devices is increasing also in demanding professional use, such as in the public sector. This creates requirements for network connections to be easy to use and secure. The products in the Bittium SafeMove product family enable the ease of use of the devices and security in demanding use.
- In the defense sector's tactical communication market the governments' defense forces and other authorities need networks that troops, who are more and more constantly on the move, can use for transferring growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network (TAC WIN) broadband network and for other Bittium's IP-based (Internet Protocol) tactical communications solutions, as well as for Bittium's new tactical communication handheld and vehicle radios that fulfill the needs of data transfer of moving troops or individual soldiers. Bittium continues its efforts to bring its defense market targeted products and services also to the international defense markets and aims to get new international customers for its tactical communication system in 2018. Due to the long sales cycles driven by purchasing programs of national governments, it takes time to receive significant purchase orders.

- Heart problems and brain strokes are among the most frequent causes of death. Recognizing the symptoms early on, based on information gathered by measuring, enable the start of effective treatment fast. Also the prevention of diseases and health problems are being increasingly invested in. In the healthcare technology market there is ongoing a significant change in the patient care both inside hospitals as well as in homecare. The repatriation of patients is being pursued earlier than before which may enable significant cost savings in the healthcare. One of the growing application areas in the IoT segment is healthcare technology that enables implementing these changes for its part. A prerequisite for early repatriation is the enabling of accurate and precise follow-up and measurement in home conditions through remote monitoring. For this purpose Bittium offers its Bittium Faros product family for heart remote monitoring and Bittium NeurOne product family for measuring the electrical activity of brain.

Press Releases and Significant Orders in 2017

DECEMBER 8, 2017

Bittium received a purchase order from the Finnish Defence Forces for versatile Bittium Tough Comnode terminal

NOVEMBER 27, 2017

Bittium SafeMove's latest software version introduces an intuitive user interface and further enhances information security for demanding environments

NOVEMBER 20, 2017

Bittium exhibits products and solutions for authority and soldier communications at Milipol exhibition in Paris

NOVEMBER 07, 2017

Bittium brings enhanced capabilities of ESSOR waveform, developed in the next phase of ESSOR programme, to the new Bittium Tough SDR tactical radios

NOVEMBER 07, 2017

ESSOR (European Secure Software defined Radio) programme continues into the development of Operational Capability 1 (OC1)

NOVEMBER 02, 2017

Bittium exhibits Bittium Faros ECG device and software for analyzing cardiac event-based ECG and long-term Holter measurements at Medica

NOVEMBER 02, 2017

Bittium exhibits its innovative products and solutions for neuroscience at the Society for Neuroscience 2017 Conference

SEPTEMBER 26, 2017

Bittium exhibits SafeMove® Security Solutions that meet the cyber security challenges in healthcare at HETT Show 2017 exhibition

SEPTEMBER 25, 2017

Bittium exhibits new Bittium Tough SDR tactical radios and Bittium Tough Comnode terminal at Defence Communications event

SEPTEMBER 25, 2017

Bittium exhibits Confidential level version of Bittium Tough Mobile smartphone at Cyber Security Nordic event

SEPTEMBER 18, 2017

Bittium has received national Confidential level information security classification for Bittium Tough Mobile smartphone

SEPTEMBER 12, 2017

ISO 13485:2016 Certification supports the offering of Bittium's design and product development services to the healthcare and medical sector

SEPTEMBER 11, 2017

Bittium exhibits new Bittium Tough SDR tactical radios and Bittium Tough Comnode terminal at DSEI defense exhibition

SEPTEMBER 06, 2017

Bittium launches versatile Bittium Tough Comnode terminal for tactical communications

AUGUST 24, 2017

Bittium launches new software for analyzing cardiac event-based ECG measurements and long-term Holter measurements at ESC Congress 2017

AUGUST 09, 2017

Bittium Wireless Ltd, subsidiary of Bittium Corporation, and Finnish Defence Forces have signed Framework Agreement for Bittium TAC WIN products (Stock Exchange Release)

AUGUST 08, 2017

Bittium expands its tactical communications offering to tactical radios targeted for combat troops and vehicles



Press Release



Stock Exchange Release

AUGUST 08, 2017

Bittium Wireless Ltd, subsidiary of Bittium Corporation, and Finnish Defence Forces have signed a Letter of Intent for purchase of new tactical radios (Stock Exchange Release)

JULY 06, 2017

Finnish Defence Forces plans to purchase Bittium TAC WIN Software-Defined Radio system products (Stock Exchange Release)

JUNE 16, 2017

Bittium and Coronaria co-operate to further develop medical remote diagnostic services

JUNE 15, 2017

Bittium exhibits its innovative products and solutions for cardiology at EHRA Europace - Cardiostim 2017

JUNE 14, 2017

Bittium to supply Finnish Air Force with Bittium TAC WIN system for tactical communications of their bases

MAY 24, 2017

Bittium exhibits its innovative products and solutions for neuroscience at the Second Moscow International Conference

MAY 15, 2017

Bittium exhibits Bittium Tough Mobile smartphone and related products and solutions at Critical Communications World exhibition

MAY 04, 2017

Bittium Faros ECG-measuring devices' arrhythmia detection algorithms received medical device approval in Europe

MAY 02, 2017

Bittium exhibits secure and durable Bittium Tough Mobile smartphone at Virve User Days event

APRIL 24, 2017

Bittium exhibits its innovative IoT design and R&D services; and the new SafeMove® Zone solution at Hannover Messe 2017 industrial fair

MARCH 29, 2017

Bittium exhibits its innovative products and solutions for cardiology at EuroPrevent 2017

MARCH 21, 2017

Bittium exhibits renewed Bittium Tough Mobile smartphone and Bittium Secure Suite device management and encryption software at British APCO exhibition

MARCH 14, 2017

Bittium exhibits its products and solutions for neuroscience at Nordic Congress of Clinical Neurophysiology & Kuopio Epilepsy Symposium

MARCH 06, 2017

Bittium received a purchase order from the Finnish Defence Forces for Bittium TAC WIN system products meant for tactical communications

MARCH 06, 2017

Bittium received a purchase order from the Finnish Defence Forces for further software development for the Bittium TAC WIN system

MARCH 02, 2017

Bittium exhibits its innovative IoT design and R&D services; and Medical Technology products at Wearable Technology Show 2017 in London

FEBRUARY 24, 2017

Bittium exhibits renewed Bittium Tough Mobile smartphone, its device management and encryption software and IoT services at Mobile World Congress

FEBRUARY 23, 2017

Bittium exhibits its innovative products and solutions for neuroscience at the 2nd International Brain Stimulation Conference

FEBRUARY 20, 2017

Bittium exhibits its innovative IoT design and R&D services at Industry of Things World USA conference in San Diego

JANUARY 27, 2017

Bittium to deliver Bittium Tough Mobile smartphones and related back-end system for the Finnish Defence Forces

JANUARY 27, 2017

Bittium launches a new high-security level version of the Bittium Tough Mobile smartphone at Critical Communications Europe exhibition

JANUARY 26, 2017

Bittium exhibits its products and solutions for Tactical Communications at IDEX defense exhibition

JANUARY 25, 2017

Bittium exhibits its innovative products and solutions for cardiology and neurology at Arab Health 2017 exhibition

JANUARY 16, 2017

Bittium presents its DevOps expertise at the Reset event in Helsinki

Purpose

We adapt our deep knowledge to deliver superior innovations and reliable, secure communications and connectivity solutions.

Vision

Bittium's vision is to become a global enabler of secure and reliable connectivity for people and things.

Strategic Guidelines

In November 2016, Bittium Corporation updated its strategy to strengthen its position in the global markets and to speed up its growth. During 2017 Bittium made no updates or changes in its strategy and continued systematically on its path towards the Company's strategic goals.

Bittium's Strategic Guidelines, as Published in November 2016

The Company plans to make significant investments in the future by increasing significantly the R&D investments in its own products and solutions in the year 2017. In line with the nature of the defense and public safety markets, the investments will pay back in a longer time period and therefore Bittium plans to activate the most of the R&D investments to its balance sheet. The Company has a strong balance sheet and financial position.

Bittium decided to establish a new product and service area around healthcare technology. Combining healthcare technologies with Bittium's long-term experience and know-how in wireless and security technologies give the Company good conditions to serve its customers in healthcare sec-

tor by offering them new kinds of products and services. As the first step to build the competencies in healthcare technology on November 10, 2016 Bittium acquired Mega Electronics Ltd, a company specialized in measuring and monitoring biosignals.

Bittium continues to search for inorganic growth opportunities in all its product and service areas and is prepared to invest in acquisitions that strengthen the Company's growth strategy.

According to its updated strategy the Company's business is divided into three product and service areas effective as of December 1, 2016: Defense & Security, Connectivity Solutions and Medical Technologies.

Defense & Security

In the Defense & Security product and service area Bittium offers globally leading products and services for its customers in the defense, security and public safety markets. Bittium aims to significantly increase investments in various authority and special terminals as well as in related software development and extend its tactical communication product portfolio for defense industry. Growth in the net sales is sought especially from own products and product platforms that Bittium offers for international defense and public safety markets.

Bittium's competitiveness in these markets is based on trust and reliability, hi-quality of the products and services, as well as on advanced technology and security know-how developed within the Company during the last 30 years. Bittium offers its customers in the defense market new kind of efficiency for their management systems with products that enable faster data transfer, bet-

ter mobility, and superior compatibility with other communication systems.

In the public safety markets the transition towards LTE-based technology is expected to accelerate in the next few years. As the security threats are growing increasingly more security demands are set for the communication systems. Bittium increases investments in developing its product offering further for these markets. The Company also continues offering public safety markets R&D services to develop special terminals and related systems that use both terrestrial and satellite networks.

In the defense, security and public safety markets, there are signs of unification regarding technologies as well as in security demands. Also many customers, partners and supply chains are mostly the same and the trend towards this is strengthening. Bittium merged two separate product and service areas into one and with that synergy Bittium is able to better serve the customers in defense and security technology.

The defense, security and public safety markets are slowly evolving markets by their nature. They are characterized by long sales cycles driven by the national governments' long preparation periods of projects and purchase programs. The purchases of the selected products are typically executed over several years.

Connectivity Solutions

The development of wireless technology continues and digitalization creates growing need for wireless connections. Bittium offers R&D services and wireless connectivity solutions for its customers, and the demand is expected to increase within the

next few years. The competitiveness of the Company in these markets is based on the strong technology and security competence, as well as on trust, reliability and quality. The more critical the system is, the more significant role Bittium's strengths have.

The demand for developing 4G technology-based network equipment is decreasing as the technology and market reach their maturity. However, Bittium is already strongly involved in the development of 5G technology which in the long run gives the Company a good position to offer even more advanced connectivity solutions also for customers in other markets.

Medical Technologies

In the healthcare sector, remote monitoring and home care markets are growing strongly. Patient monitoring in the hospital environment is also changing into wireless. These trends create demand for the digitalization of services, wireless capability and secure connections. For these markets Bittium decided to establish a new product and service area around healthcare technology. As the first step to build the competencies in healthcare technology, on November 10, 2016 Bittium acquired Mega Electronics Ltd, a company specialized in measuring and monitoring biosignals.

Combining healthcare technologies with Bittium's long-term experience and competence in wireless and security technologies give Bittium good conditions to serve its customers in healthcare sector by offering them new kinds of products and services.

Bittium plans to strengthen its product and service offering for these markets also by searching for acquisition targets that complements the whole.

Financial Targets, as Published in November 2016

Bittium has announced earlier that it targets 10 percent annual growth in net sales and to reach EBIT level 10 percent of net sales in the year 2017 at the latest. The Company believes that in the coming years it is able to grow its net sales even more than the earlier announced target, and therefore sets up a target to exceed the annual 10 percent growth target of the net sales.

However, Bittium believes, that during the year 2017 it is not yet able to reach the targets set for the growth in the net sales and EBIT level. The reason for this is the termination of significant customer cooperation with a global network equipment manufacturer, of which Bittium announced earlier in October, that is expected to materialize faster and more extensively than the Company estimated earlier. According to the information received by Bittium, the net sales from this customer cooperation will end completely in the beginning of the second quarter of the year 2017. To this extend this kind of extensive and rapid decrease in the services business net sales is most likely difficult to be replaced in a short term. In addition, the operating profit level of the year 2017 is also affected by the planned investments to enable the future growth.

Bittium targets further to increase the share of net sales generated from own products and product platforms. According to the targets Bittium announced earlier, in the year 2017 the share of net sales generated

from own products and product platforms is clearly higher than in the year 2014, when the product based net sales was 26.7 percent of the net sales.

Personnel

Altogether 619 employees worked in Bittium in Finland, USA, Mexico, Great Britain and Singapore at the end of the year 2017. The average age of the personnel in Bittium was 42 years. R&D engineers constituted clearly the largest proportion of the personnel. The amount of personnel remained stable during the year 2017, but at the end of the year the need for recruitment was anticipated, and actions to meet this need were taken especially in the beginning of the year 2018.

Bittium's core competences are strong and extensive know-how of information security, radio technology, embedded software, electronics and product integration as well as measuring of biosignals. At Bittium the way of working is based on the implementation of Lean and Agile methods. Regarding the way-of-working, the emphasis of development has been in digitalization of processes and operations, software life-cycle management, development and implementation of real-time feedback and visualization methods and non-functional quality requirements management (i.a. EU Horizon 2020 Program Q-Rapids). To support the engineering competence development Bittium utilized virtual competence teams, and several technology trainings were organized based on current needs.

According to the annual personnel survey BES (Bittium Employee Survey), Bittium is a good place to work; the staff engagement index strengthened significantly from the year 2016. The specific strengths remained Bittium's culture and way of working as well as our good team spirit. Trust in management as well as supervisor communication improved.

One reason for improved supervisor communication has been the renewal implemented in 2016, in which the annual formal development discussion was discarded, and a new, more flexible and direct way for supervisors and their team members to interact was established. Now they meet in shorter, one-on-one meetings each quarter. This new method is in line with the coaching leadership principles and supports the effectiveness of supervisor work in a matrix organization better.

All of Bittium's staff was invited to a strategy session in Oulu in August, and the evening continued with the BitStock Elää 2017 festival at Koitelinkoski rapids, Kiiminki. Our global sales personnel were in Oulu to attend this event. At the scenic surrounding the staff enjoyed good company, dinner, live music and an engaging team competition which was won by the team called "Vamos Mexico".

At the end of year 2016, Bittium acquired the ownership of a Kuopio-based medical technology. The integration to Bittium Corporation was done during 2017 uncomplicated, also regarding the personnel practices.

Near the end of the year Bittium's staff in Oulu moved into the new headquarters in Ritaharjuntie 1. With the move to the new headquarters, nearly 450 employees got together under one roof, as previously the work was done in three office buildings at Tutkijantie. The personnel took this change very positively, since now they are able to see their coworkers more often.

The new building has been designed as a multifunctional office, in which the staff has fixed personal desk locations, but the premises and its access rights can be easily adjusted and divided according to project situation changes. In this way, the customer requirements regarding confidentiality of R&D and optimal team functionality can be met without compromising the staff's convenience. After moving to the new headquarters, nearly every Bittium staff member has an electrically adjustable desk. The ergonomics has been a priority in the new premises. New Bittium values; Trust, Courage and Innovation were introduced at the consecration of the premises.



Shares and Shareholders

Shares

The shares of Bittium Corporation are quoted on the Nasdaq Helsinki. The Company has one series of shares. All shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The Company's shares have been entered into the Euroclear Finland Ltd.'s book entry system.

At the end of the financial period, the fully paid share capital of the Company entered into the Finnish Trade Register was EUR 12,941,269 and the total number of the shares was 35,693,166. The accounting par value of the Company's share is EUR 0.10. The Company does not have its own shares in its possession.

Share Price and Trading Volumes in 2017

The closing price of Bittium Corporation's share was EUR 5.65 at the end of 2017; the share reached a high of EUR 7.88 and a low of EUR 5.55. During the year, a total of 12.7 million shares with the value of EUR 83.1 million changed hands on the Nasdaq Helsinki. This is 35.5 percent of the share

capital. Bittium Corporation's market capitalization on December 31, 2017 was EUR 201.7 million.

Dividend and Dividend Policy

Bittium Corporation follows a dividend policy that takes into account the group's net income, financial situation, need for capital and financing growth.

In 2017, Bittium Corporation paid EUR 0.05 per share as dividend based on the adopted balance sheet for the financial period January 1, 2016–December 31, 2016 and EUR 0.25 per share as additional dividend. The dividend was paid to the shareholders who were registered as shareholders in the Company's register of shareholders as maintained by Euroclear Finland Ltd. on the dividend record date, April 18, 2017. The dividend was paid on April 25, 2017.

The Board of Directors proposes that the Annual General Meeting to be held on April 11, 2018 resolve to pay EUR 0.30 per share as additional dividend based on the adopted balance sheet for the financial period of January 1, 2017–December 31, 2017. The dividend will be paid to the shareholders who

are registered as shareholders in the Company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date, April 13, 2018. The Board of Directors proposes that the dividend be paid on April 20, 2018.

Trading Codes

Bittium Corporation has been listed on Nasdaq Helsinki since 1998. Bittium Corporation's company code and trading code in the Nasdaq Helsinki INET system is BITTI and the trading code BITTI.

Trading codes are:

Nasdaq Helsinki	BITTI
Reuters	BITTI.HE
Bloomberg	BITTIFH

Shareholders

At the end of 2017, Bittium Corporation had 21,985 shareholders. The ten largest shareholders owned 28.4 percent of the shares. Private ownership was 74.6 percent. The percentage of foreign and nominee-registered shareholders was 3.3 percent at the end of 2017.

Trading Volume and Average Share Price 2012–2017



Shareholding of the Board of Directors and CEO

At the end of 2017, the shareholding of the Board of Directors, CEO and the companies controlled by them was 1,588,756 shares, corresponding to 4.5 percent of all shares.

Information to Shareholders

Press releases, reports, earnings estimates, share price ticker, contact details of analysts and other current investor material can be found on the Company's website at www.bittium.com. An email-based subscription service for press releases and publications can be found from the Company's website as well.

Financial Reports 2018

Bittium reports its financial development with financial reports that are published semi-annually. In 2018, Bittium will publish financial reports as follows:

February 22, 2018
Financial Statement Bulletin 2017
August 8, 2018
Half Year Financial Report, Jan.–Jun. 2018

Financial reports will be published simultaneously in Finnish and in English at 8.00 a.m. (CET+1) on Bittium's web pages at www.bittium.com/investors. The Company will hold press conference regarding the reports on dates to be specified later.

Silent Period

Bittium Corporation observes a Silent Period prior to announcing its results. The Silent Periods in 2018 are as follows:

February 1–February 22, 2018; and
July 18–August 8, 2018.

The Annual General Meeting 2018 of Bittium Corporation

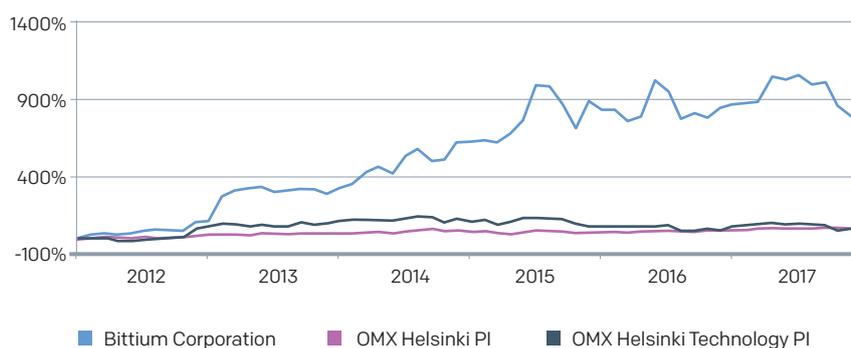
The Annual General Meeting of Bittium Corporation will be held on Wednesday April 11, 2018 at 1.00pm at the University of Oulu, Saalastinsali, at the address Pentti Kaiteran katu 1, 90590 Oulu, Finland.

Shareholders Registered in the Shareholders' Register

Each shareholder, who is registered on March 28, 2018 in the shareholders' register of the Company held by Euroclear Finland Ltd, has the right to participate in the General Meeting. A shareholder, whose shares are registered on his/her personal Finnish book-entry account, is registered in the shareholders' register of the Company.

A shareholder, who is registered in the shareholders' register of the Company and who wants to participate in the General Meeting, shall register for the meeting no later than on April 6, 2018 by 10.00am by giving a prior notice of participation. The notice has to be received by the Company before the end of the registration period.

Share Price Development in Nasdaq Helsinki 2012–2017



Such notice can be given:

- a) on the Company's website at www.bittium.com, as from February 22, 2018 at 10.00am;
- b) by telephone +358 40 344 3322 or +358 40 344 5425 on weekdays between 9.00am and 3.00pm;
- c) by telefax; +358 8 343 032; or
- d) by regular mail to the address Bittium Corporation, General Meeting, Ritaharjuntie 1, 90590 Oulu, Finland.

In connection with the registration, a shareholder shall notify his/her name, personal identification number or business identity code, address, telephone number and the name of a possible assistant or proxy representative and the personal identification number of a proxy representative. The personal data given to Bittium Corporation is used only in connection with the General Meeting and with the processing of related registrations.

The shareholder, his/her authorized representative or proxy representative shall, where necessary, be able to prove his/her identity and/or right of representation at the General Meeting.

Holders of Nominee-registered Shares

A holder of nominee registered shares has the right to participate in the General Meeting by virtue of such shares, based on which he/she on March 28, 2018 would be entitled to be registered in the shareholders' register of the Company held by Euroclear Finland Ltd. The right to participate in the General Meeting requires, in addition, that the shareholder on the basis of such shares has been registered into the temporary shareholders' register held by Euroclear Finland Ltd. at the latest on April 6, 2018 by 10.00am. As regards nominee registered shares this constitutes due registration for the General Meeting.

A holder of nominee registered shares is advised to request without delay the necessary instructions regarding registration in the temporary shareholder's register, the issuing of proxy documents and registration for the General Meeting from his/her custodian bank. The account management organization of the custodian bank has to register a holder of nominee registered shares, who wants to participate in the General Meeting, into the temporary shareholders' register of the Company at the latest by the time stated above.

Further information on the General Meeting and participation in the General Meeting is available on the Company's website at www.bittium.com.

Proxy Representative and Powers of Attorney

A shareholder may participate in the General Meeting and exercise his/her rights at the meeting by way of proxy representation. A proxy representative shall produce a dated proxy document or otherwise in a reliable manner demonstrate his/her right to represent the shareholder. If a shareholder participates in the General Meeting by means of several proxy representatives representing the shareholder with shares at different securities accounts, the shares by which each proxy representative represents the shareholder shall be identified in connection with the registration for the General Meeting.

Possible proxy documents should be delivered in originals to the address Bittium Corporation, General Meeting, Ritaharjuntie 1, 90590 Oulu, Finland, before the end of the registration period.

Other Information

Pursuant to chapter 5, section 25 of the Companies Act, a shareholder who is present at the General Meeting has the right to request information with respect to the matters to be considered at the meeting.

On the date of this notice to the General Meeting February 22, 2018, the total number of shares and votes in Bittium Corporation is 35,693,166.

Documents of the General Meeting

The above-mentioned proposals for the decisions on the matters on the agenda of the General Meeting as well as this notice are available on Bittium Corporation's website at www.bittium.com.

This Annual Report includes the Company's annual accounts, the report of the Board of Directors and the Auditor's Report, as well as the Company's Corporate Governance Statement, and Sustainability Report has been available on said website no later than on March 21, 2018. The proposals for decisions and other documents mentioned above are also available at the General Meeting. Copies of these documents and of this notice will be sent to shareholders upon request. The minutes of the General Meeting will be available on the above-mentioned website as from April 25, 2018, at the latest.



Corporate Governance

The governance of Bittium Corporation (hereinafter 'Company') is determined by the Company's Articles of Association, the laws of Finland (such as the Finnish Companies Act and Securities Market Act) and the Company's Corporate Governance Code. The Company follows the Finnish Corporate Governance Code 2015 prepared by the Finnish Securities Market Association. The Governance Code may be viewed, inter alia, at the Finnish Securities Market Association website at www.cgfinland.fi.

In the assembly meeting held on April 12, 2017, the new Board of Directors elected on the same day considered the continuation of the Audit Committee and concluded that the extent of the Company's business still requires that a group with a more compact composition than the Board of Directors deals with the preparation of matters per-

taining to financial reporting and control. The Governance Code recommends that a Committee shall have at least three members. In the assembly meeting held on April 12, 2017, the new Board of Directors resolved to re-elect Staffan Simberg (Chairman of the Committee) and Kirsi Komi as members of the Audit Committee and to invite authorized public accountant Seppo Laine as external advisor of the Board of Directors. The composition of two members and an external advisor was considered to be in compliance with the recommendation as authorized public accountant Seppo Laine brings continuity and expertise needed in the Committee.

This Statement is made separately from the Report by the Board. The Board's Audit Committee and the Company's auditor have reviewed this Statement.

The statutory governing bodies of the Company are the Shareholders' meeting, Board of Directors, Chief Executive Officer and the Auditor. The Management Group supports the statutory governing bodies of the Company. The Company's domicile is Oulu.

This Statement may be viewed on the Company's website at www.bittium.com.

In 2017, the Board convened 13 times.

The Board members attended to the meetings as follows:

January 1 – December 31, 2017	Board	Audit committee
Staffan Simberg	13/13	6/6
Erkki Veikkolainen	13/13	
Kirsi Komi	12/13	6/6
Juha Putkiranta	13/13	
Seppo Mäkinen	13/13	
Tero Ojanperä	9/10	
Seppo Laine (external advisor of the Board)		6/6

The Board of Directors

The Board of Directors is responsible for the Company's governance and proper organization of the operations. The Board of Directors comprises of three to seven (3–7) members and in addition it may have one to three (1–3) deputy members. The Annual General Meeting shall elect the members of the Board of Directors for a term which expires at the end of the following Annual General Meeting. The number of terms for the members of the Board of Directors is not limited. The Board of Directors selects a Chairman among its members.

The Board conducts an annual evaluation of the independence of its members in accordance with recommendation 10. A member of the Board is required to submit to the Company the information necessary to conduct the evaluation of independence. A Board member is also required to notify the Company of any changes in information relating to independence.

The Annual General Meeting held on April 12, 2017 decided that the Board of Directors shall comprise six (6) members. Ms. Kirsi Komi, Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Staffan Simberg and Mr. Erkki Veikkolainen were re-elected as members of the Board of Directors. Further, Mr. Tero Ojanperä was elected as a new member of

the Board of Directors. The members of the Board of Directors were considered independent members of the Board as regards both the Company and its significant shareholders. In the assembly meeting held on April 12, 2017 the Board of Directors elected Erkki Veikkolainen as the Chairman of the Board. Further, the Board of Directors resolved to keep the Audit Committee, and elected Mr. Staffan Simberg (Chairman of the Committee) and Ms. Kirsi Komi as members of the Audit Committee and authorized public accountant Seppo Laine was invited to the Audit Committee as external advisor of the Board of Directors.

Description of Activities

The Board of Directors has defined a working order and evaluates its performance annually. The Board of Directors shall implement the decisions of the General Meeting. The Board of Directors supervises the operations and management. The Board of Directors makes decisions on the Company's guiding principles for operation, strategy and budget. The Board of Directors decides on mergers and acquisitions and other strategic alliances as well as significant investments and significant matters regarding organization and finance.

The Board of Directors supervises that the Group companies' accounting and financial management is duly organized. The Board of Directors appoints the CEO and possible Deputy for him or her as well as approves the Company's organizational structure.

The CEO, CFO and Chief Legal Officer (who acts as secretary of the Board of Directors) attend the meetings of the Board of Directors. Other management attends the meetings when necessary or upon invitation by the Board of Directors. The Chairman of the Board approves the agendas of the meetings of the Board of Directors. The agendas are prepared by the CEO and the Chief Legal Officer.

An annual clock, according to which the regular subjects to be handled are determined, is applied in the Board's work. In addition to the regular subjects of the annual clock, the most important subjects of the Board during the year were seeking for both organic and inorganic growth and focusing R&D investments.

The Annual General Meeting decides on the compensation of the members of the Board of Directors and the compensations can be publicly reviewed on the Company's website at www.bittium.com.

Diversity Principles of the Board of Directors

In the Company, diversity is seen as an essential part of corporate responsibility and as a factor in success, that enables achievement of strategic targets and continuous improvement of customer intimacy.

In planning the composition of the Board of Directors, the requirements of the Company's business operations, the phase of development and the competence requirements of the Board committees are taken into account. In appointing members of the Board the target is to ensure that the Board as a whole supports the development of the Company's current and future business operations. Diversity plays a part in supporting this goal, so the Company aims to reach a situation where the facts supporting diversity are taken into account as significant criteria in planning the composition of the Board of Directors.

Diversity is considered from different perspectives. From the Company's point of view it is important to have Board members

with diverse backgrounds in terms of competence, training, and experience of differing business operations, of varying stages of business development, and of leadership as well as diverse personal characteristics. Experience of international business environments and different cultures in addition to consideration of age and gender will support the diversity of the Board. The objective is that both genders are represented in the Board and the Company aims to maintain a good and balanced distribution of genders.

To fulfill the diversity principles, the principles are taken into account in the process to find and assess member candidates and representatives of both genders are looked for to the process. The status of diversity and progress of the goal mentioned above is monitored in the self-assessment discussions of the Board. A person elected as a Board member of the Company must have the competence required for the position and be able to devote a sufficient amount of time for the duties required. In forming the composition of the Board long-term needs and successor planning will be taken into account.

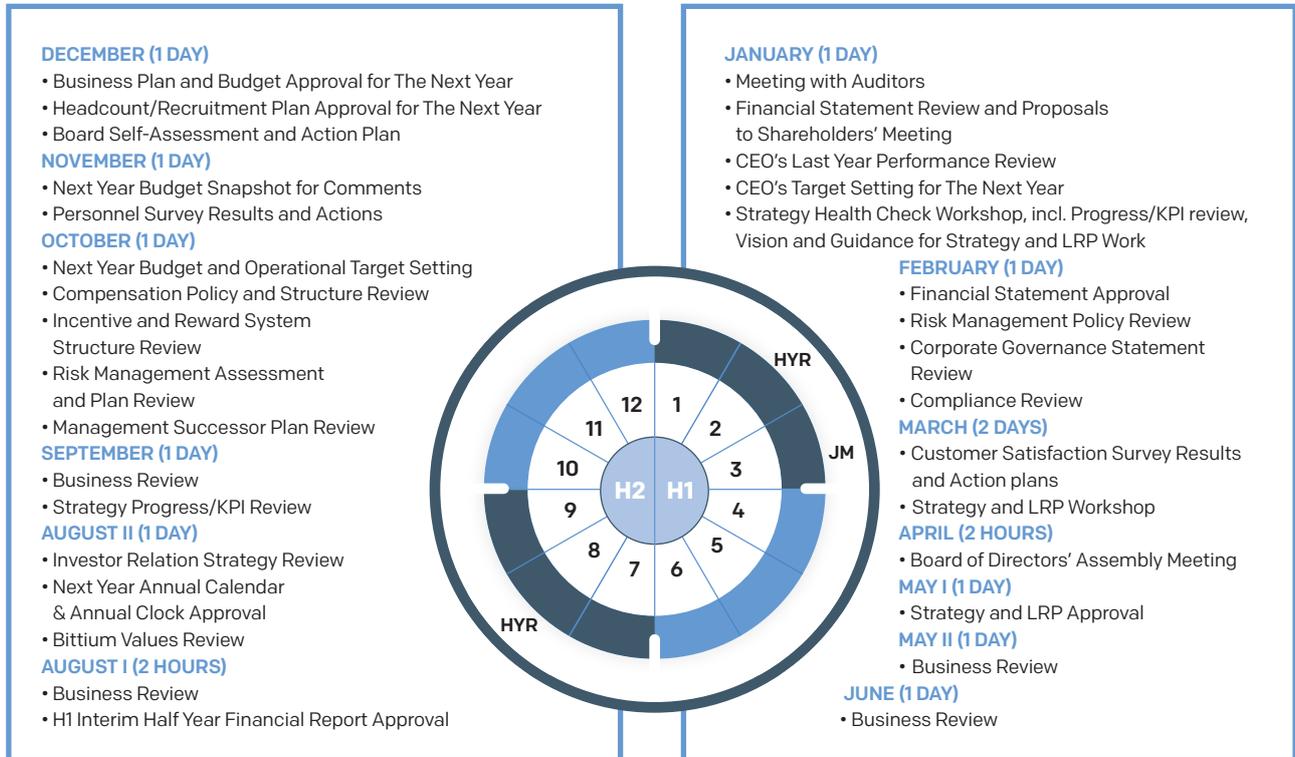
According to the Articles of Association, the Board of Directors comprises three to seven (3–7) members and in addition it may have one to three (1–3) deputy members. The composition of the Board and the number of members shall be such that they enable the Board to perform its duties efficiently. The members of the Board are appointed annually at the Company's Annual General Meeting.

During the financial period of January 1, 2017–December 31, 2017, the Board of Directors has comprised five members until the Annual General Meeting held on April 12, 2017 and six members thereafter, and one of the members has been female during the whole financial period. The self-assessment discussions of the Board have concluded that the members of the Board are so different in their special skills, backgrounds and age and gender that the Board as a whole has therefore been able to effectively support the business of the Company and its development.



Board of Directors, Annual Clock 2017

Board of Directors' Schedule and Agenda Items



Bittium Corporation

The Board of Directors

Erkki Veikkolainen

b. 1952, M.Sc. (EE), eMBA
Full-time occupation: Mevita Invest Oy, CEO

Positions of trust:

- Bittium Corporation (prev. Elektrobit Corporation), Member of the Board 2008–2015, Chairman of the Board 2015–.
- Elcoflex (Suzhou) Co. Ltd, Member of the Board 2007–.
- Elcoflex Oy, Member of the Board 2015–, Chairman of the Board 2006–2015.
- Maustaja Oy, Member of the Board 2006–.
- Mecanova Oy, Member of the Board 2005–.

Previous work history:

- Bittium Technologies Ltd. (prev. Elektrobit Technologies Ltd.), Member of the Board 2011–2015.
- Elektrobit Corporation, Executive Vice President, Contract R&D and Test Business Units 2002–2003.
- Elektrobit Technologies Ltd., Managing Director 2001–2003.
- Elektrobit Ltd., Vice President, Business Development 1998–2001.
- Nokia Mobile Phones, various positions 1985–1998, latest Vice President.

Holdings Dec. 31, 2017: Holds 1,505,025 shares in Bittium Corporation. Independent as regards to the Company and its significant shareholders.

Kirsi Komi

b. 1963, LL.M. Master of Laws
Full-time occupation: Professional Board Member

Positions of trust:

- Bittium Corporation, Member of the Board, Member of the Audit Committee 2015–.
- Humana AB, Member of the Board, 2017–.
- Lindström Invest Oy, Member of the Board, 2017–.
- Finnish National Theatre, Member of the Board, 2017–.
- Directors' Institute of Finland, Vice Chairman of the Board, 2015–.
- Martela Oyj, Member of the Board, Member of the Remuneration Committee 2013–.
- Finnvera Oyj, Member of the Board, Chairman of the Audit Committee 2013–.
- Citycon Oyj, Member of the Board, Member of the Audit & Governance Committee and the Nomination & Remuneration Committee 2011–.
- Docrates Oy, Chairman of the Board, 2011–.
- Finnish Red Cross, Blood Service, Chairman of the Board 2011–, Member of the Board 2010–2011.
- Metsä Board Oyj, Member of the Board, Member of the Audit Committee 2010–.

Previous work history:

- Veikkaus Oy, Chairman of the Board 2016.
- Patria Oyj, Vice Chairman of the Board, Chairman of the Audit Committee 2011–2016.
- Nokia Siemens Networks, General Counsel, Member of the Executive Board 2007–2010.
- Nokia Corporation, Networks Business Group, Vice President (legal), Member of NET Leadership Team and other NET/Nokia senior management forums 1997–2007.
- Nokia Corporation, Networks Business Group, Senior Legal Counsel & Head of European Practice Group 1998.
- Nokia Corporation, Networks Business Group, Vice President, Contracts 1995–1996.
- Nokia Corporation, Networks Business Group, Legal Counsel 1992–1995, 1997.

Holdings Dec. 31, 2017: Holds 3,618 shares in Bittium Corporation. Independent as regards to the Company and its significant shareholders.

Seppo Mäkinen

b. 1952, M.Sc. Physical Chemistry
Full-time occupation: Professional Board Member

Positions of trust:

- Bittium Corporation, Member of the Board 2015–.
- Pathena S.A., Partner 2017–.
- ValiRx Plc, Member of the Board 2013–2017, Advisor 2017–.
- Evondos Oy, Member of the Board 2016–.
- CBRA Genomics S.A., Member of the Board 2016–.
- Neurotar Oy, Member of the Board 2015–.
- MedGroup Oy, Member of the Board 2013–.
- Ginolis Oy, Member of the Board 2011–, Chairman of the Board 2011–2014.

Previous work history:

- Taikon Advisor, Managing Partner 2010–2016.
- Merieux Développement, Regional Partner, Nordics 2010–2016.
- Ventac Partners, Partner 2012–2016.
- Magnasense Technologies Oy, Member of the Board 2011–2015.
- Arcdia International Oy, Member of the Board 2011–2014.
- Balonco, Senior Advisor, owner 2012–2013.
- Mediracer Ltd., Chairman of the Board 2010–2013.
- RSP Systems, Member of the Board 2010–2011.
- Bio Fund Management Oy, Founding/Managing Partner 1997–2010.
- Sitra, Director in Life Science 1987–1997.
- Millipore/ Waters, Sales & Marketing 1983–1987.
- State Institute of Agricultural Chemistry, Chemist 1980–1983.
- Served as a Chairman or Member of the Board in Egalet A/S, SpinX Inc., Chempaq, Profos AG, Ilochip A/S, Exiqon A/S, KSH-Productor Oy, Merlin Diagnostika GmbH, Primex ASA, Rumen Oy, Millimed Inc., BioPorto A/S, Wallac, Kone Instruments, Rados Technologies, MAP Medical Technologies, Pharming NV, Bio-Orbit, Labmaster Oy, Viable Bioproducts and Fluilogic Oy.

Holdings Dec. 31, 2017: Holds 2,871 shares in Bittium Corporation. Independent as regards to the Company and its significant shareholders.



From left to right: Staffan Simberg, Juha Putkiranta, Kirsi Komi, Seppo Mäkinen, Erkki Veikkolainen and Tero Ojanperä.

Tero Ojanperä

b. 1966, Ph.D.

Full-time occupation: Silo AI Oy,
Managing Director and Co-Founder

Positions of trust:

- Bittium Corporation,
Member of the Board, 2017–.
- Visionplus Oyj, Chairman of the Board, 2012–.
- Tampere University of Technology,
Chairman of the Board, 2012–.
- DNA Oy, Member of the Board, 2014–.
- Tailorframe Oy, Chairman of the Board, 2013–.

Previous work history:

- Visionplus Oyj, Managing Director, 2012–2017.
- Nokia Oyj, Chief Technology Officer,
Head of the Nokia Research Center,
Nokia Networks, Director and other Leading
positions and Member of the Group Executive
Board, 1990–2011.

Holdings Dec. 31, 2017: Holds 1,500 shares
in Bittium Corporation. Independent as regards
to the Company and its significant sharehold-
ers.

Juha Putkiranta

b. 1957, M.Sc. Engineering

Full-time occupation: Saafricon Oy, CEO

Positions of trust:

- Bittium Corporation,
Member of the Board 2015–.
- Variantum Oy, Chairman of the Board 2016–.
- Aspocomp Oyj, Member of the Board 2016–.
- Nordcloud Oy, Member of the Board 2015–.

Previous work history:

- Saafricon Oy, CEO and owner 2015–.
- Microsoft Corporation, Corporate Vice
President, Company Integration, 2014.
- Nokia Oyj, Executive Vice President,
Operations 2013–2014.
- Nokia Oyj, Senior Vice President,
Head of Nokia Supply Chain 2008–2012.
- Nokia Oyj, Senior Vice President,
Head of Multimedia Product marketing
and R&D 2006–2007.
- Nokia Oyj, Senior Vice President,
Head of Imaging Business Unit 2003–2005.
- Nokia Oyj, Senior Vice President,
Head of Cellular Telephones Unit 2000–
2003.
- Symbian Ltd,
Member of the Board 1998–2001.
- Nokia Oyj, Vice President, Corporate Planning
and Business Development 1997–2000.
- Hewlett-Packard Corporation, Director
of Marketing Europe and Africa, electronic
measurement solutions 1992–1997.
- Siar Oy, consultant 1986–1987.
- Nokia Oyj, various project, sales and
marketing management positions,
information solutions unit 1979–1986.

Holdings Dec. 31, 2017: Holds 12,871 shares
in Bittium Corporation. Independent as re-
gards to the Company and its significant
shareholders.

Staffan Simberg

b. 1949, MBA

Full-time occupation: Professional Board
Member, Management Consultant

Positions of trust:

- Bittium Corporation (prev. Elektrobit
Corporation), Member of the Board 2008–
and Chairman of the Audit Committee 2010–.
- Oriola Corporation, Member of the Board
and Audit Committee 2015–.
- Endomines AB (publ), Member of the Board
and Audit Committee 2011–, Chairman of the
Board 2012–.
- Simberg & Partners Oy,
Chairman of the Board 1994–.
- NEZ-Invest Ab, Chairman of the Board 1994–.

Previous work history:

- Bittium Technologies Ltd. (prev. Elektrobit-
Technologies Ltd.), Member of the Board
2011–2015.
- Nordic Vehicle Conversion AB,
Member of the Board 2011–2015.
- Silva Group AB,
Member of the Board 2011–2015.
- Valmet Automotive Group,
Advisor of the Board of Directors 2014.
- Metso Group, Industrial Advisor 2011.
- Cargotec Oyj, Industrial Advisor 2009, 2012.
- Metso Panelboard, Chairman 2008–2009.
- Landis & Gyr AG,
Member of the Advisory Board 2007–2013.
- Enermet Group,
Managing Director 2005–2007.
- Siar-Bossard, Associated Partner 1992–1994.
- Leading positions at Nokia 1978–1991.

Holdings Dec. 31, 2017: Holds 2,871 shares
in Bittium Corporation. Corporation controlled
by Simberg NEZ-Invest AB holds 50,000
shares in Bittium Corporation. Independent
as regards to the Company and its significant
shareholders.

The Board Committees

The proper function of the corporate governance of a company requires that Board work is organized as efficiently as possible. For this reason, the Company has established an Audit Committee.

The Directors on the Committee can concentrate on the matters delegated to the Committee more extensively than the entire Board of Directors. The purpose of the Committee is to enhance the efficient preparation of matters within the competence of the Board, increase transparency and ensure the quality and efficiency of the decision-making of the Board.

The Committee assists the Board by preparing matters falling within the competence of the Board. The Board remains responsible for the duties assigned to the Committee. The Committee has no autonomous decision-making power, and thus the Board makes the decisions within its competence collectively.

The Committee shall regularly report on its work to the Board. The reports shall include at least a summary of the matters, addresses and measures taken by the Committee.

The central duties and operating principles of the Audit Committee are described below. The Annual General Meeting decides on the compensation of the members of the Board Committee and such compensations can be publicly viewed on the Company's website at www.bittium.com.

Audit Committee

The Audit Committee has the following duties:

- to monitor the reporting process of financial statements;
- to supervise the financial reporting process;
- to monitor the efficiency of the Company's internal control, internal audit, if applicable, and risk management systems;
- to review the description of the main features of the internal control and risk management systems pertaining to the financial reporting process, which is included in the Company's corporate governance statement;
- to monitor the statutory audit of the financial statements and consolidated financial statements;
- to evaluate the independence of the statutory auditor or audit firm and particularly the provision of related services; and
- to prepare the proposal for resolution on the election of the auditor.

The Chairman and the members of the Audit Committee are appointed by the Board of Directors of the Company. At least one Committee member must be a financial expert who has significant knowledge and experience in accounting and accounting principles applicable to the Company. The Board of Directors elected in the Annual General Meeting held on April 12, 2017 decided in its assembly meeting held on the same day to elect Mr. Staffan Simberg (Chairman of the Committee) and Ms. Kirsi Komi as members of the Audit Committee. All members of the Committee are independent from immediate interest of both the Company and its significant shareholders and they have long term experience in business management. The Board of Directors decided further in its same meeting to invite

authorized public accountant Seppo Laine as external advisor of the Board of Directors.

In addition to Committee members, other regular participants to the committee meetings are CEO, CFO and CLO who acts as the Committee's secretary and optionally external auditors. Further, the Committee members may meet the external auditors without the operative management being present in such meetings. In 2017, the Audit Committee convened six (6) times to ordinary meetings. The Committee has evaluated, prepared and reviewed, inter alia, the following subject matters during the financial period of January 1, 2017–December 31, 2017:

- Financial Statements of 2016;
- Half Year Financial Report of 2017;
- Annual audit plan for 2017;
- Observations based on auditing during the financial period;
- Observation by the internal control;
- Cash flow monitoring and evaluation of sufficiency of financing;
- Budget target setting and budgeting process;
- Dividend payment;
- M&A related issues and their effects on the result, balance sheet and financing status of the Group;
- Group legal structure related questions; and
- Impairment testing of the subsidiary shares and goodwill.

During 2018 the Committee's focus areas are:

- Controlling the R&D activations;
- Controlling the valuation processes of inventory;
- Auditing the sales offer and agreement processes; and
- Follow up of further development of financing processes.



Hannu Huttunen

Chief Executive Officer, 2015–.
b. 1966, M.Sc. (Econ.)

Positions of trust:

- Technology Industries of Finland, Member of the Board, 2017–.

Previous work history:

- Elektrobit Technologies Ltd., President, Wireless Business Segment 2010–2015.
- Tekniseri Oy, Member of the Board 2012–2016.
- EXFO Inc., Vice President, Wireless Division (previously NetHawk Oy) 2010.
- NetHawk Oy, CEO 2003–2010, NetHawk Oy, Executive Vice President 2002–2003.
- Nokia Mobile Phones Oy, Vice President, IP Convergence 2002,
Vice President Special Products Business 1998–2002,
NMT450 Business unit leader 1995–1998.

Holdings Dec. 31, 2017:

Holds 10,000 shares in Bittium Corporation.

Chief Executive Officer (CEO)

The CEO is in charge of the operative management of the Company in accordance with the Finnish Companies Act, the Articles of Association as well as the instructions and orders given by the Board of Directors. The CEO is responsible for the preparation of the Board meetings and implementation of any decisions made therein. Further, the CEO is responsible for ensuring that the Company's accounting methods comply with the applicable law and that the financial matters are being handled in a reliable manner. The CEO prepares strategy, long-term planning, investments, mergers and acquisitions, financing and makes decisions thereof to the extent that such decisions are not tasks of the Board of the Directors. The CEO is responsible for financial planning, the Company's communications and investor relations.

The Board of Directors defines and approves the essential terms of the service of the CEO, including the CEO's remuneration, in the form of a written agreement.

The CEO's service contract is effective until further notice and can be terminated by the Company with twelve (12) and the CEO with six (6) months' written notice.

The CEO is entitled to a work pension under the Contracts of Employment Act and other legislation pertaining to pensions and he does not have supplementary pension. The Finnish employee pension system (TyEL) entitles to work pension that is based on such income during the career that entitles to work pension. Persons born in 1954 and before it can retire to old age pension at the age of 63 at the earliest. The pension age of persons born in 1955 or thereafter rises evenly three months in a year until the pension age of 65 is reached. The lower limit of the pension age for persons born in 1962–1964 is 65 years. The pension age of persons born in 1965 or thereafter is bound to the expectancy of lifetime.

Management Group

The management group supports the CEO in his tasks and consists of the CEO as the chairman, CFO, Chief Legal Officer, Director Corporate Communications and Marketing, Directors responsible for product and service areas and Vice President responsible for Engineering. The management group supports the CEO in operative management, implementation and follow-up of the CEO's competence area, in particular as regards the operative business, the management and development of the business portfolio, asset management and taxation, internal audit, Corporate Governance of the Company, investor and marketing communications and risk management.



Karoliina Fyrstén

Director, Corporate Communications and Marketing, 2015–.

b. 1977, M.A. International Business Communications

Previous work history:

- Elektrobit Corporation, Corporate Communications Manager, 2015.
- Elektrobit Automotive GmbH, Corporate Communications Manager, 2013–2015.
- Elektrobit Corporation, Corporate Communications Manager, 2009–2013.
- Elektrobit Corporation, Internal Communications, 2006–2008.
- Elektrobit Group Plc, Communications, 2002–2006.
- JOT Automation Group Plc, Investor Relations and Communications, 2001–2002.

Holdings Dec. 31, 2017:

Holds 1,600 shares in Bittium Corporation.



Jari-Pekka Innanen

Vice President, Engineering, 2015–.
b. 1968, M.Sc. (ME)

Previous work history:

- Elektrobit Wireless Communications Ltd., Vice President, Engineering, Wireless Business Segment, 2011–2015.
- Elektrobit, Senior Manager, WS Global Resourcing, 2007–2010.
- Elektrobit, Manager, Head of Global HW, 2006–2007.
- Elektrobit, Manager, Mobile Terminal Solutions, Head of HW Competence areas, 2006.
- Elektrobit, Manager, Mechanical Competence Center, 2003–2005.
- Elektrobit, Project Manager, 1999–2003.
- Elektrobit, Mechanical Designer, 1998–1999.
- Outokumpu Stainless Steel, Supervisor Cold Rolling Mills, 1994–1997.

Holdings Dec. 31, 2017:

Holds 7,000 shares in Bittium Corporation.



Kari Jokela

Chief Legal Officer, 2014–.
b. 1969, LL.M., trained on the bench, Mag.lur. (Saarbrücken)

Previous work history:

- Elektrobit Technologies Ltd., Senior Legal Counsel, 2012–2014.
- Elektrobit Corporation, Senior Legal Counsel, 2010–2012.
- Elektrobit Automotive GmbH, Senior Legal Counsel, 2008–2010.
- Elektrobit Corporation, Senior Legal Counsel, 2008.
- Polar Electro Ltd., Group Legal Counsel, 2000–2007.
- Asianajotoimisto Gilbert, Segall and Young Oy, Attorneys at Law Helsinki, attorney, 1998–2000.

Holdings Dec. 31, 2017:

Holds 1,100 shares in Bittium Corporation.



Pekka Kunnari

Chief Financial Officer, 2015–.
b. 1967, M.Sc. (Econ.), LL.M.

Previous work history:

- Elektrobit Technologies Ltd., Vice President, Finance 2011–2015.
- Elektrobit Corporation, Director, Finance 2005–2011.
- Elektrobit Inc, Group Controller 2004–2005.
- Elektrobit Group Corporation, Group Controller 2003–2004.
- Elektrobit Ltd., Business Controller 2001–2003.
- RPC Rapid Prototyping Center Oy, Finance Manager 2000–2001.
- Tilintarkastajien Ltd. - Ernst & Young, Auditor 1998–2000.
- Tuottotieto Ltd., Business Consultant 1994–1998.

Holdings Dec. 31, 2017:

Holds 3,000 shares in Bittium Corporation.



Klaus Mäntysaari

Senior Vice President, Connectivity Solutions & Head of Technology Development, 2016–. b. 1966, M.Sc.

Positions of trust:

- Health Innovation Academy Oy, Deputy Member of the Board, 2014–.

Previous work history:

- Bittium Wireless Ltd, Vice President, Telecom, 2015–2016.
- Elektrobit Wireless Communications Ltd., Vice President, Telecom, Wireless Business Segment, 2014–2015.
- Elektrobit, Vice President, Service Business Area, Wireless Segment, 2011–2014.
- Elektrobit, Director, Sales & Marketing Development, Wireless Solutions Business Unit, 2008–2011.
- Elektrobit, Director, Sales & Account Management & Marketing, Mobile Terminal Solutions Business Unit, 2008.
- Elektrobit, Director, Sales & Account Management, Mobile Terminal Solutions Business Unit, 2007–2008.
- Elektrobit, Head of Customer Operations, Contract R&D Business Unit, 2006–2007.
- Elektrobit, Director, Global Nokia Key Account Management, Contract R&D Business Unit, 2005–2006.
- Elektrobit, Key Account Manager, Nokia Terminals, Contract R&D Business Unit, 2004–2005.
- Nokia, Senior Manager, Vodafone Account, Nokia Multimedia, IP Convergence Business Program, 2004.
- Nokia, Senior Marketing Manager, Nokia Multimedia, IP Convergence Business Program, 2002–2004.
- Nokia, General Manager, Nokia Mobile Phones, Special Products, 2000–2002.
- Nokia, Marketing Manager, Nokia Mobile Phones, Special Products, 1998–2000.

Holdings Dec. 31, 2017:

Holds 2,000 shares in Bittium Corporation.

Arto Pietilä

Senior Vice President, Medical Technologies, 2016–. b. 1958, M.Sc. (Applied Electronics)

Previous work history:

- Bittium Wireless Ltd, Senior Vice President, Operations, 2015–2016.
- Elektrobit Wireless Communications Ltd., Senior Vice President, Operations, Wireless Business Segment, 2010–2015.
- Elektrobit Wireless Communications Ltd., Senior Vice President, Operations, Wireless Solutions Business Unit, 2008–2010.
- Elektrobit Wireless Communications Ltd., Executive Vice President, Mobile Terminal Solutions Business Unit, 2006–2008.
- Elektrobit Wireless Communications Ltd., Executive Vice President, Contract R&D Business Unit, 2004–2006.
- Elektrobit Technologies Ltd., Managing Director, 2004–2006.
- Elektrobit Ltd., Managing Director, 2002–2004.
- Elektrobit Ltd., Vice President, Contract R&D, 2001–2002.
- Polar Electro Oy, President & CEO, 1999–2001.
- Polar Electro Oy, Executive Vice President, 1996–1999.
- Polar Electro Oy, Technical Director, 1992–1996.
- Polar Electro Oy, Product Development Manager, 1986–1992.
- Polar Electro Oy, SW/HW Design Engineer, 1980–1986.

Holdings Dec. 31, 2017:

Holds 80,000 shares in Bittium Corporation.

Jari Sankala

Senior Vice President, Defense & Security, 2016–. b. 1966, M.Sc. (Electrical Engineering, Digital Communications)

Previous work history:

- Bittium Corporation, Senior Vice President, Sales, 2015–2016.
- Elektrobit Wireless Communications Ltd, Senior Vice President, Sales & Marketing, Wireless Business Segment, 2014–2015.
- Elektrobit Wireless Communications Ltd, Executive Vice President, Defence and Security, 2011–2014.
- NetHawk Group, Executive Vice President of Sales & Marketing, 2005–2011.
- NetHawk Germany, Managing Director, 2001–2005.
- Siemens AG, Sales Director Northern Europe, Mobile Networks, Germany, 1996–2001.

Holdings Dec. 31, 2017:

Holds 27,500 shares in Bittium Corporation.

Election and Remuneration of the Auditor

The Company shall have one (1) auditor that has qualified as Certified Public Accountant, and if the auditor is not an auditing company as defined by the law, one (1) deputy auditor shall be elected. The term of office of the auditor expires at the end of the following Annual General Meeting.

The General Meeting 2017 re-elected Ernst & Young Oy, authorized public accountant firm, as auditor of the Company. Ernst & Young Oy has notified that Mr. Juhani Rönkkö, CPA, will act as the responsible auditor. The remuneration to the auditor shall be paid against the auditor's reasonable invoice.

The auditor's fees in 2017 amounted to EUR 133,000 (EUR 206,000 in 2016). Of the aggregate fees, EUR 93,000 was attributable to auditing (EUR 55,000 in 2016), EUR 29,000 to tax advice (EUR 40,000 in 2015) and EUR 11,000 to other services (EUR 110,000 in 2016).

Main Features of Internal Control and Risk Management Processes Related to Financial Reporting Processes

Risk Management

The purpose of risk management is to secure positive development of earnings of the Company and the continuation of the business by implementing risk management cost-effectively and systematically throughout the different businesses.

Risk management is part of the Company's strategic and operative planning, daily decision making process and internal control system. Business objectives, risks and

risk management operations are combined through risk management as one chain of events.

Main Principles of Organizing Risk Management

Company adheres to the risk management policy approved by the Board.

Risk management contains all actions, which are connected to setting up targets, identification of risks, measurement, review, handling, reporting, follow-up, monitoring and reacting to risks.

The Aim of Risk Management of the Company Is to:

- systematically and thoroughly identify and assess all major risks, which threaten the achievement of objectives, including risks related to business operations, property, agreements, competence, currencies, financing and strategy;
- optimize business opportunities and secure continuation of business;
- recognize and identify uncertainties and subsequently develop the prediction of risks and measures needed to manage risks;
- take only calculated and assessed risks with respect to e.g. expanding the business, increasing market share and creating new businesses;
- avoid or minimize liability risks;
- ensure the safety of products, solutions and services;
- establish a safe working environment for the employees;
- minimize possibilities for unhealthy occurrences, crimes or misconduct by operating procedures, control and supervision;
- inform interest groups of risks and risk management; and
- be cost-effective in risk management.

The Aim of Risk Management Is Not to:

- exclude all risks at their entirety;
- adopt unnecessary control and management procedures; or
- take bureaucratic processes and procedures into use.

Main Principles of the Risk Management Process

In connection with the strategy process and annual planning the CEO reviews business risks which could endanger the achievement of strategic or financial targets. Risk assessment reports are produced to support the strategy process. Strategic and operative risks are monitored through monthly reporting by businesses in the Board of the Company. Businesses must produce assessments of risks in their designated areas of responsibilities and provide action plans to manage risks as well as to report on measures taken including the stage and effectiveness of such measures.

General Description of Internal Control and Operational Procedures

Internal control is a process applied by the Board of Directors, management and all levels of personnel in the Company to ensure that management has reasonable assurance that:

1. operations are effective, efficient and aligned with strategy;
2. financial reporting and management information is reliable, complete and timely made; and
3. the Company is in compliance with applicable laws and regulations as well as the Company's internal policies and ethical values including sustainability.

The first category addresses the basic business objectives, including performance and profitability goals, strategy, implementation of objectives and actions and safeguarding resources. The second category relates to the preparation of reliable published financial statements, including half year financial reports and condensed financial statements and selected financial data derived from such statements, such as earnings releases, reported publicly. The third category deals with complying with those laws and regulations to which the Company is subject to.



Internal Control Framework of the Company

Bittium’s internal control framework consists of:

- the internal control, risk management and corporate governance policies and principles set by the Company’s Board of Directors;
- management overseeing the implementation and application of the policies and principles;
- finance function and business controllers monitoring the efficiency and effectiveness of the operations and reliability of the financial and management reporting;
- enterprise risk management process identifying, assessing and mitigating risks threatening the realization of the Company’s objectives;
- compliance procedures making sure that all applicable laws, regulations, internal policies and ethical values (including sustainability) are adhered to;
- effective control environment at all organizational levels including control activities tailored for defined processes and creating group minimum requirements for product and service areas as well as for geographical areas;

- shared ethical values and strong internal control culture among all employees; and
- internal audit assignments reviewing the effectiveness of the internal controls as needed.

Risks and Controls in Core Business Processes

Risk management procedures are in place for business processes in the form of defined control points:

- relevant process risks are identified;
- common control points/Company’s minimum requirement control points are identified;
- common control points are implemented in business processes;
- additional control points can be determined as needed at business or functional levels.

Control activities are the policies and procedures that help ensure that management directives are carried out. They help ensure that necessary actions are taken to address risks to achievement of the Company’s objectives. Control activities are set throughout the organization, at all levels and in all functions. They include various range of ac-

tivities including but not limited to approvals, authorizations, verifications, reviews of operating performance, securing of assets and segregation of duties.

Internal Controls Over Financial Reporting

The Company’s external financial reporting process, internal control and risk management systems are briefly described in this section. The main focus is on financial accounting and related controls.

Financial Reporting Organization

The financial management of the Company is responsible for organizing the accounting, money transactions and other daily financial operations of the companies belonging to it as well as organizing the internal reporting that supports the business.

The tasks of the Company’s financial administration consist of, inter alia, monthly consolidation of the Group entity, preparation of half-year financial reports and consolidated financial statements, management and investment of monetary assets of the Group, management of liabilities, protection against exchange risk, and transfer

pricing. The finance function of the Company implements operative supervision under the CFO who reports any supervisory findings to the Audit Committee. The tasks and responsibilities of the accounting function of the parent company and each subsidiary are included in the job descriptions of the teams and employees.

Financial Reporting Systems

Consolidated financial statements are prepared by using the chosen consolidation tool. The accounting of the Group's subsidiaries is done by using the local accounting systems from which the actual figures are reported either manually or by automatic transfer to the group consolidation system. The accounting system in use includes general ledger accounting, accounts payables and accounts receivables. Current assets and payroll accounting is organized through various programs or purchased as an outsourced service. Purchase invoices are circulated through electronic invoice processing system. Global forecasts and budgets are prepared by using the forecast and reporting program.

Internal Controls

The Company's internal control mechanisms are based on policies, instructions, limited process descriptions, authorization matrix, financial reporting review meetings, and segregation of key accounting duties.

Compliance Procedures

Compliance processes are in place at all levels of the organization to ensure that that all applicable laws, regulations, internal policies and ethical values including sustainability are adhered to. The management and businesses are responsible for following up developments in legislation and regulations in their respective areas and communicating them to the organization. The members of the Management Group are responsible for setting up adequate compliance controls and compliance related training in their units. Chief Legal Officer of the Company coordinates the appropriateness and compliance of the compliance processes.

Roles and Responsibilities Regarding Risk Management and Internal Control

The key roles and responsibilities regarding the Company's internal control and risk management are defined as follows:

Board of Directors

The Board of Directors is ultimately responsible for the administration and the proper organization of the operations of the company. According to good corporate governance, the Board also ensures that the Company has duly endorsed the corporate values applied to its operations. The Board approves the internal control, risk management and corporate governance policies. The Board establishes the risk-taking level and risk bearing capacity of the Company and re-evaluates them on a regular basis as part of the strategy and goal setting of the Company. The Board reports to the shareholders of the Company.

Audit Committee

Audit Committee is responsible for the following internal control related duties:

- to monitor the reporting process of financial statements;
- to supervise the financial reporting process;
- to monitor the efficiency of the company's internal control, internal audit, if applicable, and risk management systems;
- to review the description of the main features of the internal control and risk management systems pertaining to the financial reporting process, which is included in the Company's corporate governance statement; and
- to monitor the statutory audit of the financial statements and consolidated financial statements.

More detailed descriptions how the Audit Committee is fulfilling its monitoring role are defined in the Committee's annual plan. The Audit Committee reports to the Board of Directors of the Company.

Chief Executive Officer

CEO is in charge of the day-to-day management of the Company in accordance with the instructions and orders given by the Board. The CEO sets the ground for the internal control environment by providing leadership and direction to senior managers and reviewing the way they are controlling the business. The CEO is in charge of the risk management process of the Company and its continuous development, allocation of resources to the work, review of risk management policies as well as defining the principles of operation and overall process. The CEO reports to the Board on risk management as part of the monthly reporting. The CEO and the Management Group, which operates under the CEO, are responsible for the management of risks endangering the fulfillment of objectives set for the Company.

Management Group

The members of the Management Group are responsible for internal control implementation in their responsibility areas. More specific internal control policies and procedures are established within the principles set by the Board and the CEO. Additionally, the members of the Management Group of the subgroup and the Group Management are responsible for implementing risk management practices in planning cycle and daily operations, and ensure the adherence of:

- laws;
- regulations;
- internal policies; and
- ethical values

in their designated responsibility areas.

The CFO:

- ensures a setup of adequate control activities for product and service areas in cooperation with the business management;
- follows the adequacy and effectiveness of control activities; and
- ensures that external reporting is correct, timely and in compliance with regulations.

Finance function does not have a separate internal control function. The CFO reports any supervisory findings to the Audit Committee.

The Chief Legal Officer ensures that the Group's corporate governance practices comply with the law and that legal matters of the Group are handled appropriately, in particular the contractual risks relating to business operations.

Internal Audit

The Company has no specific internal audit organization. This is taken into account in the content and scope of the annual audit plan. On the one hand, external auditing focuses on specific areas in turn to be audited, and on the other hand, on separately agreed priority areas.

Insider Guidelines

The Company adheres to the Insider Guidelines for Listed Companies prepared by Nasdaq Helsinki Ltd (previously NASDAQ OMX Helsinki Ltd, OMX Nordic Exchange Helsinki Ltd and Helsinki Stock Exchange), the Central Chamber of Commerce and the Confederation of Finnish Industries. The Company has complemented the Guidelines by its internal insider guidelines. The insider and trading guidelines approved by the Company include regulations on insiders, publication and postponement of publication of inside information, prohibited use of inside information, insider registers, duty of notification of managers' and their closely associated persons' transactions, and personnel's own trading with the Company's financial instruments. The purpose of the guideline is to explain the content of the guideline published by Nasdaq Helsinki Ltd and other regulations and restrictions relating to the matter, and to unify and coordinate the processing of insider and trading matters within Bittium.

The managers of the Company must comply with the EU Market Abuse Regulation's prohibition on dealing in the Company's financial instruments (closed period).

In accordance with the Company's Board of Directors' decision, the Company has in addition determined certain time periods during which persons taking part in the preparations of the Company's financial reporting, and other persons who have access to information pertaining to the Company's financial status, are prohibited to trade the Company's financial instruments. The purpose of the trade restrictions is to control trading of the Company's financial instruments, and thereby increase trust to the Company and the operation of the securities market. Trading with the Company's financial instruments is completely prohibited for the aforementioned persons for a period of 30 days before the publication of earnings information of the Company. The most common publications are the release of half year report and release of the Company's financial statements. The restriction is applicable also to any possible preliminary information regarding the financial statements and half year report.

Persons included in a project-specific insider register are prohibited from all trading and business transactions until the project has expired or has been publicly announced. If the project falls upon another listed company or may affect the price of the financial instruments of another listed company, the project-specific insiders have no right to trade with such company's financial instruments.

The Company voluntarily maintains on its website a list of the financial instruments owned by the Company's managers or by the institutions operating under the authority of the managers. The list is updated on the last day of each month.

CEO's Greetings

Our corporate social responsibility is based on the Company's strategy and values. Responsibility covers our products and services as well as our ways of creating value for the surrounding society and interest groups. Information security and reliability are important elements for Bittium's business.

Values have been extremely important for Bittium since the beginning. Last year, we updated our values with our personnel in order to highlight their role as guiding principles. Bittium's new values can be summarized into three keywords:

- Trust,
- Courage, and
- Innovation.

In 2017, we defined three focus areas for the Company's responsibility work: *innovative and developing people; confidential customer relationships and secure products; corporate citizenship and responsible business practices.*

Customers and Employees at the Core

Talented people are our most important resource. We want to offer them challenging and motivating tasks that correspond to their expertise. Innovation as a Company value means that we have a continuous passion for learning and development.

Personnel and customer satisfaction are important for us, and we monitor these areas through annual surveys. We were happy to note that, in 2017, the results of both the employee survey and the customer satisfaction survey were excellent, both had slight improvement from the previous year.

Responses to the employee survey revealed a strong commitment to the Company and a firm belief in its success. An important detail in the customer satisfaction survey was the upward trend of our Net Promoter Score.

Financially, the year 2017 was a challenging year for us, which was mainly due to losing a major service customer. The freeing of talented resources from the large-scale customer project in question enabled the growth of our R&D investments in 2018. At the end of 2017, the number of customer service projects had started to increase again, and we are also recruiting new experts.

Reliable Operator

It is important for us that our customers can depend on the information security and reliability of our products and services. This is how we promote responsibility in our customers' operations. The responsibility of our products and services is guided, for example, by international standards, quality and environmental certificates, supplier and partner election, material analyses during product development and eventual material choices.

Information security is at the heart of our strategy. Last year, we received a crypto approval from the National Cyber Security Centre (NCSC) at the Finnish Communications Regulatory Authority (FICORA) for our Bittium Tough Mobile and the Bittium Secure Suite back-end system that supports it. This was the first official crypto approval for a smartphone solution in the world for the Confidential level.

We follow the requirements set out in over 400 standards regarding our operations. Our products and services are also governed by a large number of national and international laws and regulations. The ISO 13485:2016 approval for our medical products is a good indication of the responsibility of our product development. It covers the design, development and production of medical devices as well as the related services throughout the product's lifecycle. In 2017, we became one of the first Finnish companies to receive an approval for our defense and security business under the AQAP2110 (version D) quality system; the certification covers the product design, development, manufacture and related maintenance services.

Our New Headquarters Was Designed with the Environment and Our Experts in Mind

Bittium moved to its new headquarters in Oulu, Finland, last year. The construction project was completed in October 2017 after almost two years. The starting point in the design of the new premises was to centralize different functions in order to improve efficiency and maximize savings. Our new, pleasant facilities were built using the efficient multipurpose office model, which improves well-being at work. We chose materials and energy solutions that made the building qualify for the LEED Gold energy efficiency criterias. For example, eight percent of our annual energy is generated by solar panels that are mounted on the roof of the head office. The new premises also satisfy high information security requirements, enabling us to manage classified projects in our premises. I believe that all our employ-

ees can be proud of our new headquarters. This sustainability report is the first of its kind for Bittium. Sustainability is an investment in Bittium's future. We will report on our sustainability performance annually from now on, developing our metrics and including the non-financial effects of our operations in the report. We decided to base our sustainability report on the GRI 4 framework, and the areas covered by this report are product liability, social responsibility, environmental responsibility and financial responsibility.



Hannu Huttunen
CEO



“Although a company has no feelings, it is still a human organization that is made up of people who want to serve people. Those who are responsible for its operations must always see their civil responsibilities and obligations as the responsibilities and obligations of the company.”

- Veikko Hulkko, the founder of Bittium (former Elektrobitt)
wrote in his book Entäpä jos... ("What if...", 1999)

Business and Operating Environment

Bittium in Brief

Bittium specializes in the development of reliable, secure communications and connectivity solutions, leveraging its 30-year legacy of expertise in advanced radio communication technologies. Bittium provides innovative products and services, customized solutions based on its product platforms and R&D services. Complementing its communications and connectivity solutions, Bittium offers proven information security solutions for mobile devices and portable computers. Bittium also provides healthcare technology products and services for biosignal measurement in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine.

Bittium's vision is to become a global enabler of secure and reliable connectivity for people and things.

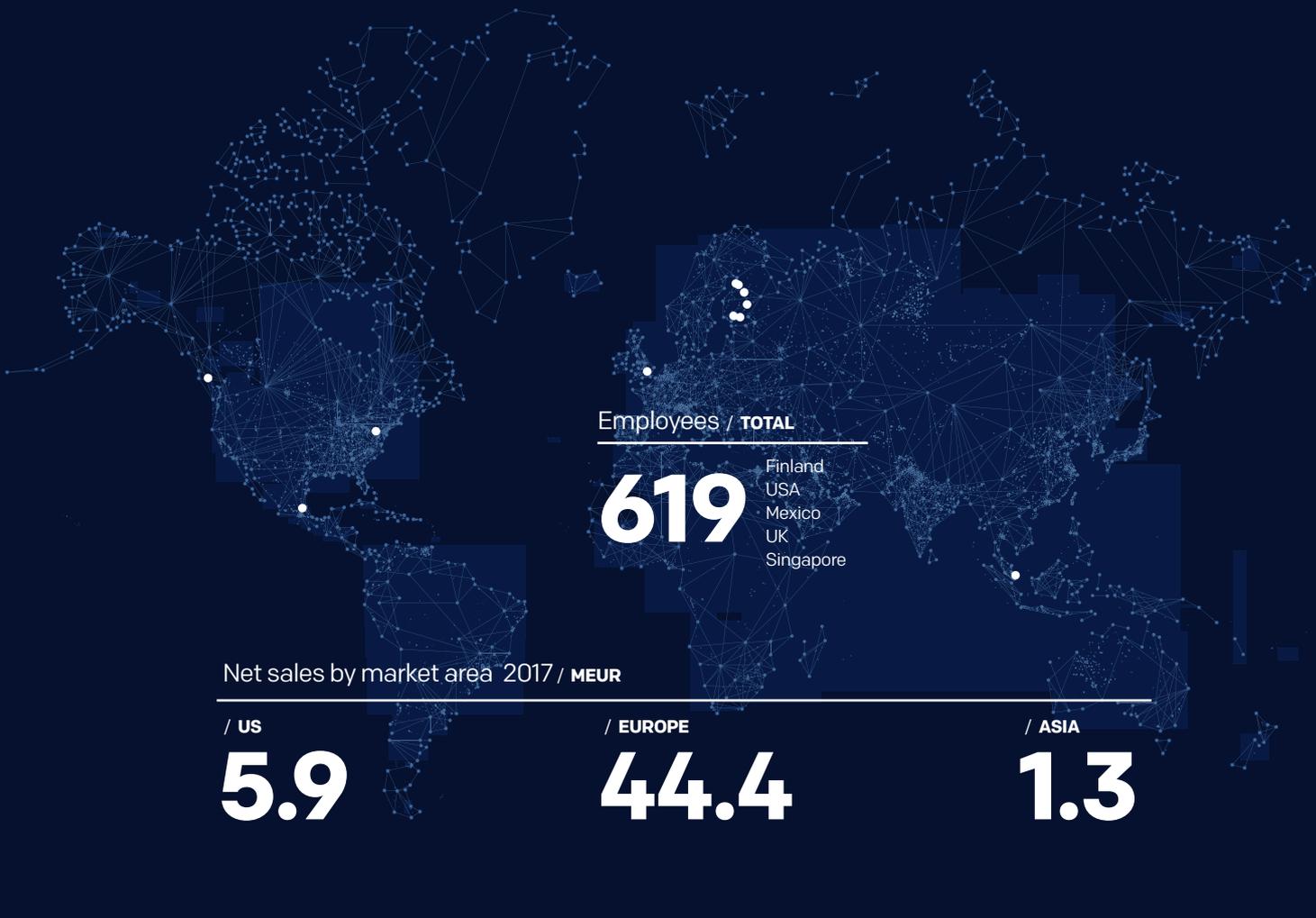
We adapt our deep knowledge to deliver superior innovations and reliable, secure communications and connectivity solutions.

Bittium's three product and service areas:



Bittium, formerly known as Elektrobit Corporation, was established in 1985. It changed its name to Bittium after selling its Automotive business and giving up the rights to brand name Elektrobit on July 1, 2015. Nowadays, Bittium is a publicly listed company on Nasdaq Helsinki as BITTI.

Bittium operates in Finland, Germany, the United States, Mexico and Singapore. The Bittium headquarters is located in Oulu, and the company's other Finnish offices are in Espoo, Kajaani, Kuopio and Tampere.



Bittium's products, services and solutions can be found in the Annual Report on pages 8–10 and at www.bittium.com

At the end of 2017, Bittium had 619 employees, the majority of which were R&D engineers. In 2017, the Company did not undergo any significant changes in relation to its size, structure, operating areas, ownership, distribution of shares, income formation or the maintenance of operations.

Bittium operates globally, but most of its net sales originate from domestic customers. With regard to sustainable business, Bittium's products and services comply with the statutory requirements, directives, general standards and frameworks, such as SA 8000 (social responsibility), ISO 14001 (environmental systems), ROHS2 and ROHS3 (hazardous substances), REACH (chemicals regulations), WEEE (recyclability of waste electrical and electronic equipment) and ETJ+ / ISO 50001 (energy efficiency). As a global enterprise, the Company also takes the special requirements of its international customers into account.

Shareholders

The list of Bittium's largest shareholders is based on the information given by the Euroclear Finland Ltd. (former Finnish Central Securities Depository) on the holdings of Bittium's 100 largest shareholders. Bittium updates the information on its website every month.

At the end of 2017, Bittium Corporation had 21,985 shareholders. The ten largest shareholders owned 28.4 percent of the shares. The percentage of privately held shares was 74.6. The percentage of shares owned by international shareholders and nominees was 3.3 percent at the end of 2017.

Business Model

MEGATRENDS Continuous technology development, IoT and digitalization, Digitalization of health care, Tighter information security and regulatory requirements, Cyber security

CUSTOMER GROUPS Companies of different sizes, OEMs, system integrators; Defense and governments; Hospitals and hospital districts; Other public administration and organizations; Research institutes; Universities

EFFECTS on the Customer

- Reliable Finnish partner
- Products and solutions that represent the latest technology
- High product performance and long lifecycle
- Scalable product platforms
- Short customization times and fast market entry of solutions
- Lower costs and risks in customer's own R&D projects

PRODUCTS, SERVICES AND SOLUTIONS

- Products and services in tactical communications
- Secure phones and the related software and systems
- Information security software
- Design services for wireless communications
- IoT and digitalization services
- Biosignal measuring and monitoring equipment in the areas of cardiology and neurology

OUR VISION

Bittium's vision is to become a global enabler of secure and reliable connectivity for people and things.

EFFECTS on Bittium

- Long-term projects and customer relationships build stability
- Service projects enable applying new technologies that strengthen the expertise of both the company and its customers
- Extensive understanding of commercial technologies and the customized communications systems used by authorities
- Integrated expertise in mobile and online technologies
- Good growth opportunities

INCOME STREAMS

- Products and product platforms, systems and the services related to these
- R&D services
- Administration charges
- Licenses

ENABLERS

Key resources:

- Experts
- Own products
- IPR
- Partners,
- Strong Balance Sheet
- Processes
- Quality and Environment Systems

Key focus areas

- Personnel
- R&D
- Sales and marketing
- Way of Working
- Digitalization

Expertise

- Wireless technologies,
- Software, mechanics and software solution integrations,
- Testing and verification as well as extensive expertise in systems and specialist areas
- Information security
- Measurement of biosignals,
- Way of Working

Channels

- Own sales
- Retailers
- System sales
- B-to-B
- Web-shop

OUR MISSION We adapt our deep knowledge to deliver superior innovations and reliable, secure communications and connectivity solutions.

Megatrends that Affect Our Operations

Bittium's operations are guided by the following megatrends, which the Company seeks to address through its operations.



1. Continuous Technology Development

Bittium has been a technology company since its establishment. Being a forerunner in technology requires involvement in the development of the latest technologies. Currently Bittium is active in the development of i.a. 5G, machine learning and AI related to digitalization, and wireless communication technologies.



2. IoT and Digitalization

Secure IoT and digitalization have evolved from technical advances. The world is becoming digital fast. More and more devices connect wirelessly to the Internet, cloud-based services and each other. Services have also become digital. Bittium's extensive expertise in technology and information security enables creating complex wireless solutions that meet strict security requirements to our customers.



3. Digitalization of Health Care

Global megatrends that affect Bittium's medical technology development, biosignal measurements and monitoring are the digitalization of health care, the wider use of wireless solutions in patient care and the growth of home care due to earlier patient discharge times. Bittium meets the digitalization and efficiency demands in health care from its own perspective.



4. Tighter Information Security and Regulatory Requirements

Bittium has a long history in developing communications solutions for its customers in the defense and public sectors. The use of commercial technologies, such as LTE and IP is accelerating in the defense and public safety market. Bittium's extensive expertise enables providing advanced commercial solutions that meet extremely stringent information security and regulatory requirements.



5. Cyber Security

Technical advances pose a variety of security challenges to mobile and digital technologies. This has made cyber security a major concern globally. Bittium has robust expertise in mobile information security and the ability to utilize its expertise extensively.

Responsibility Management

Responsibility Organization and Risk Management

The Board of Directors of Bittium Corporation discusses responsibility questions on the basis of the Management Group's proposals, and the Audit Committee discusses and prepares responsibility questions.

The Management Group discusses sustainability questions, monitors the effectiveness of sustainability measures and sets targets in the biannual management review. Bittium will specify its responsibility targets and indicators further in 2018. The Management Group is also responsible for implementing responsibility plans and measures in daily business.

Bittium also has a social responsibility working group that is responsible for monitoring and the impact assessment of responsibility measures, reporting, and risk management and assessment. The working group has six members: Bittium CEO, Chief Legal Officer, Director, Corporate Communications and Marketing, Director, Human Resources, CFO and Head of Quality, the Environment and Processes. The responsibility working group holds quarterly meetings and prepares the sustainability report. Bittium management and the Board of Directors review the sustainability report annually.

The sustainability report specifies the applicable methods that guarantee a sufficient level of diligence. The managing of risks related to operations and the operating environment as well as the processes are spec-

ified in the Bittium Corporate Governance Statement (https://www.bittium.com/investors/corporate_governance).

Meeting the Expectations of Interest Groups: Responsible Practices and Systems

Bittium's social responsibility is driven by good governance. Bittium has also developed several systems that support the company's operations. The table on page 49 describes responsibility practices and systems at Bittium.

Reporting Principles

Scope of Reporting

This sustainability report is the first extensive report on the management and implementation of sustainability at Bittium. Sustainability is an investment in Bittium's future, and Bittium will prepare a sustainability report annually from now on, developing sustainability metrics, providing more information on impacts and expanding the scope of reporting. In order to enable comparability, Bittium's sustainability report is based on the GRI 4 framework. The table at the end of the report contains references to the relevant elements of the GRI 4 framework.

The report covers the three sustainability focus areas, a description of Bittium's environmental responsibility and financial effectiveness.

The financial data is collected from Bittium's financial information systems, and the majority of personnel data is from HR management systems. The reported financial figures are based on Bittium's audited financial statements from 2016 and 2017.

Bittium selected its reporting model on the basis of Bittium's sustainability principles, taking into account the GRI 4 framework and the focus areas of the Company's business: wireless, secure communications in B2B operations. Bittium has customers both in Finland and in other countries. The majority of operations and most of the personnel are located in Finland.

This report will be published in electronic form in connection with the group's annual report at www.bittium.com.



Scope of the Report

The period covered by the sustainability report is the same as the financial period, 1 January–31 December 2017. Environmental data is not reported from offices where the Company only uses a part of the office premises.

The report does not cover all suppliers or service providers. In other respects, the report covers all the operations of Bittium Corporation and its subsidiaries.

Reporting Principles and Instructions

Financial reports are governed by the International Financial Reporting Standards (IFRS), and governance reports comply with the legislation on listed companies and the Finnish Corporate Governance Code that applies to listed companies.

The reported financial data is based on audited financial statements.

Principles and Practices for External Verification

The 2017 sustainability report follows the core level of the Global Reporting Initiative (GRI) 4 guidelines. The sustainability report has not been verified by an independent third party. The figures presented in the “Financial effectiveness” section are based on the group’s audited financial statements.

INTEREST GROUP	INTEREST GROUP EXPECTATIONS	BITTIUM'S RESPONSIBLE PRACTICES AND SYSTEMS
Shareholders	<ul style="list-style-type: none"> • Long-term value formation • Responsible operations • Reporting and transparency requirements on listed companies 	<ul style="list-style-type: none"> • Bittium's long-term goals, vision, strategic processes, updates to strategic measures and continuous monitoring • The Corporate Governance Statement that is published on the Bittium website • Meeting financial targets, financial processes, procedures and practices, taking into account local accounting legislation and reporting schemes as well as the special requirements on listed companies • Risk management processes and monitoring practices • Taking environmental, social and financial responsibility perspectives into account in business
Customers	<ul style="list-style-type: none"> • Competitive products and services • Reliability and security principles • Environmental sustainability and sustainable development 	<ul style="list-style-type: none"> • CAPA, Corrective Actions and Preventive Actions • Customer satisfaction surveys and improvement measures • Improvement in cooperation with the customers • Efficient, certified quality (ISO9001, ISO13485 and AQAP2110) and environmental systems (ISO14001, ETJ+/ISO50001) • Observing responsibility standards, including OHSAS 18001 (Occupational Healthy and Safety Assessment) • Responsible business (e.g. anti-corruption instructions) • Efficient, transparent and agile operating models for developing products and services in cooperation with the customers and partners • Risk management processes and regular monitoring practices • Product development in secure systems that can be audited (e.g. ISO27001, Katakri 2015)
Personnel	<ul style="list-style-type: none"> • Equal treatment and open interaction • Opportunities for professional growth • Well-being at work 	<ul style="list-style-type: none"> • Annual employee survey • Transparent information sharing and interaction with personnel, for example, the Ask Management discussions between the management and personnel • Updating the Bittium values • Quarter Chat discussions between supervisors and employees, coaching as a framework for supervisory work • Benefits and services that support well-being, such as occupational healthcare, sport, culture and lunch vouchers and personnel events • Plans and instructions related to occupational safety, its promotion and equality, such as the VARTU model, equality plan and Industrial Safety action plan
Suppliers and other third parties	<ul style="list-style-type: none"> • Long-term business partnerships • Fair and responsible procedures 	<ul style="list-style-type: none"> • Bittium's requirements on suppliers applied to the volume or position of suppliers and third parties (including responsibility requirements, such as the anti-corruption guidelines) • CAPA, Corrective Actions and Preventive Actions • Development in cooperation with suppliers • The requirements of applicable standards, such as the quality (ISO9001, ISO13485 and AQAP2110) and environmental systems (ISO14001) • Complying with the responsibility standards, including OHSAS 18001 (Occupational Healthy and Safety Assessment) • Risk management processes and regular monitoring practices • Secure operating principles (information security)
Authorities	<ul style="list-style-type: none"> • Compliance with acts and regulations • Linking sustainability to the strategy and business, risk management • Transparency and reliable reporting 	<ul style="list-style-type: none"> • Bittium Corporate Governance Statement • Bittium sustainability report, release of the anti-bribery principles • Transparent risk management reporting within Bittium • Reliable reporting, transparent marketing communications • Tax cooperation with, for example, the Finnish corporate tax centre
Communities	<ul style="list-style-type: none"> • Responsible corporate citizenship • Sustainable operations, low emissions • Research cooperation 	<ul style="list-style-type: none"> • Connections with Bittium's internal values • New energy-efficient premises, incl. the use of solar power, high LEED energy efficiency level • R&D cooperation with higher education institutes and researchers • Cooperation in the planning of curricula for universities and universities of applied sciences • Visiting lectures and student visits at Bittium

Focus Areas in Sustainability

Bittium's Tools for Good Working Life



The focus areas in sustainability at Bittium are:

- innovative and developing people;
- confidential customer relationships and secure products; and
- corporate citizenship and responsible business practices.

Innovative and Developing Personnel

Bittium's vision is to become a global enabler of secure and reliable connectivity for people and things. Innovations and competence development play an important role in Bittium's business operations.

At the end of 2017, Bittium had 619 employees in Finland, the United States, Mexico, the UK and Singapore. The vast majority (99 percent) of Bittium's employees work in Finland. Strong, extensive knowledge of radio technologies, embedded software, electronics and product integrations is at the core of Bittium's expertise. Most of the group's personnel work as R&D engineers.

At the end of 2017, the average age of our employees was 42 years and average service years 9. Out of Bittium's employees 12 percent are women. Two employees retired from Bittium during 2017.

Importance of Innovations and Innovative Achievements

Motivated personnel, encouraging management and a working environment that supports job satisfaction and diversity in operations are the starting points for inno-

ventions. Bittium's premises are designed to promote easy interaction and sharing ideas with colleagues.

Procedures and methods can also support innovations. The aim of a lean organizational structure is to enable dialogue and encourage employees to share their ideas, for example, to responsible officers. Bittium uses its own idea tool to collect ideas related to products and procedures from personnel. The tool also supports giving comments on the ideas. Bittium also holds Ideas of Ideas events where selected products and solutions are developed by sharing ideas.

The innovative approach is reflected in Bittium's R&D and customer work. The Company has developed the world's first mobile phone that uses both terrestrial and satellite networks. Bittium's products are unique in many ways: for example, Bittium Tough Mobile is the world's first smartphone based solution to have received official Confidential level encryption product classification. The solution can be used for creating and processing classified information and transferring data between the smartphone and back-end systems.

Developing internal expertise and well-being at work is essential part of creating innovations. Bittium supports the development of its personnel's expertise by offering different training and self-learning options. Bittium has allocated part of the extended working hours required under the Finnish competitiveness pact to the development of its personnel's expertise and well-being.

Personnel in 2017



619 end of year
614 average
531 engineers

AVERAGE AGE

42.3

BITTIUM YEARS

8.6

RETIRED

2

FEMALE

12.1%
total

12.5%
executive team

16.7%
board

persons



EDUCATION

86%
M.Sc/B.Sc

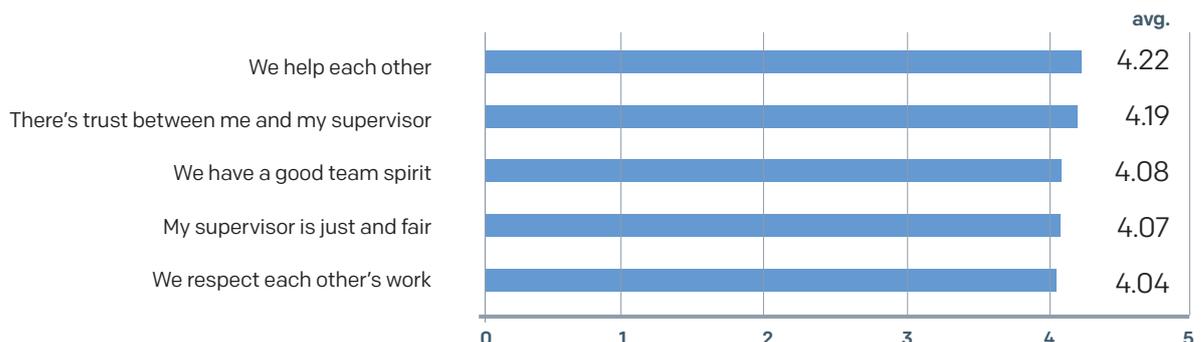
2%
Lic/Doc

TRAINING DAYS

2,457
total

4
/person

Bittium Employee Survey 2017: sustainability questions



Response rate 69%. Scale 1 = poor, 5 = excellent

Corporate Culture and Job Satisfaction

The cornerstones of the Bittium culture are talented and innovative employees, communality and an open and interactive atmosphere. Bittium employees share an endless passion for technology and learning. Bittium organizes regular internal events for the entire personnel for discussing the group strategy, targets and business. The management events are intended for sharing information to supervisors, project managers and persons in charge of different areas. The Bittium management meets employees regularly to discuss topical themes and answer their questions.

Supervisory work is based on the coaching leadership framework. Bittium uses the Quarter Chat process to support interaction between employees and supervisors. In the process, supervisors and employees meet often for an informal discussion on work-related matters. Regular interaction promotes the building of mutual trust, which enables supporting performance, competence development and well-being at work effectively and timely. Formal development discussions are not tied to the annual clock but held when necessary and appropriate for the employee's professional development.

The annual Bittium Employee Survey (BES) is a good way of identifying development needs and targets at a larger scale and ensuring the right track. The employee survey is anonymous, and the feedback collected with it helps in the development of supervisory work. The survey responses are discussed at all levels of the organization, from the Board of Directors and Management Group to individual teams. The re-

sults also help to assess equality in terms of gender, age and service years. In 2017, the statements concerning the helping of others, appreciation, team spirit and trust between employees and supervisors were rated the highest.

Work and Well-being

Occupational well-being is based on smooth, productive and meaningful work. Most of the work at Bittium takes place in project organizations, and Bittium uses agile and lean methods (e.g. Scrum, DevOps). The principles and tools of continuous improvement also make working in a high-tech specialist organization feel more meaningful.

Bittium has chosen employee benefits that support an active lifestyle and smooth everyday life, are suited to a large number of people and support a communal corporate culture and team spirit. Each employee receives the benefits based on the same criteria. The extensive occupational health services are one of the most important and appreciated benefits, and Bittium cooperates closely with the occupational health provider to develop the health and well-being of its employees. In addition to the standard benefits in the field—sport, culture and lunch vouchers—the employees receive dental benefits, access to massage, joint clubs and sports event sponsorship. Thanks to flexible working hours, the employees can use the benefits smoothly even during workdays.

Competition for the best talents is tough in the technology industry, and Bittium is also facing challenges with attracting and retaining employees. Bittium's strengths as an employer include its status as a Finnish

company with local offices, interesting job possibilities and a good atmosphere.

Competence Development

Continuous competence development is important for Bittium's business and the professional growth of its employees. Curiosity, the willingness to learn and an innovative mindset are the most important characteristics of a technology pioneer, which is why Bittium wants to encourage its employees and give them the opportunity to develop their expertise and reach new goals.

Various methods that enable learning are included in our daily operations, such as learning on the job, internal and external courses, the sharing of expertise and individual studying alongside work. In recent years, Bittium has focused its competence development measures on the development of agile and efficient operating models, for example, software lifecycle processes, and on the enhanced utilization of open-source methods. Furthermore, Bittium participates actively in the development of new technology skills, for example, in the areas of wireless 5G, machine learning and Artificial Intelligence. In 2017, the average number of training days per employee was four. The number includes both external and internal training, such as orientation and independent studies.

Safety at Work

Bittium prides themselves on providing their employees with a healthy and safe working environment. A good working environment improves the quality of products and services, makes operations smoother and increases employee satisfaction. Bittium complies with the Electronic Industry

Citizenship Coalition in its operations. Our occupational health and safety instructions follow local legislation and standards and practices such as OHSAS 18001.

The Bittium Industrial Safety Committee holds regular meetings, and it has representatives from each location in Finland. The committee's key duties include securing the employees' health and working capacity with regard to occupational activities and improving the quality of working life by ensuring that the working environment, methods and the work community atmosphere promote health, safety and working capacity.

The Industrial Safety Committee maintains a list of the applicable safety regulations. Employee exposure to work-related hazards (such as electricity and other energy sources, chemicals, fire, vehicles and slipping, falling and tripping) is prevented through careful planning, technical and administrative inspections and safe work practices. Where necessary, the employees are provided with appropriate personal protective equipment. All Bittium offices have appropriate safety plans in place. Any emergencies are identified and assessed and their effects minimized with the help of emergency plans and procedures regarding, for example, employee evacuation and communication. Bittium has prepared business continuity plans to secure its business operations.

Travel-related hazards, such as terrorism, natural disasters and infections, have become more pronounced in recent years. Bittium provides training to its travelling employees and offers guidelines on safe travel. Training is organized in cooperation with the occupational health services, as necessary.

Bittium also has procedures for preventing, controlling, monitoring and reporting occupational accidents and diseases. Bittium's HR management and Industrial Safety function analyze occupational accidents at regular intervals and in relation to any special risks. In 2017, there were three occupational accidents at Bittium in Finland. One of these took place at work, one in the workplace yard and one during commuting. The accidents did not result in incapacity for work.

Management of Workload

The vast majority of work at Bittium is R&D, software development in particular, which means risks associated with manufacture and manual work are a relatively small concern. Employee exposure to physically demanding tasks is identified, assessed and monitored by supervisors and the Industrial Safety Committee.

Typical sources of physical harm in our industry are ergonomic issues and static working postures. Bittium uses office furniture that meets current standards, and almost all our offices have electronically controlled tables that enable employees to change their working position throughout the day. Bittium cooperates closely with the occupational health provider to assess any special ergonomic needs. Bittium offers an extensive occupational health scheme that includes regular check-ups, ergonomics analyses, physiotherapy and consultation.

Project-based work is prevalent at Bittium, and the schedules and workload may vary greatly depending on the situation. The supervisors and the HR department monitor the working hours, overtime and travelling

times of employees regularly. The workload and stress questions are frequently brought up at Quarter Chats. Bittium has made a local agreement on flexible working hours and compensation for travel time in Finland.

Labor Market Relations

Bittium respects its employees' right of association, follows the global and local laws and regulations and applies the relevant collective agreements. The management and the employee representatives cooperate and meet regularly in order to maintain a transparent discussion on the status of Bittium's business and matters related to employees. The employee representative is informed of any changes that affect employees, and the effects of such changes are discussed together. Any negotiations that concern personnel are held in accordance with local legislation, collective agreements and other contractual procedures.

Human Rights, Equality and Diversity

The countries where Bittium employees work have advanced human rights laws and efficient human rights monitoring. Human rights monitoring is mainly concerned with Bittium's subcontractors and suppliers, and Bittium has issued framework agreements and Supplier Requirements that serve as guidance in human rights questions. Bittium's main partners are assessed through self-assessments and audits, in accordance with the annual plan.

In 2017, no violations or significant deficiencies related to the use of child labor, forced labor, inappropriate disciplinary action, physical punishment, or health-related

discriminatory practices were observed in Bittium's or its subcontractors' operations.

Bittium is committed to preventing harassment and discrimination. Our equality plan is based on the Finnish Act on Equality Between Men and Women. The Industrial Safety Committee assesses equality at work from the point of view of salaries, career development and recruitment, using methods such as the employee survey and equality survey. The surveys are also used for detecting cases of discrimination, sexual harassment or threats thereof. All Bittium employees are required to promote equality. However, supervisors play a particularly important role in promoting equality at the workplace. This requirement is based on good governance, the Act on Equality Between Men and Women and the Occupational Safety and Health Act. Equality must be the principle that drives everything we do. In general, our employees rate equality and the work atmosphere at Bittium highly.

Bittium regards diversity as an asset and an integral part of responsible business. The diverse backgrounds of our employees guarantee a complementary mix of expertise, educational background, personal characteristics and experiences in different professions, sectors, business statuses and leadership. However, recruitment decisions are always based on the skills required in the job. The principles regarding the diversity of the Board of Directors are defined in the Corporate Governance Statement.

Promoting equality and combatting discrimination and sexual harassment require active measures from the employer in accordance with the Occupational Safety and Health Act. Bittium uses the early support model and provides instructions on how to

solve conflicts. Possible problems are analyzed in cooperation with relevant parties, such as supervisors, the HR department, the Industrial Safety Committee and the occupational health organization.

Confidential Customer Relationships and Secure Products

Trust is one of the three Bittium values. From the customer's point of view, trust means taking responsibility for delivering the product or service to the customer within the agreed schedule. Trust also means that the Company's products and services meet the customer's quality expectations. Bittium has taken the special requirements of different customer groups and standards into account in its operating systems.

The sustainability of Bittium's products is related to the material choices, product maintenance and lifecycles. Our products have long lifecycles, and we design our products to remain usable throughout their lifecycle. This means making choices that extend battery life and taking environmental aspects into account, for example, by considering the environmental impact and recyclability of materials. The long maintenance times also promote sustainability.

Information security is an important value in Bittium's procedures. Bittium maintains the confidentiality of our customers' information and prevents access by third parties. We design our products to be secure, taking into account the needs of our customers. Information security and cyber attacks are often brought up in connection with communication and connectivity. The ethical code

of conduct, which is described in more detail in *Corporate citizenship and responsible business practices*, is also an important element of secure and responsible work with customers and other interest groups.

Security and Reliability through Technology

Product liability at Bittium covers aspects related to Bittium's products, materials and components and their safety and security as well as compliance with product liability regulations in the destination market.

Bittium offers Product Safety, Security and Liability (PSSL) training to its employees. Bittium also places material liability requirements on its partners, for example, material and component manufacturers. The relevant liabilities are usually recorded in subcontracting agreements. Bittium audits its R&D projects according to the PSSL audit procedures as part of its End Product Process (EPP) requirements. In addition, Bittium systematically assesses product and lifecycle risks as a regular part of its R&D work.

Bittium ensures the safety of its products by following the standards on industrial and occupational safety during its R&D processes. Bittium utilizes the relevant standards of the sector in the design of electrical, safety and performance features. Customer, country and market-specific requirements are also taken into account in the development of devices. The products are tested, verified and approved as part of the R&D process, both by internal and external inspectors. Product requirements in, for example, Europe, include the CE label and the related Declaration of Conformity (DoC).

Responsible Procurement

Conflict Minerals Policy

Bittium's products contain a range of electronic and mechanical components. In accordance with its material declaration process, Bittium ensures that its suppliers comply with the legislation on conflict minerals and recommended reporting practices. This ensures that the minerals used in Bittium products do not originate from conflict or risk zones.

In accordance with its environmental policy, Bittium monitors and complies with legislative and regulative amendments related to environmental protection. This goes beyond avoiding the use of hazardous substances in products and production. "Environment" is here understood more broadly, as the world where we live in: the earth, air, seas and society at large.

The aim of conflict minerals laws and regulations is to stop funding conflicts through minerals trade and, ultimately, to address human rights violations and environmental destruction in conflict areas. In practice, the legislation requires responsible procurement and transparent supply chains in the case of certain minerals, such as tin, tantalum, wolfram and gold from conflict areas. These minerals are typically used in household goods, and they are particularly common in electronics such as mobile devices and computers.

No conflict minerals were reported in Bittium's products in 2017.

Avoiding Counterfeit Materials

Counterfeit materials are any materials in relation to which the origin, age, consistency, configuration, certification status or

other feature is presented falsely and with misleading markings on the material, packaging or container.

Bittium is aware of the risks associated with counterfeit materials, both in the purchase of components and the use of reported ingredients for components.

Bittium is committed to taking the necessary steps to avoid using counterfeit materials in its products. Bittium has developed procedures for avoiding counterfeit materials. The procedures address different stages of the procurement process, starting from the selection of suppliers. Suppliers are required to report immediately on any known or suspected uses of counterfeit components or materials. Bittium provides training on the detection of counterfeit materials to its employees.

No counterfeit materials were reported in Bittium's products in 2017.

Corporate Citizenship and Responsible Business Practices

Corporate Social Responsibility Is Driven by Good Governance

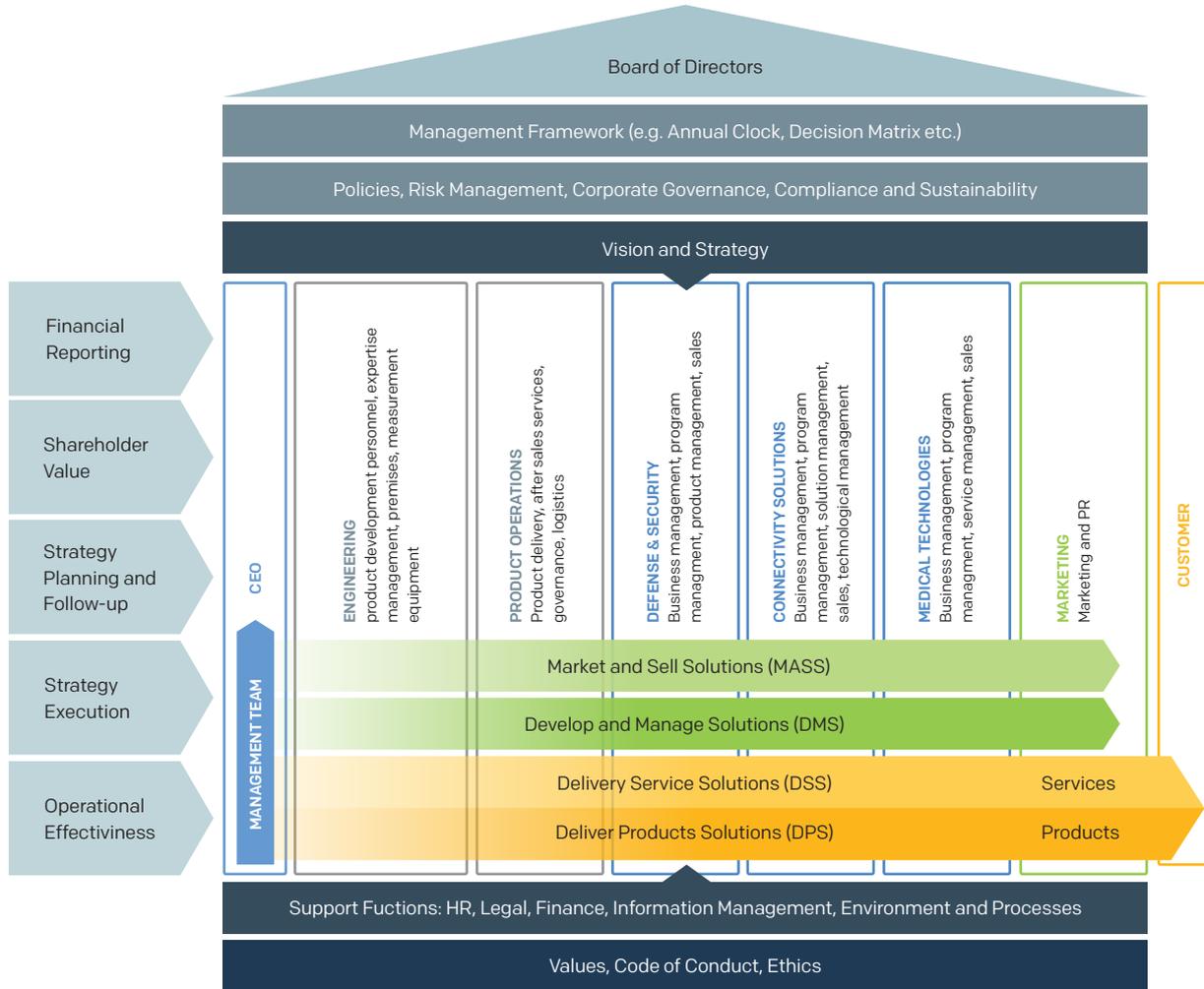
The management of Bittium Corporation is governed by the Articles of Association, the law of Finland (for example, the Limited Liability Companies Act and the Securities Markets Act), and the Bittium governance guidelines. Bittium conforms to the Finnish Corporate Governance Code (2015) that is prepared by the Securities Market Associ-

ation. The code is available on the association's website at <https://cgfinland2.fi/en/>.

GRC (governance, risk management and compliance) refers to the skills and abilities that enable an organization to meet its targets, address uncertainties and operate with integrity. Bittium's GRC measures also include the framework for internal control, which consists of the following structural elements:

- instructions and principles on internal control, risk management and governance, as set by the Board of Directors;
- implementation of instructions and principles and their application under the management's supervision;
- efficiency and effectiveness monitoring and confirming the reliability of financial and management reports, conducted by the financial department and business controllers;
- risk management process, the purpose of which is to identify, assess and mitigate risks related to the group's targets;
- compliance processes that are aimed at ensuring that each applicable act, regulation, internal guideline and ethical value (including sustainability) is followed;
- efficient monitoring environment at all organizational levels, including customized monitoring measures for specific processes and minimum requirements on Bittium's product and service areas and geographic areas;
- shared ethical values and a strong internal compliance culture among all employees; and
- internal inspections on the effectiveness of internal control, as needed.

Bittium's Corporate Governance Statement is available at www.bittium.com.



Governance, risk management and compliance at Bittium

Ethical Code of Conduct

Bittium meets the following requirements that cover its social responsibility, ethicality and successful operations on different markets:

1) Anti-Corruption

Corruption is a key risk in the areas of social responsibility and human rights. Bittium operates in markets and business areas where it needs to pay special attention to anti-corruption measures.

Bittium understands that bribery and corruption violate justified business benefits. All business must be honest and ethical, and company does not accept any forms of bribery or corruption in its own operations or the operations of its subcontractors.

Bittium is committed to meeting its statutory obligations and preventing, identifying and removing corrupted practices and cooperating with others to prevent bribery and

corruption. For this reason, Bittium also expects its suppliers and other external partners to take the necessary anti-bribery and anti-corruption measures. In 2017, Bittium confirmed its new internal and external anti-corruption guidelines. The guidelines are covered by the Bittium employee training programme, and the group expects its partners to follow them.

Bittium offers an internal channel to its employees for reporting any breaches of the anti-corruption rules. Bittium employees can send their observations to the Chair of the Bittium Audit Committee of the Board of Directors.

No cases of corruption were reported within Bittium in 2017.

2) Information Security and Protecting

Bittium's instructions on information security and privacy specify the methods related to the classification, storage and disclosure of information.

3) Fair Business, Advertising and Competition

Bittium follows the rules on fair business, advertising and competition. It has specified and implemented ways of securing its customers' information in accordance with information security procedures.

4) Community Involvement

The group supports community involvement in order to promote social and economic development.

5) Protecting Intellectual Property Rights

Bittium respects intellectual property rights and applies its IPR strategy and guidelines to all its operations.

Bittium Values

Since its establishment, Bittium has followed the values that were defined as guiding principles by its founders. These values have been shaped throughout the years to meet the changing needs of the group. In 2016–2017, Bittium carried out a massive value upgrade project that involved the employees, the management and the Board of Directors.

The new values that guide our business were released in fall 2017. Bittium's new values can be summarized into three keywords: Trust, Courage and Innovation.

Cooperation with Interest Groups

Bittium monitors the effects of our operations and the added value we provide for different stakeholders on a continuous basis. Bittium's key interest groups are shareholders, customers, employees, partners and other suppliers as well as the public sector.

Bittium Values



TRUST

Trust is engraved in the DNA of Bittium. It is one of the cornerstones of our business. **Trust** is an integral element of our interaction with all interest groups, such as customers, partners, shareholders and employees. A transparent and honest corporate culture helps to build **trust**. Our interest groups can trust that we deliver what we promise. For Bittium employees, **trust** means taking responsibility for one's personal and shared goals. Honesty and **trust** serve as the foundation for mutual respect.

Bittium is a trustworthy partner for its customers. **Trust** consists of keeping our promises, being honest and taking the customer's interest into account. **Trust** is also an integral part of Bittium's products, building information security, reliable connectivity and measuring data. Bittium is a trustworthy, responsible corporate citizen in its surrounding society.



COURAGE

To succeed, the Company needs also **courage**. Renewal and development require **courage**. Our employees have the courage to challenge themselves and each other, to suggest new ideas and to develop ways of working. **Courage** means taking risks in order to achieve our targets. Risk-taking increases possibility of errors, and when mistakes happen, it is important to be able to learn from them.

Bittium's customers can trust that Bittium has the **courage** to explore new areas in order to enable future growth. Bittium has the **courage** to meet new challenges and offer innovative solutions. It also takes **courage** to challenge our customers and suggest ideas that bring added value. Bittium has the **courage** to develop alternatives that benefit society at large.



INNOVATION

Passion for learning and **innovations** is the prerequisite of Bittium's operations. Our passion sets us apart from the competition and puts us in the forefront. We can gain a stronger understanding of future technologies by continuously building on our expertise. Bittium encourages its employees to **innovate** and share their ideas continuously and openly.

Innovation is an integral element of the products, services and solutions Bittium offers to its customers. As a pioneer in wireless technologies, we offer the highest level of expertise to our customers. **Innovation** and expertise in the most advanced technologies is an important competitive edge for Bittium –it makes us an attractive partner. In the long term, **innovations** also benefit society.

Responsibility for the Environment

Environmental Statement 2017

Bittium's business is mainly focused on product design, assembly by manufacturers, sales and marketing. These processes only account for a small share of the products' lifecycle effects. The overall environmental impact of the group's own products is not significant.

Bittium Corporation renewed its environmental management certificate according to the ISO 14001:2015 standards in June 2016. The group regularly monitors environmental requirements that govern its products and the local regulations derived from these. Bittium has applied the provisions laid down in the ROHS directive, the REACH regulation (on hazardous substances) and the WEEE (recycling of waste electronic and electrical equipment) directive since 2002.

In 2017, Bittium developed its ETJ+ environmental efficiency system further, and it now covers the requirements of the ISO 50001 standard on energy efficiency. Bittium has compiled energy transfer files since 2016, as required by the Finnish Energy Authority. The company is planning to upgrade its energy efficiency system according to the ISO 50001 standard in early 2018. The Bittium employees who are responsible for the energy review have been qualified by the Energy Authority.

Bittium will still develop the lifecycle assessment of its products further.

Environmental Policy

Bittium implements the ISO 14001 standard on sustainable development in the following ways, among others:

- Monitoring and observing amendments to laws and regulations on environmental protection. This also covers the use of energy-efficient solutions in R&D (ecological design) and premises.
- Minimizing the environmental impacts of the production, use and disposal of products. The development of instructions and practices related to ecological design supports these principles.
- Encouraging suppliers and partners to implement environmental management programmes. Observing the principles that limit the use of hazardous substances supports these goals.

Halogen-free Statement

Bittium's halogen-free statement conforms to the IEC (International Electrochemical Commission) definition of halogen-free materials (IEC 61249-2-21).

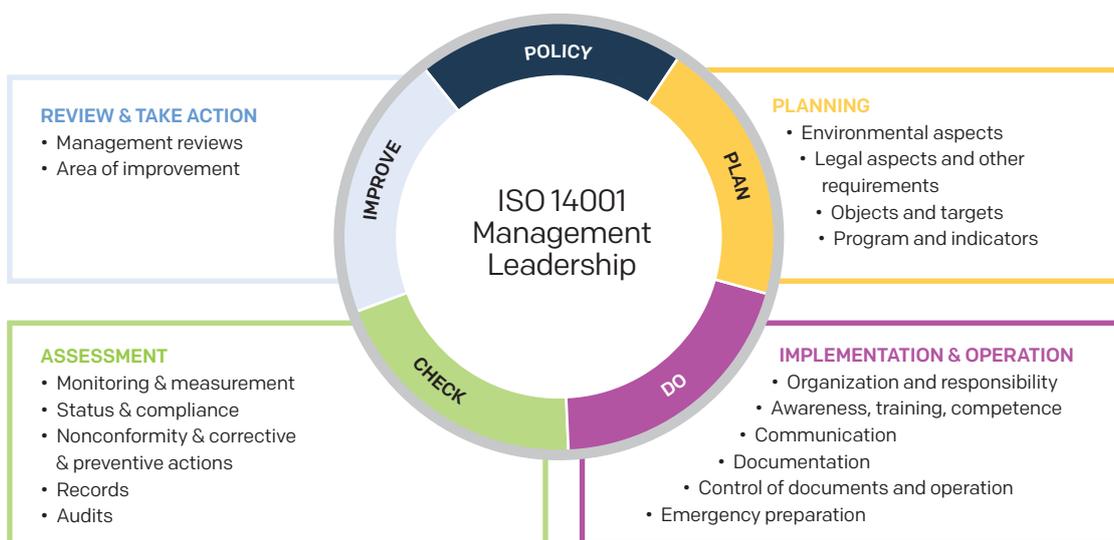
In accordance with its environmental policy, Bittium is committed to minimizing the environmental impacts of the production, use and disposal of products.

Halogen is typically used as a flame-retardant in plastics. However, using products that contain halogen is problematic for the environment, because they may release dioxins and furans into the atmosphere if they are incinerated at the end of their lifecycle.

Although the use of halogens is not yet forbidden in electronics, Bittium tries to minimize the use of halogens in its products in order to meet the growing demand in the field and reduce its own environmental impact.

Environmental Management System

Bittium applies the ISO 14001 standard to its environmental management system. Below is a description of the applicable environmental model:



Energy Efficiency System

The Finnish Energy Efficiency Act (1429/2014) took effect on January 1, 2015. Bittium included its energy efficiency figures and transfer files concerning the year 2015 in its reports in 2016.

Compliance with Environmental Requirements and Standards

The environmental standards and regulations applicable to Bittium's operations are taken into account in the environmental contents list, which also covers Bittium's largest suppliers. The continuously updated list includes the requirements of the ROHS directive (ROHS I, II and III) and the REACH regulation, as well as the ingredient require-

ments applicable in the market area. Where necessary, material analyses are prepared on the basis of the requirements. The list also takes customer-specific requirements into account. The group has updated its environmental substance list regularly and applied the requirements to products and services which Bittium is either fully or partly liable for, depending on the application. These requirements are applied to business in each country of operation.

ECO DESIGN

Energy Efficiency
Design for Easier Recycling

Specific requirement on how it should be designed and how product should function.

SUBSTANCE RESTRICTION

Hazardous Substances
Conflict Materials

Some substances are restricted to be used in production or contained in the products.



RECYCLE & WASTE

Waste Electronics Labelling

How to collect waste, labelling requirement to make it easier to recognize.

Overview of environmental regulations in the electronics industry

Bittium Offices
– New Headquarters in Oulu

The new Bittium headquarters was completed at Ritaharjuntie 1 in the Oulu technology village at the end of 2017. The starting point in the design of the new premises was to centralize different functions in order to improve efficiency and maximize savings, and this is expected to show in the results from 2018.

Bittium’s new facilities were built using the efficient multipurpose office model, which improves well-being at work. Compared to traditional office plans, multipurpose offices have higher utilization rates, and they support individual needs. In a multipurpose office, employees can choose the workstation that meets the needs of the task at hand. The new premises also satisfy high information security demands.

Spaces where process heat is generated are centralized in the floor plan, and the heat is recovered. The exterior materials and sunscreens reduce the need for cooling in the summer. Continued energy supply is secured. There are also solar panels on the roof, and approximately eight percent of the energy consumed in the building annually is produced by solar power. The building’s smart automation system, control functions and led lighting minimize the use of electricity. The office is cooled down

using an ecological gravity-flow water cooling system. Centralized functions and carefully allocated cooling have also reduced the need for electricity.

Employee well-being was also taken into account when planning the heating and cooling system: the system uses panels that minimize the feeling of draft. The workstations are ergonomic, and advanced acoustics solutions have made the space comfortable and low-noise.

The entire building meets the requirements of the LEED Gold environmental criterias. This can be seen, for example, in the choice of materials and reduced volatile organic compound emissions. Each toilet of the building is equipped with touch-free, efficient taps.

In 2017, Bittium also renovated its office in Tampere. The office is rented, and Bittium upgraded the ventilation system and heat recovery and filtering in cooperation with the lessor. A smart building automation system, control functions and led lighting were installed in the building to minimize the use of electricity. Ergonomics, acoustics and workstation positioning were also adjusted to support the well-being and performance of employees.

In addition to the Oulu headquarters, Bittium owns an office building in Kuopio. The Kuopio property was completed in 2012. In addition to Tampere, Bittium has rented facilities in Kajaani and Espoo as well as abroad. Bittium wants to maximize employee well-being by offering pleasant and ergonomic facilities.



Level of Environmental Protection

Bittium monitors the level of its environmental protection continuously. The following figures from Bittium's sustainability metrics indicate the level of environmental protection:

Bittium's sustainability metrics 2017



WASTE
72.4 tons
 recycling ratio > 66 %



WASTE/person
125 kg



WATER
3,224 m³



WATER/person
5.5 m³



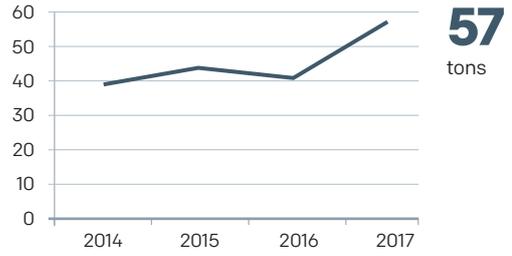
ELECTRICITY
2,295 MWh



ELECTRICITY/person
4.0 MWh

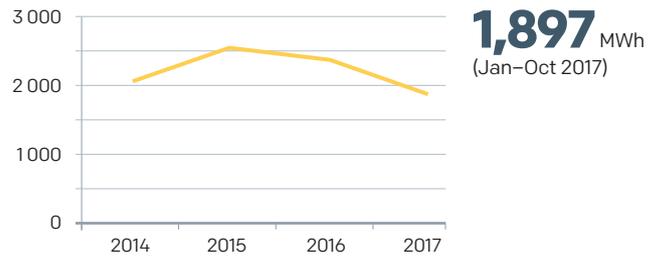
Sustainability metrics (trends), Oulu office, 2014–2017

AMOUNT OF WASTE



* The amount of waste in 2017 increased due to the move of the headquarters in Oulu, and that related dispose of unused materials

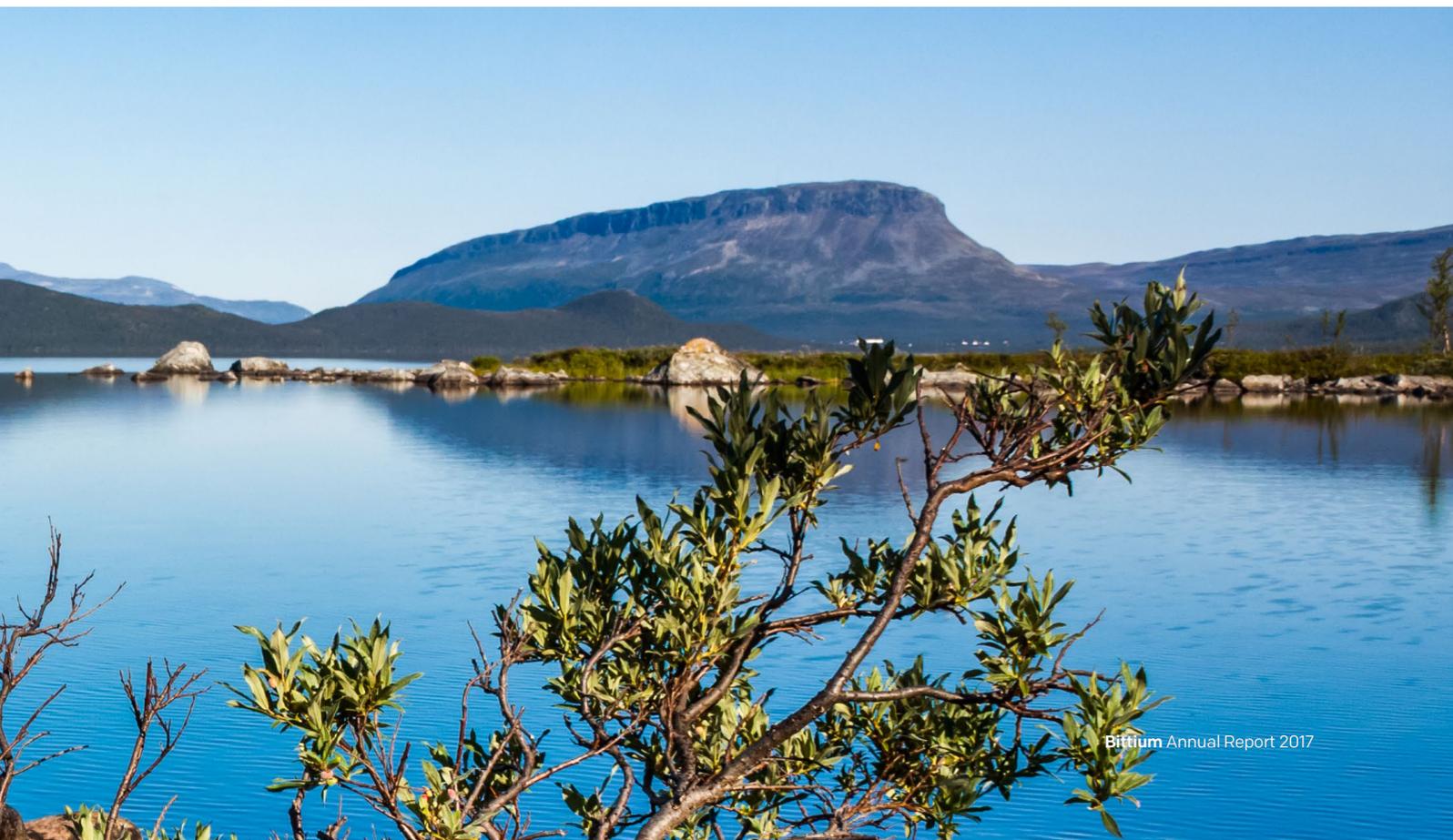
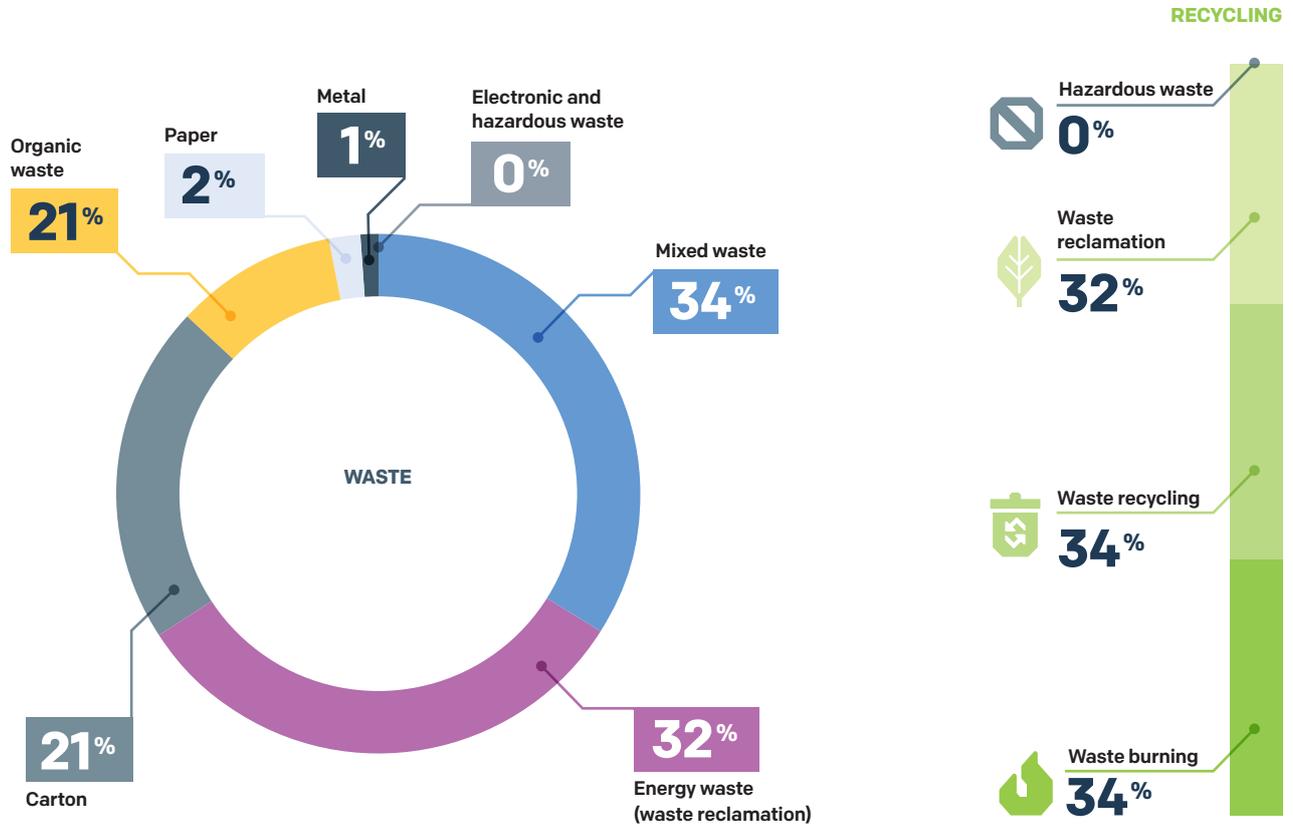
CONSUMPTION OF ELECTRICITY



1,897 MWh
 (Jan–Oct 2017)



Waste treatment and recycling (distribution) in Oulu 2017



Economic Influence

Economic influence at Bittium means implementing business ideas to achieve long-term financial success that enables the group to operate responsibly as part of the national economy and society.

For Bittium, financial responsibility means creating added value for its interest groups, managing finances and resources efficiently and ensuring long-term growth and financial stability.

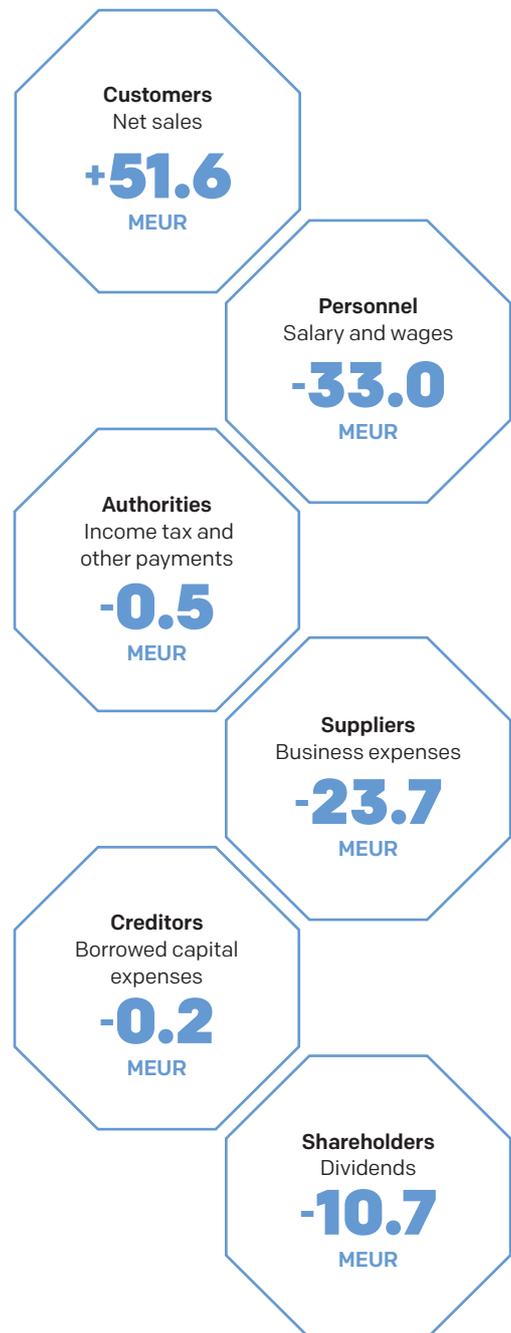
Bittium aims to maintain its profitability and competitiveness in order to remain prosperous also in the long term. If a company has financial problems, these are typically reflected on its ability to manage its social and environmental responsibilities.

Economic Impact

Bittium is an international enterprise that operates in Europe, the Americas and Asia. However, Bittium’s economic impacts are mainly local. For example, Bittium is one of the largest employers and economic operators in the Oulu region.

Profitable operations benefit shareholders, employees, partners, sub-contractors, retailers, customers, municipalities and states. The aim of Bittium’s long-term, consistent strategy is to produce added value to our interest groups also in the future.

Stakeholders and the Economical Performance 2017



R&D Investments

Bittium operates in a sector that creates products and services for the future through continuous development, innovations and cross-sector co-operation. Bittium is strongly involved in the development of new technologies. Active cooperation between academic research and Bittium's business builds our understanding of important scientific breakthroughs and promotes the digitalization of society.

Bittium participates in international R&D co-operation, for example, in the European Q-Rapids project, where it develops the management of non-functional quality requirements. The project is part of the large-scale European innovation and funding programme Horizon 2020 (H2020). Every year, Bittium participates in several projects as a member of the EIT, European Institute of Innovation and Technology. In 2017, Bittium participated in projects such as ACTIVE and Rapid Deployable Networks (RDN).

Bittium's projects also include several national co-operation and research projects, such as research projects by Business Finland and various consortiums. Examples of Bittium's projects in 2017 include the Cyber Security programme of DIMECC (Digital, Internet, Materials & Engineering Co-Creation), where it served as the leader, and the DIMECC N4S (Need for Speed) programme. The results of N4S were also presented at international conferences, such as ProFes (Product Focused Software Process Improvement). These projects involved extensive co-operation with hundreds of researchers.

R&D investments grew strongly in 2017 and accounted for 29.1 percent of net sales. The R&D investments were mainly focused on extending the tactical communication product portfolio targeted to defense industry and on the development of different terminal products and their related software targeted for Mobile Security and Public Safety markets. In 2017, Bittium launched the development of new SDR based radios, Bittium Tough SDR product family that consists of two tactical radio products: Bittium Tough SDR Handheld and Bittium Tough SDR Vehicular.

Bittium continued to develop its secure Bittium Tough Mobile in 2017, focusing on its next-generation research and product development. It also continued its investments in the further development of health technology products.

G4	Pages		Location
Sustainability Report - Introduction			
1.	40	CEO's review	CEO's Greetings
Description of the Organization			
2.	43-46	Business operations and operational environment Business model Megatrends affecting the operations	Bittium in Brief Business Model Megatrends that Affect our Operations
Responsibility Management			
3.	47-49	Responsibility management Risk management Definition of the contents of the report; scope, coverage, reporting principles and instructions, procedure for external assurance Sustainability interest groupst	Organization of Responsibility and Risk Management Organization of Responsibility and Risk Management Reporting Principles • Scope of the Reporting • Scope of the Report • Reporting Principles and Instructions • Principles and Practices for External Verification Expectations of interest groups, Bittium's responsible operations and their supporting systems
Sustainability Focus Areas			
4.	50-57	Sustainability focus areas	Introduction Innovative and Developing People • Importance of Innovations and Innovative Achievements • Corporate Culture and Job Satisfaction • Work and Well-being • Competence Development • Safety at Work • Management of Workload • Labor Market Relations • Human Rights, Equality and Diversity Confidential Customer Relationships and Secure Products • Security and Reliability through Technology • Responsible Procurement Corporate Citizenship and Responsible Business Practices • Corporate Social Responsibility is Driven by Good Governance • Bittium's Ethical Code of Conduct • Bittium's Values • Cooperation with Interest Groups
Responsibility of the Environment			
5.	58-63	Responsibility of the environment	Environmental Statement 2017 Environmental Policy Halogen-free Statement Environmental Management System Energy Efficiency System Compliance with Environmental Requirements and Standards Bittium Offices - New Headquarters in Oulu Level of Environmental Protection
Economic Influence			
6.	64-65	Economic Influence	Economic Impact R&D Investments

G4 | GRI Reference Table

Economic Responsibility			
G4-EC1	GRI 201-1	Generating direct economic value-add and its segmentation	Economic Impacts
Environment			
G4-EN2	GRI 301-1	Share of the recycled materials	The Level of Environmental Protection / Waste / the Recycling Rate
G4-EN3	GRI 301-3	Own energy consumption	The Level of Environmental Protection / Electricity
G4-EN8	GRI 301-8	Water consumption	The Level of Environmental Protection / Water
G4-EN23	GRI 301-23	Total number of waste	The Level of Environmental Protection / the Amount of Waste
Personnel and Working Conditions			
G4-LA6	GRI 403-2	Accident types, extend of the accident, absence	Safety of Work / Accidents at Work (52)
G4-LA9	GRI 403-9	The average amount of training hours / person	Competence development (52)
G4-LA12	GRI 403-12	The composition of the governing bodies and distribution of personnel in accordance with the diversity factors	Innovative and Developing Personnel / the Share of Women (50)
Product Responsibility			
G4-PR1	GRI 416-1	Products and services whose health and safety Impacts have been evaluated	TSecurity and Reliability through Technology (PSSL Auditing / EPP process)
G4-PR2	GRI 416-2	Deviations in impacts on health and safety	Security and Reliability through Technology (PSSL Auditing / EPP process)
G4-PR3	GRI 416-3	Types of product information and labeling	Security and Reliability through Technology (CE mark / Compliance Governance, DoC)
G4-PR4	GRI 416-4	Deviations in product information and product labeling	Security and Reliability through Technology (CE mark / Compliance Governance, DoC)
G4-PR5	GRI 416-5	Results of the customer satisfaction	Interest Groups
G4-PR6	GRI 416-6	Sale of a controversial product	Avoiding Counterfeit Materials

Report by the Board of Directors 2017

Year 2017 in Brief

Net Sales in 2017 Decreased by 19.6 Percent Year-On-Year and Operating Result Was Negative

Bittium's net sales in January-December 2017 decreased by 19.6 percent year-on-year to EUR 51.6 million (EUR 64.2 million, in 2016).

The share of the product-based net sales was EUR 16.3 million (EUR 11.9 million, in 2016), which resulted mainly from the product deliveries of the tactical communication system, product deliveries of Bittium Tough Mobile LTE smartphones and related security software, and deliveries of products for measuring and monitoring biosignals. The increase in the product-based net sales year-on-year resulted mainly from product sales in the medical business acquired at the end of 2016 and increased deliveries of Bittium Tough Mobile LTE smartphones.

The share of the services-based net sales decreased significantly and was EUR 34.9 million (EUR 51.8 million, in 2016). The decrease in the services business net sales was caused by the termination of significant customer cooperation with a global network equipment manufacturer. Bittium has won new R&D services projects for wireless products, however, it has not been able to replace the decrease in the net sales in total.

Operating loss was EUR -6.2 million (operating profit of EUR 2.5 million, in 2016). This loss was caused by the significant decrease in the net sales and significant R&D investments.

Significant Events during the Reporting Period

On July 6, 2017 Bittium announced that the Finnish Minister of Defence Jussi Niinistö had authorized Finnish Defence Forces to purchase Bittium Tactical Wireless IP Network (TAC WIN) system products. Bittium and Finnish Defence Forces plan to sign a Framework Agreement for the delivery of Bittium TAC WIN products, that covers years 2018–2020, with the total value of the agreement being EUR 30 million (excl. VAT) if materialized in full. According to the Framework Agreement, Finnish Defence Forces would issue separate purchase orders for the products each year. The Framework Agreement did not change Bittium's financial outlook for the year 2017.

The Framework Agreement was told to be a continuation to the long cooperation between Finnish Defence Forces and Bittium. It will continue the renewal of the Finnish Defence Forces' command, control and communications system, where the Software-Defined Radio based Bittium TAC WIN system acts as the backbone for tactical data transfer. The Framework Agreement was signed on August 9, 2017.

On August 8, 2017 Bittium announced that Bittium Wireless Ltd, a subsidiary of Bittium Corporation, and the Finnish Defence Forces have signed a Letter of Intent concerning the purchase of new software defined radio (SDR) based tactical radios and the preparations of the purchase. The Letter of Intent encompasses products belonging to the new Bittium Tough SDR product family: tactical handheld radio Bittium Tough SDR Handheld and tactical vehicular radio

Bittium Tough SDR Vehicular. According to the Letter of Intent, Bittium will develop the products with their own R&D investments and the Finnish Defence Forces will support the development work by ensuring that the products are suitable for their purposes and by making preparations for the purchase of the products.

The Letter of Intent does not bind the parties into making a purchase agreement. Making the purchase agreement requires that the Finnish Ministry of Defence first authorizes the purchase, based on which Bittium and the Finnish Defence Forces would then make a separate purchase agreement. Based on the Letter of Intent, if materialized in full, the total value of the purchase agreement would be approximately EUR 130 million distributed over about 10 years. The Letter of Intent is in force until the binding purchase agreement comes into effect or until December 31, 2019. Should the purchase materialize in full, it would have a significant impact on Bittium's net sales from the year 2019 onward. The Letter of Intent did not change Bittium's financial outlook for the year 2017. The Letter of Intent continues the long-term cooperation between the Finnish Defence Forces and Bittium in developing the performance of the command and control (C2) systems and the supporting software defined radio technology of the Finnish Defence Forces.

On October 10, 2017 Bittium Corporation lowered its financial guidance for the year 2017. The reason for this was the delay in the first phase of the product deliveries for the Mexican Mexsat satellite phone system, to be mainly executed in 2018 due to the internal reasons of Mexican governmental cus-

tomers. Bittium had expected earlier those product deliveries to be executed during the second half of 2017.

Bittium announced that it expects that the net sales in 2017 will be lower than in the previous year (EUR 64.2 million, in 2016).

The operating result was expected to be clearly negative (EUR 2.5 million, in 2016). In the Half Year Financial Report January-June 2017, published on August 9, 2017 Bittium still expected that the net sales in 2017 will be at the same level as in the previous year (EUR 64.2 million, in 2016) and the operating result to be negative (EUR 2.5 million, in 2016).

The decline in the amount of the product deliveries of the Mexsat mobile devices in 2017 did not change Bittium's long-term growth outlook. The year 2017 had already been expected to be challenging mainly due to the termination of significant customer cooperation with a global network equipment manufacturer.

Financial Performance in January-December 2017

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME, MEUR	2017 12 months	2016 12 months
Net sales	51.6	64.2
Operating profit / loss	-6.2	2.5
Financial income and expenses	0.4	0.6
Result before tax	-5.8	3.1
Result for the period from continuing operations	-4.8	3.5
Result for the period from discontinuing operations	1.7	
Result for the period	-3.1	3.5
Total comprehensive income for the period	-3.2	3.5
Result for the period attributable to:		
Equity holders of the parent	-3.1	3.5
Total comprehensive income for the period attributable to:		
Equity holders of the parent	-3.2	3.5
Earnings per share from continuing operations, EUR	-0.133	0.098

- Cash flow from operating activities was EUR -0.0 million (EUR -1.7 million, in 2016).
- Net cash flow was EUR -32.0 million, including the EUR 10.7 million dividend payment in April and the investments made into the Company's new office building in Oulu, Finland and into own product development (EUR -279 million, in 2016, including the EUR 10.7 million dividend payment and the investments made into the company's new office building in Oulu, Finland).
- Equity ratio was 85.6 percent (87.0 percent, December 31, 2016).
- Net gearing was -52.9 percent (-70.3 percent, December 31, 2016).

Half Year Figures

GROUP'S NET SALES AND OPERATING RESULT, MEUR	2H/17	1H/17	2H/16	1H/16
Net sales	24.5	27.1	33.1	31.1
Operating profit (loss)	-3.4	-2.8	1.9	0.7
Result before taxes	-3.4	-2.4	2.2	0.9
Result for the period	-2.4	-2.4	2.6	0.9

DISTRIBUTION OF NET SALES BY MARKET AREAS, MEUR AND %	2H/17	1H/17	2H/16	1H/16
Asia	1.0 4.2%	0.3 1.1%	0.2 0.7%	0.5 1.5%
Americas	1.4 5.8 %	4.5 16.4%	6.7 20.2%	5.5 17.6%
Europe	22.0 90.0%	22.4 82.5%	26.2 79.1%	25.1 80.8%

Research and Development

Bittium continued R&D investments in its own products and product platforms. The investments increased significantly during the year 2017 and were 29.1 percent of net sales. The investments focused mainly on expanding the tactical communication product portfolio targeted to defense industry and on the development of different terminal products and their related software targeted for Mobile Security and Public Safety markets. In 2017, Bittium started to develop new Software-Defined Radio based Bittium Touch SDR™ product family that includes tactical Bittium Tough SDR handheld and Bittium Tough SDR vehicle radios. In addition, Bittium continued to develop Bittium Tough Mobile smartphone and its next generation research and development. The investments were also continued into the further development of the products intended for measuring and monitoring of biosignals.

A significant part of the capitalized R&D investments is related to the further development of the Bittium Tough Mobile smartphone and the related security software and investments related to developing tactical communication handheld and vehicle radios.

R&D INVESTMENTS, MEUR	2017	2016
	12 months	12 months
Total R&D investments	15.0	6.9
Capitalized R&D investments	-5.8	-0.9
Depreciations and impairment of R&D investments	0.3	0.3
Cost impact on income statement	9.6	6.3
R&D investments, % of net sales	29.1%	10.8%

CAPITALIZED R&D INVESTMENTS IN BALANCE SHEET, MEUR	2017	2016
	12 months	12 months
Balance sheet value in the beginning of the period	6.4	5.6
Additions during the period	5.8	0.9
Acquisitions of the business		0.2
Depreciations and impairment of R&D investments	-0.3	-0.3
Balance sheet value at the end of the period	11.9	6.4

Statement of Financial Position and Financing

The figures presented in the statement of financial position of December 31, 2017, are compared with the statement of the financial position of December 31, 2016 (MEUR).

	Dec. 31, 2017	Dec. 31, 2016
Non-current assets	46.7	30.3
Current assets	91.6	123.0
Total assets	138.4	153.3
Share capital	12.9	12.9
Other capital	103.7	117.7
Total equity	116.7	130.6
Non-current liabilities	1.5	3.1
Current liabilities	20.2	19.6
Total equity and liabilities	138.4	153.3
	Jan.–Dec. 2017	Jan.–Dec. 2016
CASH FLOW OF THE REVIEW PERIOD:		
+ profit of the period +/- Adjustment of accrual basis items	-2.4	5.0
+/- Change in net working capital	2.0	-7.6
- interest, taxes and dividends	0.3	0.9
= net cash from operating activities	-0.0	-1.7
- net cash from investing activities	-18.5	-14.5
- net cash from financing activities	-13.4	-11.6
= net change in cash and cash equivalents	-32.0	-27.9

Net cash from operating activities in January–December 2017 includes operative cash flows from both continuing and discontinuing operations.

The amount of gross investments in the period under review was EUR 20.1 million. Net investments for the review period totaled to EUR 19.1 million. The total amount of depreciation during the period under review was EUR 3.9 million. The amount of interest-bearing debt, including finance lease liabilities, was at the end of the reporting period EUR 1.2 million (EUR 3.2 million on December 31, 2016). Bittium's equity ratio at the end of the period was 85.6 percent (87.0 percent on December 31, 2016).

Cash and other liquid assets at the end of the reporting period were EUR 62.9 million (EUR 94.9 million on December 31, 2016).

Bittium has a total of EUR 20.0 million binding credit facility agreements essentially on the old terms from which EUR 10.0 million are valid until December 31, 2018 and EUR 10.0 million until December 31, 2019. At the end of the review period, EUR 0.0 million of these facilities were in use.

Bittium follows a hedging strategy that has an objective to ensure the business margins in changing market circumstances by minimizing the influence of exchange rates. According to the hedging strategy principles, the net position in the currency is hedged when it exceeds the euro limit defined in the hedging strategy. The net position is deter-

mined on the basis of accounts receivable, accounts payable, order book and budgeted net currency cash flow.

Business Development in 2017

In the year 2017, the share of the services-based net sales decreased as expected caused by the termination of significant customer cooperation with a global network equipment manufacturer during the first half of the year. Despite of decreased net sales caused by the termination of the cooperation, the demand for Bittium's R&D services developed positively, however, it wasn't able to replace the decrease in the net sales in total.

Bittium continued significant investments in developing its product business and the share of the product-based business turned to growth. Bittium aims at growth in international defense, public safety and mobile security markets.

The product development project, started in May 2015, to develop Android-based mobile devices that use both terrestrial and satellite connection for their MEXSAT system of the Mexican Ministry of Communication and Transportation, was completed in summer 2017. The first product orders are expected to come during 2017, but due to the internal reasons of Mexican governmental customers, the first phase of the product deliveries was delayed to be mainly started in 2018. Therefore Bittium had to lower its financial guidance for the year 2017.

The cooperation with the Finnish Defense Forces continued. The development of the tactical communication system Bittium Tactical Wireless IP Network (TAC WIN), used by the Finnish Defence Forces, continued as well as the product deliveries for

this communication system. Bittium continued efforts to bring its products and services, targeted to defense industry, to the international defense markets and Bittium received purchase orders for a tactical communications system from its customers in Asia and Europe and delivered a pilot system for a new European customer.

In January 27, 2017, Bittium signed a contract with the Finnish Defence Forces for the delivery of Bittium Tough Mobile LTE smartphones and related Bittium Secure Suite back-end system classified for Confidential level. The contract signifies a strategic decision to reinforce the information security of the wireless communications of the Finnish Defence Forces. In order for a phone and a related back-end system to achieve the Confidential level classification, there are specific information security requirements regarding the processing of classified information, secure wireless transfer of files, and other possible communication, which need to be met.

The deliveries of the Bittium Tough Mobile secure LTE smartphone were carried on and Bittium participated in several security and public safety exhibitions abroad in order to extend its customer base abroad.

At the Critical Communications Europe exhibition in February 8, 2017 Bittium launched a new Confidential classification level version of the Bittium Tough Mobile with its back-end system. Bittium Tough Mobiles unique dual-boot functionality for the Confidential classification level makes it possible to operate the device with two completely separate operating systems: Public and Confidential. The operating system classified as Public is meant for personal commu-

nications with access to e.g. social media applications. The operating system classified as Confidential is completely isolated and hardened for secure authority and information security use. The entity enables the user to have only one device for calls and messaging for both personal and for demanding information security needs, thus eliminating the need to carry two separate devices. Although the awareness of security threats thereafter secure mobile devices has increased, the development of security and public safety markets has been somewhat slower than expected. Bittium estimates that the amount of product sales of Bittium Tough Mobile will remain slightly less than expected.

In March 6, 2017, Bittium received a purchase order from the Finnish Defence Forces for further development of the software package (waveform) for the Bittium TAC WIN system. Bittium also received a purchase order from the Finnish Defence Forces for the Bittium TAC WIN system products, which are meant for tactical communications. Both orders are part of the renewal of the Finnish Army's M18 command, control and communications system, where the Software-Defined Radio based Bittium TAC WIN system forms the core of the Army's tactical wireless IP network.

In May 4, 2017, Bittium Faros ECG-measuring devices' built-in algorithms for detection of arrhythmias have received medical device approval in Europe. The algorithms can be used to automatically identify sequences from the heart measurement data. Early detection of atrial fibrillation can be used to predict the risk of brain stroke and to prevent its emergence with timely treatment initiation.

In June 14, 2017, Bittium received a purchase order for supplying the Finnish Air Force with Bittium TAC WIN system. The order is part of the modernization of the radio network performance of the Air Force's bases with a Software-Defined Radio based IP radio system. With the order the use of the Bittium TAC WIN system within the Finnish Defence Forces' branches expands to the Air Force.

In June 16, 2017, Bittium Medanalytics Oy, part of Bittium group, and Coronaria Hoitoketju's subsidiary Coronaria Analyysipalvelut Oy, signed agreements according to which Bittium Medanalytics Oy sold its remote diagnostic service business to Coronaria Analyysipalvelut Oy. According to the agreement Bittium supplies its web-based service kardiolog.fi used in monitoring cardiac abnormalities to Coronaria's use. Kardiolog.fi service is used by more than 70 Finnish health centers and private medical centers. The net sales of Bittium Medanalytics Ltd in 2016 was EUR 0.4 million. Further, Bittium Technologies Ltd, part of Bittium group, acquired 25 percent of the shares in Coronaria Analyysipalvelut Oy. Through this joint ownership Bittium and Coronaria aim at gaining synergies from Bittium's device and system development and the interfaces formed by Coronaria's clinical medicine and services.

On July 6, 2017 the Finnish Minister of Defence Jussi Niinistö authorized Finnish Defence Forces to purchase Bittium Tactical Wireless IP Network(TAC WIN) system products. Bittium and the Finnish Defence Forces signed the Framework Agreement for the purchase of Bittium Tactical Wireless IP Network(TAC WIN) system products on August 9, 2017. The Framework Agreement covers the years 2018–2020, and if materialized in full, the total value of the

agreement is EUR 30 million (excl. VAT). According to the Framework Agreement, Finnish Defence Forces will issue separate purchase orders for the products each year. The Framework Agreement did not change Bittium's financial outlook for the year 2017.

On August 8, 2017, Bittium announced to expand its tactical communication product portfolio with new Software-Defined Radio based Bittium Tough SDR product family that includes tactical Bittium Tough SDR handheld and Bittium Tough SDR vehicle radios. The new product family expands Bittium's tactical communication product portfolio from Bittium Tactical Wireless IP Network (TAC WIN) and its products that form a mobile tactical IP network to radios that bring broadband data transfer and voice to all mobile troops; from combat vehicles to all the way to an individual soldier. This enables bringing broadband data transfer and voice to all mobile troops starting from brigade level and all the way across the battlefield.

On August 8, 2017, Bittium and Finnish Defence Forces signed a Letter of Intent concerning the purchase of new software defined radio (SDR) based tactical radios and the preparations of the purchase. The Letter of Intent encompasses products belonging to the new Bittium Tough SDR product family: tactical handheld radio Bittium Tough SDR Handheld and tactical vehicular radio Bittium Tough SDR Vehicular. The products are intended for renewing the Finnish Defence Forces' existing stock of field radios with modern, SDR based broadband data transfer radios to support the reformed combat doctrine. The tactical radios are compatible with Bittium Tactical Wireless IP Network(TAC WIN) SDR based system al-

ready used by the Finnish Defence Forces. According to the Letter of Intent, Bittium will develop the products with their own R&D investments and the Finnish Defence Forces will support the development work by ensuring that the products are suitable for their purposes and by making preparations for the purchase of the products.

The Letter of Intent does not bind the parties into making a purchase agreement. Making the purchase agreement requires that the Finnish Ministry of Defence first authorizes the purchase, based on which Bittium and the Finnish Defence Forces would then make a separate purchase agreement. Based on the Letter of Intent, if materialized in full, the total value of the purchase agreement would be approximately EUR 130 million distributed over about 10 years. Should the purchase materialize in full, it would have a significant impact on Bittium's net sales from the year 2019 onwards. The Letter of Intent did not change Bittium's financial outlook for the year 2017.

On August 24, 2017, Bittium launched new software for analyzing cardiac event-based ECG measurements and long-term Holter measurements at ESC Congress 2017 in Barcelona, Spain. The new software, together with the versatile Bittium Faros ECG measuring device, allows the follow-up and detection of cardiac arrhythmias as well as in-depth analysis of long-term recordings.

On September 6, 2017, Bittium expanded its tactical communications offering by launching a versatile Bittium Tough Comnode terminal. The device fulfils the data transfer needs for mobile troops by functioning for example as a VoIP phone (Voice over IP), an IP router (Internet Protocol),

and an SHDSL repeater (Symmetrical High-speed Digital Subscriber Line). Bittium Tough Comnode is compatible with Bittium Tactical Wireless IP Network (TAC WIN) system, Bittium Tough SDR tactical radios, and Bittium Tough VoIP products, as well as offers diverse connectivity options also to third-party equipment and systems.

Bittium continued efforts to bring its products and services, targeted to defense industry, to the international defense markets and made a pilot system delivery for a new customer in Europe. The new products targeted to defense industry were showcased e.g. at DSEI exhibition in UK, Defence Communications event in Poland, and at Milipol exhibition in France.

On September 12, 2017, Bittium Corporation was awarded the ISO 13485:2016 certificate, which covers the design, development, manufacturing and related services for the entire product life cycle of medical devices. The quality management system based on ISO 13485:2016 standard is a major competitive advantage and supports Bittium's strategy for Connectivity Solutions' product and service area. Medical technologies combined with strong expertise in wireless technologies and security provides Bittium with excellent opportunities to serve its customers in the healthcare sector with offering them new R&D services that meet the quality system standard requirements.

On September 18, 2017, National Cyber Security Centre-Finland of the Finnish Communications Regulatory Authority granted approval for the Mobile Security and Public Safety targeted Bittium Tough Mobile LTE smartphone and related Bittium Secure Suite back-end system to process materi-

al that is classified nationally as Confidential. Bittium's mobile solution is the first one in the world to receive official Confidential level encryption product classification. The mobile solution can be used for creating and processing classified information, as well as for transferring it between smartphone and connected back-end solutions. In order for a phone and a related back-end system to achieve the Confidential level classification, there are specific information security requirements regarding the processing of classified information, secure wireless transfer of files, and other possible communication, which need to be met. Bittium Tough Mobile smartphone was showcased at Cyber Security Nordic event in Helsinki, Finland at the end of September.

On November 7, 2017, the joint venture a4ESSOR (Alliance for ESSOR) was awarded a contract by OCCAR (Organisation Conjointe de Coopération en matière d'Armement) to start a new phase of the ESSOR (European Secure Software defined Radio) programme, called ESSOR Operational Capability 1 (OC1). Bittium is part of the OC1 phase that continues the ESSOR programme. During the OC1 phase, the operational capabilities of ESSOR High Data Rate Waveform (HDR WF), meant for joint operations between defense forces of different countries, will be enhanced. With the development of the operational capabilities of the ESSOR HDR WF during the OC1 phase the new functionalities will be available also for the Tough SDR family of radios. The duration of the ESSOR OC1 phase is 45 months and the value of the contract is around EUR 50 million. The value of the contract will be divided along the duration of the OC1 phase and between the five participant companies: Bittium, Indra, Leonardo, Radmor,

and Thales. The contract did not change Bittium's financial outlook for the year 2017.

On November 27, 2017, Bittium released the new version of the Bittium SafeMove® software product portfolio. The latest software version introduces an intuitive user interface and further enhances information security for demanding environments. The new functionalities enable a faster response to security threats; and efficient implementation of broadband applications with mission-critical data on moving vehicles. The Bittium SafeMove® security solutions were exhibited at HETT Show 2017 in London, UK in September.

In November, Bittium exhibited its innovative products and solutions for neuroscience at Society for Neuroscience 2017 conference in the U.S.A and the Bittium Faros ECG device and software for analyzing cardiac event-based ECG and long-term Holter measurements at Medica exhibition in Germany.

On December 8, 2017, Bittium received a purchase order from the Finnish Defense Forces for versatile Bittium Tough Comnode terminal. The purchase order concerns the final phase of the terminal's productization over a duration of nine months and the delivery of a batch of the terminals to the Finnish Defence Forces after the end of the productization phase. Bittium Tough Comnode will fulfil the data transfer needs of the Finnish Defence Forces' mobile troops by functioning for example as a VoIP phone (Voice over IP), an IP router (Internet Protocol), and an SHDSL repeater (Symmetrical High-speed Digital Subscriber Line). The value of the purchase order was EUR 1.1 million (excl. VAT). The purchase order did not change Bittium's financial outlook for the year 2017.

Significant Events after the Reporting Period

On February 13, 2018 Bittium Biosignals Ltd, a subsidiary of Bittium Corporation, and a major US remote monitoring provider, concluded a three-year supply agreement under which Bittium will supply the Bittium Faros 360 and customized Bittium Faros 360 cardiac ECG signal measuring and monitoring devices. In addition, Bittium will supply disposable electrodes for attaching Bittium Faros ECG devices. When materialized in full, the total value of the agreement is USD 21 million (approximately EUR 17.1 million based on an exchange rate of February 12, 2018) with revenues recognized gradually during the years 2018, 2019, 2020 and 2021 depending on the progress of the product deliveries, with estimated emphasis on 2019 and 2020. This agreement did not change the Company's long term financial outlook (published in the Half Year Financial Report January-June 2017 on August 9, 2017).

Outlook for 2018

The growing need for wireless connectivity, increasingly growing amount of data transfer and the need for secure data transfer create demand for Bittium's competence, products and product platforms. The digitalization of the healthcare market and remote care becoming more common create demand for Bittium's medical technology products and solutions. In the long term Bittium has good potential to grow profitably. Bittium invests significantly in developing its own products and solutions and aims at growing its net sales based on its products and product platforms.

Bittium expects that the net sales in 2018 will grow from the previous year (EUR 51.6 million, in 2017) and the operating result to be better than in the previous year (EUR -6.2 million, in 2017). The level of operating result in 2018 will be still affected by the investments started in 2017 to enable future growth.

Bittium's long-term financial targets will be reviewed and estimated as part of the annual strategy process and they will be announced together with the Company's strategy. Long-term financial targets do not form the Company's official financial outlook or the statement about the future. More information about Bittium's market outlook is presented in the section "Market outlook" in this Report by the Board of Directors.

More information about other uncertainties regarding the outlook is presented in this Report by the Board of Directors in the section "Risks and uncertainties" and on the Company's internet pages at www.bittium.com.

Market Outlook

Bittium's customers operate in various industries, each of them having their own industry-specific factors driving the demand. A common factor creating demand among the whole customer base is the growing need for higher quality and secure data transfer. Due to the technology and measuring competences accrued over time and long history in developing mobile communication solutions, Bittium is in a good position to offer customized solutions for its customers.

The following factors are expected to create demand for Bittium's products and services in 2018 and beyond:

- In the mobile telecommunications, the investments to develop 5G technology increases, which creates demand for Bittium's R&D services. There is a wide range of frequencies allocated for this technology thus creating the need to develop multiple products to cover the market and creating demand for R&D services for development of product variants.
- As the digitalization evolves, the secure IoT (Internet of Things) has become a significant development area in many industries. The increasing need of companies to digitalize their operations, collect data wirelessly and transfer it to the internet and cloud services generate need for Bittium's services and customized solutions. For this there is a need for secure connected devices for consumers' free-time applications and demanding industrial usage that collect information through their sensors and connect the devices securely to the internet and cloud services. Also the integration of different systems and technologies play an important role in enabling the complete digitalization service. To ease and speed up the processing of large data amounts there are different kinds of learning systems and devices under development that use different kinds of artificial intelligence (AI) technologies.
- The use of LTE technology, smartphones and applications continues to increase in special verticals such as public safety creating demand for Bittium Tough Mobile secure LTE smartphone and other customized special terminals based on Bittium's own product platform. The awareness of mobile security risks is growing and the interest towards secure mobile devices

is increasing. Also the interest towards LTE-SAT-hybrid devices with terrestrial and satellite connections has grown to further improve the functionality of authorities' critical connections. The implementation of LTE-based devices in Public Safety markets has been slower than expected due to the delay of the device processor functionalities required by the authorities. The sale of the secure terminal products is expected to develop moderately according to the nature of public safety markets.

- Using public network connections in portable devices is increasing also in demanding professional use, such as in the public sector. This creates requirements for network connections to be easy to use and secure. The products in the Bittium SafeMove product family enable the ease of use of the devices and security in demanding use.
- In the defense sector's tactical communication market the governments' defense forces and other authorities need networks that troops, who are more and more constantly on the move, can use for transferring growing amounts of data securely. This creates demand for Bittium Tactical Wireless IP Network (TAC WIN) broadband network and for other Bittium's IP-based (Internet Protocol) tactical communications solutions, as well as for Bittium's new tactical communication handheld and vehicle radios that fulfill the needs of data transfer of moving troops or individual soldiers. Bittium continues its efforts to bring its defense market targeted products and services also to the international defense markets and aims to get new international customers for its tactical communication system in 2018. Due to the long sales cycles driven by purchasing programs of

national governments, it takes time to receive significant purchase orders.

- Heart problems and brain strokes are among the most frequent causes of death. Recognizing the symptoms early on, based on information gathered by measuring, enable the start of effective treatment fast. Also the prevention of diseases and health problems are being increasingly invested in. In the healthcare technology market there is ongoing a significant change in the patient care both inside hospitals as well as in homecare. The repatriation of patients is being pursued earlier than before which may enable significant cost savings in the healthcare. One of the growing application areas in the IoT segment is healthcare technology that enables implementing these changes for its part. A prerequisite for early repatriation is the enabling of accurate and precise follow-up and measurement in home conditions through remote monitoring. For this purpose Bittium offers its Bittium Faros product family for heart remote monitoring and Bittium NeurOne product family for measuring the electrical activity of brain.

Risks and Uncertainties

Bittium has identified a number of business, market and finance related risk factors and uncertainties that can affect the level of sales and profits.

Market Risks

The global economic uncertainty may affect the demand for Bittium's services, solutions and products and provide pressure on e.g.

pricing. In the short term such uncertainty may affect, in particular, the utilization and chargeability levels and average hourly prices of R&D services. Growing political uncertainty may also affect the demand for Bittium's services, solutions and products and the price competitiveness in the different geographical areas. Bittium is also increasingly exposed to legal, economic, political and regulatory risks related to the countries in which its suppliers and other cooperation partners are located. Such risks may result in delays in deliveries, currency losses, elevated costs, or litigations and related costs. Bittium's customer base includes, among others, companies operating in the field of telecommunication, defense and other authorities, as well as companies delivering products to them, the Company is exposed to market changes in these industries.

A significant part of Bittium's net sales accumulates from selling products and R&D services to defense and other authorities, as well as companies delivering products to them. Deviation in anticipated business development with such customer concentrations may translate as a significant deviation in the Bittium's outlook, both in terms of net sales and operating result, during the ongoing financial period and thereafter.

Bittium seeks to expand its customer base on a longer term and reduce dependence on individual companies and hence the Company would thereby be mainly affected by the general business climate in the industries of the companies belonging to Bittium's customer base instead of the development of individual customer relationships. The more specific market outlook has been presented in this Report by the Board of Directors in the "Market outlook" section.

Business Related Risks

Bittium's operative business risks are mainly related to the following items: uncertainties and short visibility on customers' product program decisions, their make-or-buy decisions and on the other hand, their decisions to continue, downsize or terminate current product programs, execution and management of large customer projects, ramping up and down project resources, availability of personnel in labor markets, accessibility on commercially acceptable terms and on the other hand successful utilization of the most important technologies and components, competitive situation and potential delays in the markets, timely closing of customer and supplier contracts with reasonable commercial terms, delays in R&D projects, realization of expected return on capitalized R&D investments, obsolescence of inventories and technology risks in product development causing higher than planned R&D costs, and risks related to the ramp-up of product manufacturing. Revenues expected to come from either existing or new products and customers include normal timing risks. Bittium has certain significant customer projects and deviation in their expected continuation could result also significant deviations in the Company's outlook. In addition there are typical industry warranty and liability risks involved in selling Bittium's services, solutions and products.

Bittium's product delivery business model faces such risks as high dependency on actual product volumes, timing risks and potential delays in the markets. The above-mentioned risks may manifest themselves as lower amounts of products delivered or higher costs of production, and ul-

timately, as lower profit. Bringing Bittium's products to international defense and other authorities markets may take longer than anticipated because the projects are typically long and the purchasing programs are prepared in the lead of national governments and within the available financing. Once a supplier has been selected, product deliveries are typically executed over several years.

Some of Bittium's businesses operate in industries that are heavily reliant on patent protection and therefore face risks related to management of intellectual property rights, on the one hand related to accessibility on commercially acceptable terms of certain technologies in the Bittium's products and services, and on the other hand related to an ability to protect technologies that Bittium develops or licenses from others from claims that third parties' intellectual property rights are infringed. Additionally, parties outside of the industries operate actively in order to protect and commercialize their patents and therefore in their part increase the risks related to the management of intellectual property rights. At worst, claims that third parties' intellectual property rights are infringed, could lead to substantial liabilities for damages. In addition, the progress of the customer projects and delivery capability may be also affected by potential challenges in global accessibility of key technologies and components on commercially acceptable terms, as well as by the acceptance of the necessary export licenses. The Company changed its name to Bittium Corporation as of July 1, 2015 and started using the new trademark. The registration and the use of the new trademark can include customary risks involved in taking in use a new trademark.

Financing Risks

Global economic uncertainty may lead to payment delays, increase the risk for credit losses and weaken the availability and terms of financing. To fund its operations, Bittium relies mainly on income from its operative business and may from time to time seek additional financing from selected financial institutions. Currently Bittium has a committed overdraft credit facility agreement of EUR 10.0 million with Nordea Bank AB, Finland Branch and a committed overdraft credit facility agreement of EUR 10.0 million with OP Corporate Bank Plc. From these agreements intended for general financing purposes, EUR 10.0 million are valid until December 31, 2018 and EUR 10.0 million until December 31, 2019. These agreements include customary covenants related to, among other things, equity ratio, transferring property and pledging. There is no assurance that additional financing will not be needed in case of clearly weaker than expected development of Bittium's businesses. Customer dependency in some parts of Bittium's business may translate as an accumulation of risk with respect to outstanding receivables and ultimately with respect to credit losses.

Environmental Factors

Bittium's business operations focus mostly on the design, assembly provided by the manufacturing partners, sales and marketing of products. This represents only a minor part of the environmental impacts over the entire life cycle of the products. Products manufactured by the Company have only minor general environmental impacts.

Bittium Corporation renewed its global environmental management system certification according to ISO 14001:2015 standard in June 2016. The Company is monitoring globally the environmental requirements for products and derived national regulations to the extent that they are related to the company operations. Bittium has also observed and applied the requirements of the ROHS (use of hazardous substances) and WEEE (recycling of electrical and electronic equipment) directives in design since 2002.

The applied environmental standards and regulations in Company operations have been consolidated as uniform Bittium substance list, applicable also to Bittium's significant suppliers. The biannually updated substance list includes, in addition to the compliance of ROHS and REACH directives, the substance requirements applicable in different market areas against which identification of materials is made if needed. Further, materials declaration list observes certain customer-specific requirements. The Company has further updated the requirements mainly on a biannual basis and applied the proper environmental requirements to the products or solutions, in which Bittium has partial or total responsibility depending on the application scope. The imposed requirements will be observed in business operations on a country-specific basis.

During 2017 Bittium has further developed its certified EES+ energy efficiency system to cover also ISO 50001 energy efficiency standard requirements. During the first half of 2018 the Company aims to update its energy efficiency system certification according to the ISO 50001 standard. Bittium has also official energy efficiency review respon-

sible persons in its service authorized by the Finnish Energy Office.

Bittium has further developed the Company's environmental reporting, based on which the 2017 environmental objectives have been followed. The Company has observed the sustainability reporting requirements and published the environmental information as part of its sustainability report. Bittium has developed its energy efficiency in its new Oulu facilities, which is mainly fulfilling the requirements of the Leed Gold level. As an example of the energy efficiency actions was that solar cells have been installed and taken into use and therefore it is expected to improve significantly electricity efficiency with help of solar energy. The results are expected to be visible in 2018.

Personnel

The Bittium group employed an average of 614 people between January and December 2017. At the end of December 2017, the company had 619 employees (623 employees at the end of 2016). A significant part of Bittium's personnel are R&D engineers.

Incentive Systems

Management Group's Variable Pay System

Variable Pay is paid based on the achievement of set targets. In 2017, earning period for the Variable Pay was the calendar year. The targets are determined separately for each earning period. The setting of targets and the review of their achievement is decided on a one-over-one basis. The criteria

for the short-term merit pay are the financial strategic targets of the Company. In addition, part of the targets may be other Company objectives or personal targets. Personal targets vary between duties. In 2017, the net sales, operating profit and/or these both formed the financial targets.

Directed Share Issue without Consideration (2016)

Based on the authorization granted by Bittium Corporation's Annual General Meeting of Shareholders held on April 15, 2015, the Board of Directors of Bittium Corporation decided on March 22, 2016 on a directed share issue without consideration as reward payments to the key persons of the Company and its subsidiaries. In the share issue, 37,500 new shares were issued without consideration to the key persons entitled to the share bonus. The share bonus was issued to 8 key persons of the Company defined by the Board of Directors, with the condition that they must be employed by Bittium Corporation or its subsidiaries at the time of payment of the share bonus. The shares issued in the directed share issue without consideration are subject to restrictions on the right of disposal until December 31, 2018. However, the Board of Directors may grant permission to dispose or use the shares prior to the given date. The shares were registered to the trade register and on the book-entry accounts of the recipients on March 24, 2016, and became subjects to trading on the trading list of Nasdaq Helsinki on March 29, 2016. The CEO received 10,000 shares of Bittium Corporation, and the rest of the members of the Management Group received in total 27,500 shares of Bittium Corporation.

Authorizations of the Board of Directors at the End of the Reporting Period

Authorizing the Board of Directors to Decide on the Repurchase of the Company's Own Shares

The General Meeting April 12, 2017 authorized the Board of Directors to decide on the repurchase of the Company's own shares as follows.

The amount of own shares to be repurchased shall not exceed 3,500,000 shares, which corresponds to approximately 9.81 percent of all of the shares in the Company. Only the unrestricted equity of the Company can be used to repurchase own shares on the basis of the authorization. Own shares can be repurchased at a price formed in public trading on the date of the repurchase or otherwise at a price formed on the market. The Board of Directors decides how own shares will be repurchased. Own shares can be repurchased using, inter alia, derivatives. Own shares can be repurchased otherwise than in proportion to the shareholdings of the shareholders (directed repurchase).

The authorization cancels the authorization given by the General Meeting on April 19, 2016 to decide on the repurchase of the Company's own shares. The authorization is effective until June 30, 2018.

Authorizing the Board of Directors to Decide on the Issuance of Shares as Well as the Issuance of Special Rights Entitling to Shares

The General Meeting authorized the Board of Directors to decide on the issuance of shares and special rights entitling to shares referred to in Chapter 10 Section 1 of the Companies Act as follows.

The amount of shares to be issued shall not exceed 7,000,000 shares, which corresponds to approximately 19.61 percent of all of the shares in the Company. The Board of Directors decides on all the conditions of the issuance of shares and of special rights entitling to shares. The authorization concerns both the issuance of new shares as well as the transfer of treasury shares. The issuance of shares and of special rights entitling to shares may be carried out in deviation from the shareholders' pre-emptive rights (directed issue).

The authorization cancels the authorization given by the General Meeting on April 19, 2016 to decide on the issuance of shares as well as the issuance of special rights entitling to shares referred to in Chapter 10 Section 1 of the Companies Act. The authorization is effective until June 30, 2018.

Shares and Shareholders

The shares of Bittium Corporation are quoted on Nasdaq Helsinki. The Company has one series of shares. All shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have

a nominal value. The Company's shares have been entered into the Euroclear Finland Ltd.'s book-entry securities system.

At the end of the financial period, the fully paid share capital of the Company entered into the Finnish Trade Register was EUR 12,941,269.00 and the total number of the shares was 35,693,166. The accounting par value of the Company's share is EUR 0.10. The Company does not have its own shares in its possession.

Shareholding and control related information is presented in section 34 of the notes to the Financial Statement.

Flagging Notifications

There were no changes in the ownership during the period under review that would have caused flagging notifications which are obligations for disclosure in accordance with Chapter 2, section 9 of the Securities Market Act.

Notifications of Managers' Transactions

May 9, 2017: Name of the person subject to the notification requirement: Erkki Veikkola, member of the Board of Directors. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 5, 2017. Aggregated transactions: volume 2,625 shares, volume weighted average price: EUR 6.39000.

May 9, 2017: Name of the person subject to the notification requirement: Staffan Simberg, member of the Board of Directors. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 5, 2017. Aggregated transactions: volume 1,500 shares, volume weighted average price: EUR 6.39000.

May 9, 2017: Name of the person subject to the notification requirement: Seppo Mäkinen, member of the Board of Directors. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 5, 2017. Aggregated transactions: volume 1,500 shares, volume weighted average price: EUR 6.39000.

May 9, 2017: Name of the person subject to the notification requirement: Juha Putkiranta, member of the Board of Directors. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 5, 2017. Aggregated transactions: volume 1,500 shares, volume weighted average price: EUR 6.39000.

May 9, 2017: Name of the person subject to the notification requirement: Kirsi Komi, member of the Board of Directors. Notification type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 5, 2017. Aggregated transactions: volume 1 500 shares, volume weighted average price: EUR 6.39000.

May 9, 2017: Name of the person subject to the notification requirement: Tero Ojanperä, member of the Board of Directors. Notifica-

tion type: initial notification. Nature of transaction: Receipt of a Share-Based Incentive. Transaction date: May 5, 2017. Aggregated transactions: volume 1,500 shares, volume weighted average price: EUR 6.39000.

The Board of Directors, Board Committees and The Auditor

The Annual General Meeting held on April 12, 2017, decided that the Board of Directors shall comprise six (6) members. Ms. Kirsi Komi, Mr. Seppo Mäkinen, Mr. Juha Putkiranta, Mr. Staffan Simberg and Mr. Erkki Veikkolainen were re-elected as members of the Board of Directors for a term of office expiring at the end of the next Annual General Meeting. Further, Mr. Tero Ojanperä was elected as a new member of the Board of Directors for a corresponding term of office.

At its assembly meeting held on April 12, 2017, the Board of Directors elected Mr. Erkki Veikkolainen Chairman of the Board. Further, the Board resolved to keep the Audit Committee. Staffan Simberg (Chairman of the Committee) and Kirsi Komi were elected as members of the Audit Committee and authorized public accountant Seppo Laine was invited to the Audit Committee as external advisor of the Board of Directors.

The Annual General Meeting held on April 12, 2017 re-elected Ernst & Young Oy, authorized public accountants as auditor of the Company for a term of office ending at the end of the next Annual General Meeting. Ernst & Young Oy notified that Mr. Ju-

hani Rönkkö, authorized public accountant, will act as responsible auditor. It was decided that the remuneration to the auditor shall be paid against the auditor's reasonable invoice.

Corporate Governance Statement

The Board of Directors has issued the corporate governance statement separate from this report.

Dividend from 2016

The Annual General Meeting held on April 12, 2017 decided in accordance with the proposal of the Board of Directors to pay EUR 0.05 per share as dividend based on the adopted balance sheet for the financial period January 1, 2015–December 31, 2016 and EUR 0.25 per share as additional dividend. The dividend was paid to the shareholders who are registered as shareholders in the Company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date Tuesday, April 18, 2017. The dividend was paid on Tuesday, April 25, 2017.

Consolidated Statement of Comprehensive Income

Continuing operations, 1000 EUR	Notes	Jan. 1– Dec. 31, 2017	Jan. 1– Dec. 31, 2016
NET SALES	1, 3	51,637	64,192
Other operating income	4	2,109	1,891
Change in work in progress and finished goods			
Work performed by the undertaking for its own purpose and capitalized		681	381
Raw materials		-5,940	-5,057
Personnel expenses	7	-33,044	-35,492
Depreciation	6	-3,902	-3,263
Other operating expenses	5	-17,784	-20,110
Share of results of the associated companies	15	39	
OPERATING PROFIT		-6,203	2,541
Financial income and expenses	9	378	604
PROFIT BEFORE TAX		-5,825	3,146
Income tax	10	1,065	359
PROFIT FOR THE YEAR FROM CONTINUING OPERATIONS		-4,760	3,505
Profit for the year from discontinued operations	2	1,653	
PROFIT FOR THE YEAR		-3,108	3,505
Other comprehensive income:			
Items that will not be reclassified to statement of income			
Re-measurement gains (losses) on defined benefit plans			
Income tax effect			
Items that may be reclassified subsequently to the statement of income			
Exchange differences on translating foreign operations		-122	-34
TOTAL COMPREHENSIVE INCOME FOR THE YEAR		-3,229	3,471
Profit for the year attributable to			
Equity holders of the parent		-3,108	3,505
Total		-3,108	3,505
Total comprehensive income for the year attributable to			
Equity holders of the parent		-3,229	3,471
Total		-3,229	3,471
Earnings per share for profit attributable to the shareholders of the parent company:	11		
Earnings per share from continuing operations, EUR			
Basic earnings per share		-0.133	0.098
Diluted earnings per share		-0.133	0.098
Earnings per share from discontinued operations, EUR			
Basic earnings per share		0.046	
Diluted earnings per share		0.046	
Earnings per share from continuing and discontinued operations, EUR			
Basic earnings per share		-0.087	0.098
Diluted earnings per share		-0.087	0.098
Average number of shares, 1000 pcs		35,693	35,670
Average number of shares, diluted, 1000 pcs		35,693	35,670

Consolidated Statement of Financial Position

1000 EUR	Notes	Dec. 31, 2017	Dec. 31, 2016
Non-current assets			
Property, plant and equipment	12	21,946	12,591
Goodwill	13	5,820	6,737
Intangible assets	13	14,951	9,278
Investments in associated companies	15	1,242	
Other financial assets	16	112	132
Non-current receivables	18	210	
Deferred tax assets	17	2,463	1,516
Total		46,744	30,254
Current assets			
Inventories	18	10,574	4,097
Trade and other receivables	19	18,151	24,018
Financial assets at fair value through profit or loss	20	56,401	66,935
Cash and short-term deposits	21	6,518	27,987
Total		91,644	123,038
Total assets		138,387	153,292
Equity and liabilities			
Equity attributable to equity holders of the parent	22		
Share capital		12,941	12,941
Translation differences		1,030	1,158
Invested non-restricted equity fund		25,953	25,953
Retained earnings		76,753	90,562
Total		116,678	130,615
Total equity		116,678	130,615
Non-current liabilities			
Deferred tax liabilities	17	377	461
Interest-bearing loans and borrowings (non-current)	25	484	1,956
Other non-current liabilities, non-interest bearing	26	678	602
Provisions	24		48
Total		1,540	3,067
Current liabilities			
Trade and other payables	26	18,302	16,176
Financial liabilities at fair value through profit or loss	26		6
Provisions	24	1,143	2,230
Interest-bearing loans and borrowings (current)	25	725	1,198
Total		20,170	19,610
Total liabilities		21,710	22,677
Total equity and liabilities		138,387	153,292

Consolidated Statement of Cash Flows

1000 EUR	Notes	Jan. 1– Dec. 31, 2017	Jan. 1– Dec. 31, 2016
Cash flow from operating activities			
Profit for the year from continuing operations		-4,760	3,505
Profit for the year from discontinued operations		1,653	
Adjustments			
Effects of non-cash business activities	28	2,189	2,434
Finance costs	9	448	300
Finance income	9	-826	-904
Income tax	10	-1,065	-359
Change in net working capital			
Change in short-term receivables	19	5,598	-3,276
Change in inventories	18	-6,363	-827
Change in interest-free short-term liabilities	26	2,773	-3,515
Interest paid on operating activities		-451	-370
Interest and dividend received from operating activities		825	903
Income taxes paid		-67	411
Net cash from operating activities		-45	-1,698
Cash flow from investing activities			
Acquisition of business unit, net cash acquired	14		-6,354
Purchase of property, plant and equipment	12	-11,408	-7,032
Purchase of intangible assets	13	-6,677	-1,169
Sale of property, plant and equipment	12	116	31
Sale of intangible assets	13	149	
Purchase of investments/associated companies	15	-728	
Net cash from investing activities		-18,549	-14,524
Cash flows from financing activities			
Share option plans exercised	23		30
Repayment of borrowing	25	-1,692	-86
Payment of finance lease liabilities	25	-1,010	-874
Dividend paid and capital repayment		-10,708	-10,708
Net cash from financing activities		-13,410	-11,638
Net change in cash and cash equivalents	21	-32,004	-27,861
Cash and cash equivalents at 1 January		94,922	122,783
Change in fair value of investments			
Cash and cash equivalents at the end of the year		62,919	94,922

Cash and cash equivalents include liquid and low risk financing securities.

Consolidated Statement of Changes in Equity

Equity attributable to equity holders of the parent

1000 EUR	Share capital	Invested non- restricted equity fund	Translation difference	Retained earnings	Non- controlling interests	Total
Shareholders' equity Jan 1, 2017	12,941	25,953	1,158	90,562	0	130,615
Comprehensive income for the period						
Profit for the period				-3,108		-3,108
Exchange differences on translating foreign operations			-122			-122
Total comprehensive income for the period	0	0	-122	-3,108	0	-3,229
Transactions between the shareholders						
Dividend distribution				-10,708		-10,708
Other changes						0
Shareholders' equity Dec. 31, 2017	12,941	25,953	1,036	76,747	0	116,678
Shareholders' equity Jan 1, 2016	12,941	25,923	1,192	97,526	0	137,582
Comprehensive income for the period						
Profit for the period				3,505		3,505
Exchange differences on translating foreign operations			-34			-34
Total comprehensive income for the period	0	0	-34	3,505	0	3,471
Transactions between the shareholders						
Share issue		31				31
Share-related compensation				246		246
Dividend distribution				-10,708		-10,708
Other changes Dec. 31, 2016				-6		-6
Shareholders' equity Dec. 31, 2016	12,941	25,953	1,158	90,562	0	130,615

Notes to the Consolidated Financial Statements

Corporate Information

The Company's field of activities is the development, production and selling of software, equipment and other products for the automotive and electronics industry, the production of R&D services and other services as well as other industrial operations. The Company may administer product and other rights and conduct research and development operations, hold and trade securities and real-estate and conduct other investment activities.

The parent company of the Group is Bittium Corporation, which is a Finnish public company. The parent company is domiciled in Oulu and its registered address is Ritaharjantie 1, 90590 Oulu.

Accounting Principles for the Consolidated Accounts

Basis of Preparation

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) as well as the SIC and IFRIC interpretations in force at December 31, 2017. The financial statements are presented in thousands of euro. The consolidated financial statements have been prepared on a historical cost basis unless otherwise indicated.

Consolidation Principles

The consolidated financial statements of Bittium include the financial statements of the parent company Bittium Corporation and its subsidiaries.

Subsidiaries

The consolidated financial statements include Bittium Corporation and its subsidiaries financial statements. Subsidiaries are companies in which the Bittium Corporation has a controlling interest. A controlling interest arises when the Group holds more than half of the voting rights or it otherwise has the power to govern the financial and operating policies of the entity. The existence of potential voting rights is taken into account in assessing the conditions under which control arises whenever instruments conferring potential voting rights can be exercised at the review date.

Associated Companies

An associated company is a company in which the Group has a significant influence. A significant influence exists, when the Group has a right to participate in the decision making in regards of financing or operative business of the associated company but has no sole or common control of such decisions. In the consolidated financial statements the investments in the associated companies are accounted for using the equity method according to the IFRS 11 Joint Arrangements standard. The investment in associated companies is recorded using the acquisition price, adjusted for the Group's share of changes in the associated companies' equity after the date of acquisition. If the Group's share of associated companies' losses exceeds the carrying amount of the investment, the investment in the associated company in the balance sheet shall be written off. The losses exceeding the carrying amount are consolidated only if the Group has a binding obligation of covering the associated companies' liabilities. Investments in the associated companies include the goodwill emerging upon the acquisition. The unrealized profits or loss-

es between the Group and the associated companies are eliminated according to the share of Group's ownership.

The Group's share of results in the associated companies is recorded as an item above the operating result if the result arises from the operative business. The Group's share of associated companies' other comprehensive income is recorded in the other items of comprehensive income in the consolidated statement of profit and loss.

The carrying value of investments in the associated companies is tested by comparing the carrying amount and the recoverable amount of the associated companies. An impairment loss is recognized if the carrying amount of the investment in associated companies exceeds the recoverable amount. An impairment loss is recognized in the income statement.

Elimination of Intra-Group Transactions

Intra-Group share ownership has been eliminated by means of the purchase method. Acquired subsidiaries are included in the consolidated financial statements from the time when the Group has obtained control, and divested subsidiaries up to the time when control ceases. The excess of the acquisition cost of the subsidiary shares over fair value of the net assets acquired is allocated partly to the identifiable assets and liabilities. Any excess is recorded as goodwill. Business combinations that occurred before the implementation of IFRS, in 2004, the carrying amount of the goodwill has been treated according to the Finnish GAAP in accordance with the exemption under IFRS 1. According to IFRS goodwill is not amortized but tested annually for impairment.

Intra-Group transactions, receivables, liabilities and margins are eliminated in preparation of the consolidated financial statements.

Foreign Currency Transactions

Figures relating to the financial statements of Group entities are measured in the currency that is the currency of each entity's main operating environment ("functional currency"). The consolidated financial statements are presented in euros, which is the functional currency of the Group's parent company.

Transactions denominated in foreign currency are recorded in euros using the exchange rate on the date of the transaction. Monetary items denominated in foreign currency are translated to euros using the European Central Bank exchange rates at the balance sheet date. Gains and losses arising from transactions denominated in foreign currency and the translation of monetary items are recorded in the income statement.

Income statements and cash flows of subsidiaries, whose functional and reporting currency is not the euro, are translated into euros at the average exchange rates during the financial period. Their balance sheets are translated at the exchange rates prevailing at the balance sheet date. Translating the profit for the period using different rates in the income statement and the balance sheet leads to a translation difference that is recorded in equity. The translation differences arising from the elimination of the cost of foreign subsidiaries are recorded in equity. When a subsidiary is sold, the cumulative translation differences are entered in the income statement as part of the capital gain or loss.

Cumulative exchange differences arising from the translation of internal long term loans, which are in actual terms net investments in foreign operations, are taken directly to a separate component of equity.

The goodwill arising from the acquisition of foreign operations as well as fair value adjustments made to the carrying amounts of the assets and liabilities of said foreign operations in connection with an acquisition are treated as the assets and liabilities of said foreign operations and translated to euros using the exchange rates at the balance sheet date.

Property, Plant and Equipment

Property, plant and equipment are measured at historical cost less depreciation and impairment losses. Assets of acquired companies are stated at their fair values at the date of acquisition.

Assets are depreciated using the straight-line or reducing balance method over their useful life.

The residual value of assets and their useful life are reviewed periodically in connection with each set of financial statements and the interim report and, if necessary, they are adjusted to reflect changes that have occurred in the expectations for the asset's useful life. Ordinary repair and maintenance costs are charged to the income statement during the financial year in which they incurred. Gains and losses on sales and disposals are determined by comparing the received proceeds with the carrying amount and are included in operating profit.

Intangible Assets

Goodwill

After January 1st, 2004 the cost of goodwill is the excess of the cost of the busi-

ness combination over the acquirer's interest in the net fair value of the identifiable assets. The goodwill arising from the business combinations prior to this represents the amount recorded under previous GAAP, which has been used as the deemed cost. The classification and accounting treatment of these business combinations has not been adjusted when the Group's opening IFRS balance sheet has been prepared.

Goodwill is tested annually or, if necessary, more frequently to determine any impairment. For this purpose, goodwill has been allocated to cash-generating units. The recoverable amount of a cash generating unit is compared to its carrying amount and an impairment loss is recognized if the carrying amount of the assets exceeds the recoverable amount. An impairment loss is recognized in the income statement.

Research and Development Expenditure

Research expenditures are recorded as an expense as they are incurred. Expenditure on development activities is capitalized if they meet the criteria defined in IAS 38 Intangible Asset. Capitalized development expenses include mainly materials, supplies and direct labor costs. They are amortized on a systematic basis over their expected useful lives.

Capitalized development expenses are reviewed for potential impairment regularly by comparing the carrying amount to their recoverable amount. Significant changes in the technological environment are taken into account. If the carrying amount of the development expenses is greater than the recoverable amount, an impairment loss is recognized immediately.

Other Intangible Assets

Patents, trademarks, licenses and other intangible assets having a finite useful life are entered in the balance sheet and the

amortized expense is recorded in the income statement over their useful life. If indications on possible impairment exist, the recoverable amount is determined and an impairment loss is recognized if necessary. Intangible assets with an indefinite useful life are not amortized but tested annually or, if necessary, more frequently to determine any impairment.

Inventories

Inventories are stated at the lower of initial cost or net realizable value. Net realizable value is the estimated selling price in the normal course of business less the estimated costs of sale. The value of raw material inventory is determined using a weighted average cost formula. The initial cost of finished and semi-finished products comprises of raw material, direct labor and other direct expenses as well an appropriate share of fixed and variable production overheads, based on the normal capacity of the production facilities.

Borrowing Costs

Borrowing costs are recognized in the income statement as they accrue.

Government Grants

Government grants are recognized when there is reasonable assurance that Group will comply with the conditions attaching to them and the grant will be received. Government grants received from public corporations are presented as other income in the income statement.

Leases

When the Group is a lessee, all lease contracts of property, plant and equipment, in which the Group has substantially all the risks and rewards of ownership, are classified as finance leases. A finance lease agreement is recognized in the balance

sheet at an amount equal at the inception of the lease to the fair value of the leased property or, if lower, at the present value of the minimum lease payments. An asset obtained on a finance lease is depreciated over the useful life of the asset or, if shorter, the lease term. Lease obligations are included in interest-bearing liabilities.

Lease agreements in which the risks and benefits attached to ownership remain with the lessor are classified as operating leases. Lease payments under an operating lease are recognized as an expense in the income statement on a straight line basis over the lease term.

Impairment of Assets

At each balance sheet date (including interim reports) the Group estimates whether there is any indication that an asset may be impaired. If any such indication exists, the recoverable amount of the asset is estimated. The recoverable amount is estimated annually regardless of any indication of impairment to the following assets: investments, goodwill, intangible assets with an indefinite useful life and for intangible assets which are not yet ready for use. The recoverable amount is based on the future discounted net cash flows, which are equivalent with the expected cash flows generated by the asset.

An impairment loss is recognized whenever the carrying amount of an asset exceeds its recoverable value. The loss is booked to the income statement. A previously recognized impairment loss is reversed only if there has been a change in the estimates used to determine the recoverable amount. However, the reversal must not cause that the adjusted value is higher than the carrying amount that would have been determined if no impairment loss had been recognized in prior years. Impairment losses recognized for goodwill will under no circumstances be reversed.

Employee Benefits

Pension Liabilities

Group companies in different countries have pension plans in accordance with local conditions and practices. The plans are classified as either defined contribution plans or defined benefit plans.

In Finland, the Group has organized pension coverage for its staff through independent pension insurance companies. The Finnish system under the Employees' Pensions Act and the disability portion are treated as a defined contribution plan. The contributions to defined contribution plans are charged to the income statement in the year to which they relate. After this the Group has no other obligations for additional payment. Also the pension arrangements of the foreign subsidiaries are classified as defined contribution plans.

Share-Based Payment

The Group has applied IFRS 2 Share-Based Payment standard. The Group has incentive plans which include equity-settled or cash-settled share-based payment transactions. The fair value of equity-settled share-based payments granted is recognized as an employee expense with a corresponding increase in equity. The fair value of cash-settled share-based payments is valued at each reporting period closing date and the changes in fair value of liability are recognized as expense when incurred. The fair value is measured at grant date and spread over the vesting period during which the employees become unconditionally entitled to the awards.

Option rights and shares granted are measured at fair value at the time they are granted and entered as an expense in the income statement in even installments during the vesting period. The expense determined is based on the defined fair value of the stock options and shares as well as on management's estimate of the amount of options or

shares to which the employee will be entitled at the end of the vesting period. The fair value of the options is determined on the basis of the Black-Scholes pricing model. The Group updates the assumption concerning the final amount of stock options and shares at each balance sheet date. Changes in the estimates are recorded in the income statement. When options are exercised, the cash payments received on the basis of share subscriptions (adjusted for any transaction expenses) are entered in the share capital (at nominal value) and in the share premium reserve.

Share-based incentives are measured at fair value at the time they are granted and entered as an expense in the income statement when right is granted.

Provisions

A provision is recognized when the Group has a legal or constructive obligation as a result of a past event, it is probable that a payment obligation will be realized or cause a financial loss and the amount of the obligation can be estimated reliably. Provisions can arise from restructuring plans, onerous contracts, warranty repairs and allowances and from environmental, litigation or tax risks.

The amount recognized as a provision is the best estimate of the expenditure required to settle the present obligation at the balance sheet date. If the time value of money is material, provisions will be discounted.

If a reimbursement can be obtained from a third party for part of the obligation, the reimbursement is treated as a separate asset when it is virtually certain that the reimbursement will be received.

Taxes

Tax expense in the Group's income statement comprises the current tax and change in deferred taxes of each group company. Current tax is calculated based on the taxable income using the tax rate that is enacted in each country at the balance sheet date.

Deferred tax liability is calculated on the temporary differences between the carrying amounts and the amounts used for taxation purposes. Deferred tax assets are recognized for deductible temporary differences and tax losses to the extent that it is probable that taxable profit will be available against which tax credits and deductible temporary differences can be utilized. In calculating deferred tax liabilities and assets, the tax base which is in force at the time of preparing the financial statements or which has been enacted by the balance sheet date for the following period, has been applied.

Revenue Recognition

Sales of goods are recognized after the significant risks and rewards that, are connected with ownership, have been transferred to the buyer. Neither the Group retains a continuing managerial involvement to the degree usually associated with ownership, nor effective control of those goods. Revenues from services are recorded when the service has been performed. Sales are presented net of indirect sales taxes and discounts.

Revenue from long-term construction contracts is recognized based on the stage of completion when the outcome of the project can be reliably measured. The stage of completion is measured by using the cost-to-cost method under which the percentage of completion is defined as the ratio of costs incurred to total estimated costs.

Assets Held for Sale and Discontinued Operations

The Group classifies a non-current asset or disposal as held for sale if its carrying amount will be recovered principally through a sale transaction rather than through continuing use. Non-current assets and asset items related to discontinued operations, which are classified as held for sale, are measured at the lower of their carrying amount and fair value less costs to sell. Depreciation and amortization on these asset items is discontinued at the time of classification. Profit after tax and gain on sale of discontinued operation is presented as a separate line item in the consolidated income statement.

Profit for the year from discontinued operations is presented separately in Consolidated Statement of Comprehensive Income. Discontinued operations are disclosed in note 2.

Financial Assets, Financial Liabilities and Derivative Contracts

Financial Assets

The Group's financial assets are classified in accordance with IAS 39 Financial Instruments: Recognition and Measurement in the following categories: financial assets at fair value through profit or loss, held-to-maturity investments, loans and receivables and financial assets held for sale. The classification is based on the purpose for which the assets have been acquired and they are classified upon acquisition.

A financial asset is classified at fair value through profit or loss, when it has been acquired for trading purposes. The category

comprises the Group's investment portfolio and all derivative contracts. The consolidated balance sheet does not contain assets that would be classified in this category upon initial recognition as allowed under the fair value option of IAS 39. Realized and unrealized gains and losses from changes in fair values are recognized in profit or loss in the financial year they are incurred. The assets are in accordance with their nature included in the non-current and current assets of the balance sheet.

Loans and receivables are assets other than derivative contracts with related payments that are fixed or determinable. They are not quoted on efficient markets and they are not held by the Group for trading purposes. They are valued at amortized cost. They are in accordance with their nature included in the current or long-term assets of the balance sheet: long-term if they fall due after more than 12 months.

The Group has not had held-to-maturity investments during the financial or the prior financial year. In case of occurrence they are valued at amortized cost.

Financial assets held for sale are assets other than derivative contracts that have particularly been classified into this category or have not been classified into any other category. They are included in the balance sheet on the basis of their estimated date of sale. Assets to be sold within 12 months are included in current assets. Such financial assets are disclosed separately in the consolidated balance sheet if their carrying amount is significant. The change in fair value of the financial assets held for sale is recognized net of tax in the revaluation fund in equity. The cumulative change in fair value recognized in equity is recognized in profit or loss when the asset is sold or the asset has been impaired and an impairment loss has to be recognized. Investments, whose fair value may not be reliably established, are valued at cost or cost adjusted for a permanent impairment loss.

Cash comprises cash on hand, bank deposits and other highly liquid investments. Assets classified as financial assets have a maximum maturity of three months from the date of acquisition.

Transaction costs are included in the cost of financial assets that are not valued at fair value through profit or loss. The purchases and sales of financial assets are recognized at the trade date.

Financial Liabilities

Financial liabilities are initially recognized at fair value. Transaction costs are included in the initial carrying amount of financial liabilities. All financial liabilities are subsequently measured at amortized cost. Financial liabilities are included in current and non-current liabilities and may be interest-bearing or interest-free.

The bases for determining the fair value of all financial assets and liabilities have been disclosed in notes 20, 27 and 28.

The Impairment of Financial Assets

The Group assesses whether objective indications of the impairment of any financial assets exist at each balance sheet date. A loss is recognized in profit or loss as a recognized or probable credit loss, when there are indications that trade or loan receivables may not be collected in full. Impairment losses on trade receivables are included in other operating expenses and on loan receivables in financial expenses.

Impairment losses on financial assets recognized in the financial year are disclosed in notes 20 and 21.

Derivative Contracts and Hedge Accounting

Derivative contracts are recognized at their fair value. Hedge accounting in accordance with IAS 39 Financial Instruments: Recognition and measurement is not applied. The change in fair value of hedging instruments is recognized in finance items in profit or loss.

The fair values of derivative contracts and the valuation methods used are disclosed in note 28.

Significant Accounting Estimates and Judgments

The preparation of financial statements requires management to make estimates and assumptions about the future that affects the reported amounts. Used estimates and assumptions are based on prior experience and presumptions, which reflect the circumstances and expectations prevailing at the time of the preparation of the financial statements. Materiality and judgment in assessing the effect of uncertainties and the application of accounting principles have been observed in the preparation of the financial statements.

The management has exercised judgment during the financial year in applying e.g. in assessing the future cost forecasts in the percentage of completion projects, assessing the value of intangible assets in business acquisitions and also when assessing the future prospects of Group companies in conjunction with standards IAS 12 Income Taxes and IAS 36 Impairment of Assets. Based on the management judgment, the majority of the capitalized R&D investments are depreciated based on the production amounts of the goods.

Financial statements may include non-recurring income or expenses that are not related to normal operative business or that

occur only infrequently. Such items are among others sales profits or losses, substantial changes in asset values, like impairment or reversal of impairment, substantial restructuring costs or other substantial items that are considered as non-recurring by the management. Substantiality of the item is based on the item's euro amount and the relative share of total value of the asset.

The Application of New and Revised IFRS Regulations

The consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS) effective at the end of the period. The new, revised or amended IFRS regulations did not have significant impact on the consolidated financial statements during the period.

IFRS 15 Revenue from Contracts with Customers, came into force on 1st of January 2018. IFRS 15 covers the former IAS 18 Revenue and IAS 11 Construction contracts standards. Bittium adopts the standard using the modified retrospective approach. The retrospective effect of adopting the new standard is shown as a restatement to the group equity at the balance sheet on January 1st, 2018. Bittium estimates that the new standard does not have a material effect on the restated opening balance of year 2018. The new standard provides more focus especially to those contracts which include multiple elements of revenue. Bittium has already taken identification of customer contracts and performance liabilities into account in revenue recognition and applied multi-element principles as presented in the new standard. Therefore Bittium will not make substantial changes on the current accounting principles regarding the revenue recognition.

Bittium has, however specified the accounting principles of the time-based service contracts regarding the duration and amount of these contracts. The more

specified principles shall affect the revenue spread through periods making the timing of revenue more stable and accurate during the financial year and possibly also at the end of the financial year.

The new standard has specifying impact on the notes of the financial reports. According to the standard, Bittium shall present the forecasted revenue spread of the ongoing projects at the balance sheet date. These forecasts may change as the time-based service contracts are rendered to the customer. The forecasts are also subject to changes due to cost and customers' plans.

IFRS 9 Financial Instruments standard has come into force on 1st of January 2018. It replaces the former IAS 39 Financial Instruments: Recognition and Measurement standard. The objective of the new standard is to clarify the classification and assessment of the financial assets and liabilities and to create a new model for impairment and for the hedge accounting. In Bittium the new standard will not have significant impact on the classification of the financial assets or liabilities, nor to the assessments or processes of managing the currency risks. The model for impairment is going to lead to earlier recognition of impairment losses but it will not have a material effect on Bittium financial reporting. The new standard has specifying impact on the notes to the financial reporting with respect to financial instruments.

The impacts of the IFRS 16 Leases standard, coming into force in 2019 are being analyzed during the year 2018. According to the standard, basically all the Group lease agreements are presented in the assets and liabilities in the balance sheet. According to the current estimate, the adoption of the standard will slightly increase the value of assets and liabilities in the consolidated balance sheet.

The other forthcoming revisions or amendments of the standards are not expected to have significant impact on the consolidated financial statements in the future.

Notes to the Consolidated Financial Statements

1. OPERATING SEGMENTS

Bittium has one reporting business segment, the Wireless business, that includes three product and service areas supporting each other. These areas are as follows: Defence & Security, Connectivity Solutions and Medical Technologies.

Wireless business is focused on creating reliable and secure communication and connectivity solutions, as well as on developing healthcare technology solutions for biosignal measuring. For its customers Bit-

tium offers innovative products and solutions based on its product platforms, and R&D services. Bittium also offers high quality information security solutions for mobile devices and portable computers. For customers in biosignal measuring in the areas of cardiology, neurology, rehabilitation, occupational health and sports medicine Bittium offers healthcare technology products and services.

The highest operative decision-making body of the company is the Board of Di-

rectors of Bittium which is responsible for allocating resources to and evaluating the results of Bittium's operating segment. Income statement and balance sheet information of the Wireless business are equivalent to corresponding information of the Bittium group.

Wireless**Geographical areas**

Bittium operates in three geographical areas which are Europe, Americas and Asia. In presenting the geographical information, the revenue is based on the geographical location of customers. Geographical assets are based on the geographical location of the assets.

Geographical areas**Jan. 1–Dec. 31, 2017**

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
Net sales						
Sales to external customers	39,060	5,361	5,888	1,328		51,637
Non-current assets	43,770	2	299			44,071
Total non-current assets *)						44,071
*) does not include deferred tax assets						
Capital expenditure, continuing operations						
Tangible assets	9,252		103			9,355
Intangible assets	5,673					5,673
Investments	1,220	2				1,223
Goodwill	-890		-27			-917

Geographical areas**Jan. 1–Dec. 31, 2016**

1000 EUR	Finland	Other Europe	Americas	Asia	Eliminations	Group total
Net sales						
Sales to external customers	47,923	3,392	12,177	700		64,192
Non-current assets	28,515		223			28,738
Total non-current assets *)						28,738
*) does not include deferred tax assets						
Capital expenditure, continuing operations						
Tangible assets	8,480					8,480
Intangible assets	1,725					1,725
Goodwill	5,290		7			5,297

Information of primary customers

Group's revenues from the 10 largest customers in period Jan. 1–Dec. 31, 2017 were EUR 41.1 million (EUR 56.2 million in 2016) representing 79.6 percent of the net sales (87.6 percent in 2016).

Notes to the Consolidated Financial Statements

2. DISCONTINUED OPERATIONS

1000 EUR	2017	2016
Other operating income	1,653	
Profit for the year from discontinued operations (ASW)	1,653	
<p>The other operating income includes the reversal of provisions related to the sale of Automotive-segment (2015) as well as VAT returns related to sale of shares which have been returned due to changes in legal interpretation.</p>		
Cash received	432	
Cash flow impact	432	

3. NET SALES

1000 EUR	2017	2016
Services	34,919	51,835
Products	16,314	11,920
Other	403	462
Total	51,637	64,217
Income recognized from construction contracts	13,472	23,190
Net sales other	38,165	41,003
Total	51,637	64,192
Construction contracts		
<p>The contract revenue is recognized in the income statement in proportion to the stage of completion of the contract. The stage of completion is defined as the ratio of costs incurred to total estimated costs.</p>		
Income recognized as sales based on the stage of completion of long-term construction contracts	13,472	23,190
Revenue recognized from long-term construction contracts in progress amounted to	8,443	21,146
Advances received from long-term construction contracts recognized in the balance sheet amounted to	475	895
Receivables recognized from long-term construction contracts amounted to	1,289	2,803

4. OTHER OPERATING INCOME

1000 EUR	2017	2016
Government grants	1,944	1,766
Other income	165	125
Total	2,109	1,891

5. OTHER OPERATING EXPENSES

External services	4,313	6,002
Voluntary staff expenses	1,045	880
Premises expenses	2,886	2,701
Travel expenses	1,163	1,796
IT expenses	2,625	2,434
Other expenses	5,752	6,297
Total	17,784	20,110
Auditor's charges		
Ernst & Young		
Auditing	68	34
Tax advice	17	31
Other services	11	109
Total	96	174
Others		
Auditing	25	21
Tax advice	12	9
Other services		1
Total	37	31

Notes to the Consolidated Financial Statements

1000 EUR	2017	2016
6. DEPRECIATIONS AND IMPAIRMENTS		
Depreciations		
Intangible assets		
Capitalized development expenditure	339	283
Intangible rights	845	744
Other intangible assets	75	73
Tangible assets		
Machinery and equipment	2,642	2,163
Total	3,902	3,263
7. EMPLOYEE BENEFIT EXPENSES AND NUMBER OF PERSONNEL		
Number of personnel		
Average number of personnel during the fiscal period		
Continuing operations	614	569
Personnel expenses 1000 EUR		
Personnel expenses		
Managing Director's salaries	214	280
Board of Directors *	165	162
Other salaries and wages	25,861	28,137
Total	26,239	28,578
Pension expenses, defined contribution plans		
	5,528	5,201
Other personnel expenses	1,276	1,713
Total	33,044	35,492

*Including the share-based incentives. Further information in the note no. 32.

1000 EUR	2017	2016
8. RESEARCH AND DEVELOPMENT EXPENSES		
The research and development expenses total	15,045	6,912
Capitalized to the balance sheet	-5,766	-932
Recognition as an asset	339	283
The expensed research and development expenses recognized in the income statement amounted to	9,618	6,263
9. FINANCIAL EXPENSES (NET)		
Interest expenses	-87	-89
Interest income	2	1
Dividend income	1	0
Exchange gains and losses	47	-63
Change of financial assets and liabilities at fair value through profit or loss	394	829
Other financial expenses	-408	-75
Other financial income	428	1
Total	378	604
10. INCOME TAXES		
Income taxes, current year		-28
Other taxes		-78
Income taxes, previous years	-7	-2
Deferred taxes	1,072	467
Total	1,065	359
A reconciliation between the effective tax rate and domestic tax rate (20.0 percent) of the Group:		
Profit before taxes	-5,825	3,146
Tax at the domestic tax rate	1,177	-629
Effect of tax rates of foreign subsidiaries	6	2
Taxes for prior years	-7	-2
Tax free income	268	220
Non-deductible expenses	-2,267	-1,403
Utilization of deferred tax assets from previous years	1,112	2,043
Reassessment of deferred tax assets	1,072	467
The deferred tax assets from tax losses	-297	-265
Others		-73
Income taxes in the consolidated income statement	1,065	359

Notes to the Consolidated Financial Statements

1000 EUR	2017	2016
11. EARNINGS PER SHARE		
Basic		
Basic earnings per share amounts are calculated by dividing net profit for the year attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year.		
Profit attributable to the equity holders of the parent, continuing operations (1000 €)	-4,760	3,505
Profit attributable to the equity holders of the parent, discontinued operations (1000 €)	1,653	
Profit attributable to the equity holders of the parent, continuing and discontinued operations (1000 €)	-3,108	3,505
Weighted average number of ordinary shares during the financial year (1000 PCS)	35,693	35,670
Basic earnings per share, continuing operations, €	-0,133	0,098
Basic earnings per share, discontinued operations, €	0,046	0,000
Basic earnings per share, continuing and discontinued operations, €	-0,087	0,098
Diluted		
Diluted earnings per share is calculated by dividing the net profit attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares that would be issued on the conversion of all the dilutive potential ordinary shares into ordinary shares. In 2017, the Group had no share-based payment schemes which would have a diluting effect on the number of shares.		
Profit attributable to the equity holders of the parent, continuing operations (1000 €)	-4,760	3,505
Profit attributable to the equity holders of the parent, discontinued operations (1000 €)	1,653	0
Profit attributable to the equity holders of the parent, continuing and discontinued operations (1000 €)	-3,108	3,505
Weighted average number of ordinary shares during the financial year (1000 PCS)	35,693	35,670
Effect of dilution (1000 PCS)		
Weighted average number of ordinary shares during the financial year (1000 PCS)	35,693	35,670
Diluted earnings per share, continuing operations, EUR	-0.133	0.098
Diluted earnings per share, discontinued operations, EUR	0.046	0.000
Diluted earnings per share, continuing and discontinued operations, EUR	-0.087	0.098

12. PROPERTY, PLANT AND EQUIPMENT

The Group has not revalued property, plant and equipment, hence the Group has not recognized any impairment losses directly to equity or recorded any reversals of those.

1000 EUR	31.12.2017	31.12.2016
Land and water		
Acquisition cost Jan. 1	1,091	0
Additions during the period		1,091
Acquisition cost at the end of the period	1,091	1,091
Carrying amount at the end of the period	1,091	1,091
Buildings and constructsures		
Acquisition cost Jan. 1	10,145	2,804
Additions during the period	7,193	5,948
Disposals during the period	-55	
Acquisition of business unit		1,394
Acquisition cost at the end of the period	17,284	10,145
Accumulated depreciations Jan. 1	-2,551	-2,267
Translation differences	0	
Depreciation for the period	-379	-284
Depreciations on disposals	51	
Carrying amount at the end of the period	14,406	7,595
No revaluations or capitalizations of interest costs have been done.		
Machinery and equipment		
Acquisition cost Jan. 1	44,921	42,720
Translation differences	34	-9
Additions during the period	5,003	2,010
Acquisition of business unit		211
Disposals during the period	-144	-18
Transfer to assets		7
Acquisition cost at the end of the period	49,814	44,921
Accumulated depreciations Jan. 1	-41,105	-39,234
Translation differences	-34	9
Depreciation for the period	-2,347	-1,867
Depreciations on disposals	32	-13
Carrying amount at the end of the period	6,361	3,817
Other tangible assets		
Acquisition cost Jan. 1	88	88
Acquisition cost at the end of the period	88	88
Carrying amount at the end of the period	88	88

Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Property, plant and equipment total		
Acquisition cost Jan. 1	56,066	45,432
Translation differences	34	-9
Additions during the period	12,196	9,049
Acquisition of business unit	0	1,605
Disposals during the period	-199	-18
Transfer to assets	0	7
Acquisition cost at the end of the period	68,097	56,066
Accumulated depreciations Jan. 1	-43,476	-41,321
Translation differences	-34	9
Depreciation for the period	-2,726	-2,150
Depreciations on disposals	84	-13
Carrying amount at the end of the period	21,946	12,591
Finance leases		
The Group had the following amounts of property, plant and equipment acquired by finance leases:		
Machinery and equipment		
Acquisition cost	6,551	5,793
Accumulated depreciations	-5,376	-4,373
Carrying amount at the end of the period	1,175	1,420

Additions of property, plant and equipment include assets acquired by finance leases of EUR 0.8 million in 1.1.–31.12.2017 (EUR 0.9 million in 2016).

13. INTANGIBLE ASSETS

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Capitalized development expenses		
Acquisition cost Jan. 1	10,855	9,763
Additions during the period	5,764	932
Acquisition of business unit		161
Acquisition cost at the end of the period	16,619	10,855
Accumulated depreciations Jan. 1	-4,412	-4,129
Depreciation for the period	-339	-283
Carrying amount at the end of the period	11,868	6,443
Intangible rights		
Acquisition cost Jan. 1	3,889	3,769
Additions during the period	388	47
Acquisition of business unit		73
Transfer to assets	-33	
Acquisition cost at the end of the period	4,244	3,889
Accumulated depreciations Jan. 1	-2,652	-2,319
Depreciation for the period	-352	-334
Carrying amount at the end of the period	1,239	1,237
Customer relations and technology		
Acquisition cost Jan. 1	1,688	524
Acquisition of business unit		1,164
Acquisition cost at the end of the period	1,688	1,688
Accumulated depreciations Jan. 1	-173	-73
Depreciation for the period	-241	-101
Carrying amount at the end of the period	1,274	1,515

Notes to the Consolidated Financial Statements

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Other intangible assets		
Acquisition cost Jan. 1	3,406	3,336
Translation differences	-13	3
Additions during the period	528	66
Transfer to assets	33	
Acquisition cost at the end of the period	3,955	3,406
Accumulated depreciations Jan. 1	-3,323	-3,246
Translation differences	13	-3
Depreciation for the period	-75	-73
Carrying amount at the end of the period	570	84
Intangible assets total		
Acquisition cost Jan. 1	19,838	17,392
Translation differences	-13	3
Additions during the period	6,680	1,045
Acquisition of business unit	0	1,398
Acquisition cost at the end of the period	26,506	19,838
Accumulated depreciations Jan. 1	-10,560	-9,766
Translation differences	13	-3
Depreciation for the period	-1,008	-791
Carrying amount at the end of the period	14,951	9,278
Goodwill		
Acquisition cost Jan. 1	6,737	1,440
Translation differences	-27	7
Disposals during the period	-890	5,290
Carrying amount at the end of the period	5,820	6,737

Impairment Test

The cash flow forecasts employed in impairment test calculations are based on the budgets for 2018 and the Long Range Plans (LRP) for 2019–2020 approved by management for the strategical period and management estimations for 2021–2022. Cash flows beyond five-year period are calculated by using the terminal value method. Future cash flows are exposed to the risks that are discussed in section “Risks and uncertainties” in the Report by the Board of Directors.

The used discount rate in impairment testing is Weighted Average Cost of Capital (WACC) before tax defined for Bittium. WACC defines average costs of equity and debt by noticing the risks belonging to the each component. The components of WACC are risk-free interest rate, market risk premium, beta, cost of debt, corporate income tax rate and target capital struc-

ture. WACC calculated according to these parameters amounted to 9.8 percent (9.8 percent in 2016).

In 2017 Wireless business did not reach the cash flow forecasted in the impairment test calculation in 2016. This was mainly because of slower growth in the product business as expected. There were no fundamental changes in the business environment that would make an impact to the cash flow expectations compared to the previous financial year.

The impairment test is done when needed, but at least once a year. Impairment tests made in December 2017 did not indicate need for impairment bookings. Recoverable amounts exceed significantly the book value of goodwill and other assets. The terminal value represents 84 percent of business value. Product business grew slower than expected and also investments to the

development of a new products move focus of forecasted net present value based cash flows from the near future to further in the future.

Sensitivity analysis was also carried out during the impairment test. Cash flow forecast was either decreased by 20 percent or the discount factor was increased by 5 percent. It was noticed that cash flows are relatively sensitive to increase in discount factor. However, there are no expectations for impairment losses in the future.

Notes to the Consolidated Financial Statements

14. ACQUISITIONS

Acquisitions in 2017

In 2017 the Group did not have acquisitions.

Acquisitions in 2016

November 10, 2016 Bittium Technologies Ltd, a subsidiary of Bittium Corporation acquired the ownership in Mega Electronics Ltd, specialized in healthcare technology, by purchasing 100 percent of the shares in Remega Ltd. Mega Electronics Ltd is a fully owned subsidiary of Remega Ltd. Mega Electronics Ltd owned 28.2 percent of the shares in MegaKoto Ltd, a company specialized in healthcare services, and was signed binding share purchase agreements to ac-

quire 100 percent of the shares in MegaKoto Ltd. The acquisition of the rest of the shares in MegaKoto Ltd was completed as planned.

Their consolidated proforma net sales was approximately EUR 3.1 million in 2015 and pro forma operating profit was approximately EUR 0.2 million. The companies employ altogether 28 persons and are located in Kuopio, Finland.

The debt free cash purchase price of the share acquisition, including the purchase price of MegaKoto shares, is EUR 8.0 million, which will be adjusted based on the

level of cash, debt and networking capital of the acquired companies as of completion of the acquisition. In addition to the aforementioned purchase price, an additional purchase price, capped at EUR 1.0 million, is payable upon the achievement of certain financial performance targets for the acquired business between January 1, 2017 and December 31, 2018. The potential additional purchase price will be paid in cash after achieving the goals.

The net assets of the company on the acquisition date were:

1000 EUR	2016
Assets	
Intangible assets	1,398
Tangible assets	1,605
Investments	10
Inventories	1,379
Receivables	649
Cash	106
Assets total	5,148
Provisions	
Non-current loan	1,575
Other liabilities	1,396
Liabilities total	2,972
Net assets	2,176
Goodwill	5,290
Purchase price	7,466

15. SHARES IN ASSOCIATED COMPANIES

On June 16, 2017 Bittium Medanalytics Oy, part of Bittium group, and Coronaria Hoitoketju's subsidiary Coronaria Analyysipalvelut Oy, signed agreements according to which Bittium Medanalytics Oy sells its remote diagnostic service business to Coronaria Asiakaspalvelut Oy. According to the agreement Bittium supplies its web-based service kardiolog.fi used in monitoring cardiac abnormalities to Coronaria's use. Kardiolog.fi service is used by more than 70 Finnish health centers and private medical centers.

Further, Bittium Technologies Ltd, part of Bittium group, acquired 25 percent of the shares in Coronaria Analyysipalvelut Oy. Through this joint ownership Bittium and Coronaria aim at gaining synergies from Bittium's device and system development and the interfaces formed by Coronaria's clinical medicine and services.

Coronaria Analyysipalvelut Oy has been consolidated using the equity method. The domicile of the company is Oulu and Bittium group has 25 percent of the shares of the company in the end of 2017.

1000 EUR

2017

Shares in associated companies	
Coronaria Analyysipalvelut Oy	1,220
Other associated companies	22
Assets total	1,242
Coronaria Analyysipalvelut Oy	
Current assets	1,050
Non-current assets	1,188
Non-current liabilities	63
Turnover	4,364
Net profit	834
Reconciliation of financial information of the associated company to asset value of the group	
Net assets of associated company	457
Share % of ownership	25%
Share of net assets	114
Goodwill	839
Other intangible assets	289
Other items	-22
Carrying value of the associated company	1,220

Notes to the Consolidated Financial Statements

16. OTHER FINANCIAL ASSETS

1000 EUR	2017	2016
At 1 January	132	122
Additions		10
Disposals	-20	
At the closing date	112	132

17. DEFERRED TAX LIABILITIES AND ASSETS

1000 EUR	Jan. 1, 2017	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2017
Deferred tax assets				
Unutilized losses in taxation	360	162		523
Other items	1,156	784		1,940
Total	1,516	947	0	2,463

On December 31, 2017 the Group had 78.0 million euros tax losses and non-depreciated depreciations of which it had not booked deferred tax receivables due to the uncertainty of the future profits, their timing, taxation or location. The amount of these non booked deferred tax receivables is approximately 15.6 million euros. The aging of these tax losses begins from year 2018.

1000 EUR	Jan. 1, 2017	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2017
Deferred tax liabilities				
Customer and technology assets	461	-83		377
Total	461	-83	0	377

1000 EUR	Jan. 1, 2016	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2016
Deferred tax assets				
Unutilized losses in taxation	0	360		360
Other items	1,156			1,156
Total	1,156	360	0	1,516

On December 31, 2016 the Group had 79.5 million euros tax losses and non-depreciated depreciations of which it had not booked deferred tax receivables due to the uncertainty of the future profits, their timing, taxation or location. The amount of these non booked deferred tax receivables is approximately 16.4 million euros. The aging of these tax losses begins from year 2017.

1000 EUR	Jan. 1, 2016	Recognized in the income statement	Acquisitions and disposals of subsidiaries	Dec. 31, 2016
Deferred tax liabilities				
Customer and technology assets	90	-83	454	461
Total	90	-83	454	461

Notes to the Consolidated Financial Statements

18. INVENTORIES

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Raw materials and supplies	5,797	2,179
Work in progress	3,193	790
Finished products	742	1,089
Other inventories	843	39
Total	10,574	4,097

19. TRADE AND OTHER RECEIVABLES (CURRENT)

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Non-current receivables	210	
Non-current receivables total	210	
Current receivables:		
Trade receivables	13,891	18,285
Receivables from construction contracts	1,289	2,803
Prepaid expenses and accrued income	2,285	2,327
Other receivables	684	603
Current receivables total	18,151	24,018

Receivables are valued at nominal value or probable current value, whichever is lower.

During the financial year group has booked impairment losses from accounts receivable EUR 0.0 million (EUR 0.0 million 2016).

Age distribution of accounts receivable		
Current	10,012	14,572
Aged Overdue Amounts		
0-3 months	2,897	3,703
4-6 months	297	
7-12 months	667	10
> 12 months	18	
Total	13,891	18,285

20. FINANCIAL ASSETS AT FAIR VALUE THROUGH PROFIT OR LOSS

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Currency derivatives		
Balance sheet value on Jan. 1		67
Changes in fair value		-67
Balance sheet value at the end of the period	0	0
Interest rate funds		
Balance sheet value on Jan. 1	66,935	66,032
Disposals	-11,000	
Changes in fair value	466	903
Balance sheet value at the end of the period	56,401	66,935
Financial assets at fair value through profit or loss total		
Balance sheet value on Jan. 1	66,935	66,100
Disposals	-11,000	0
Changes in fair value	466	836
Balance sheet value at the end of the period	56,401	66,935
21. CASH AND SHORT-TERM DEPOSITS		
Cash and short-term deposits	6,518	27,987
Total	6,518	27,987
Cash and cash equivalents at consolidated cash flow statement consist of:		
Interest rate funds	56,401	66,935
Cash and short-term deposits	6,518	27,987
Total	62,919	94,922

Fair value of cash and cash equivalents does not significantly differ from the carrying amount.

Notes to the Consolidated Financial Statements

22. ISSUED CAPITAL AND RESERVES

	Shares 1000 PCS	Share premium 1000 EUR	Premium fund 1000 EUR	Invested non- restricted equity fund 1000 EUR	Total 1000 EUR
On December 31, 2016	35,693	12,941	0	25,953	38,894
On December 31, 2017	35,693	12,941	0	25,953	38,894

Shares and the Share Capital

The shares of Bittium Corporation are listed on the NASDAQ OMX Helsinki Ltd. The Corporation has one series of shares. All the shares entitle their holders to dividends of equal value. Each share has one vote. The share does not have a nominal value. The Company's shares have been entered into the Finnish Central Securities Depository Ltd's book-entry securities system.

At the end of the financial period, the fully paid share capital of the Company entered into the Finnish Trade Register was EUR 12,941,269.00 and the total number of the shares was 35,693,166. The accounting per value of the Company's share is EUR 0.10. The Company is not in the possession of its own shares.

Translation Differences

The translation reserve comprises all foreign exchange differences arising from the transition of the financial statements of foreign subsidiaries.

Dividends

The Board of Directors proposes that the Annual General Meeting resolve to pay EUR 0.30 of dividend per share based on the adopted balance sheet for the financial period of January 1, 2017–December 31, 2017.

23. SHARE-BASED PAYMENT PLANS

During the financial year 2017 the group has paid 40 percent of total remuneration of the Board of Directors of Bittium Plc by the shares of Bittium. The shares were acquired from the stock exchange. The main terms of the remuneration arrangement are presented in the table below.

Share-based remuneration of the board of directors

Form of the reward	Shares
Grant date	5.5.2017
Total amount of the executed shares	10,125
Share price at the grant date, EUR	6.39
Total expenses of the reward, EUR million	0.1
Vesting conditions	Ownership of the shares was transferred to the recipients at once but the recipients have agreed the lock-up undertaking until the membership in the board have ceased.
Execution	In shares

24. PROVISIONS

1000 EUR	Guarantee provisions	Others	Total
Dec 31, 2016	1,033	1,245	2,278
Increase in provisions	640		640
Utilized provisions	-320	-180	-500
Reversal of utilized provisions	-275	-1,000	-1,275
Dec 31, 2017	1,077	66	1,143
Current provisions	1,077	66	1,143
Total	1,077	66	1,143

Reversal of 1M€ in other reserves relates to discontinued operations, further disclosed in the note 2.

Notes to the Consolidated Financial Statements

25. FINANCIAL LIABILITIES

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Non-current loans		
Bank loans		1,325
Finance lease liabilities	484	631
Total	484	1,956
Current loans		
Finance lease liabilities	720	825
Repayments of non-current bank loans	5	372
Total	725	1,198
Repayment schedule of long-term loans:		
2018		743
2019	363	411
2020	104	327
2021	14	
Later	3	475
Total	484	1,956

The interest-bearing non-current loans are distributed by currency as follows:

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
EUR	484	1,956
Total	484	1,956

The interest-bearing current loans are distributed by currency as follows:

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
EUR	725	1,198
Total	725	1,198

Maturities of the finance lease liabilities:

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Finance lease liabilities - minimum lease payments	1,236	1,501
Within one year	743	857
After one year but no more than five years	493	645
After five years	0	0
Finance lease liabilities - Present value of minimum lease payments	1,204	1,456
Within one year	720	825
After one year but no more than five years	484	631
After five years	0	0
Future finance charges	32	46
Total amount of finance lease liabilities	1,236	1,501

Notes to the Consolidated Financial Statements

26. CHANGES IN LIABILITIES ARISING FROM FINANCING ACTIVITIES

1000 EUR	Jan. 1, 2017	Cash flows	New leases	Dec 31, 2017
Current interest-bearing loans and borrowings (excl. items listed below)	374	-374		0
Obligations under finance leases and hire purchase contracts	1,456	-1,010	758	1,204
Non-current interest-bearing loans and borrowings	1,323	-1,323		0
Total liabilities from financing activities	3,154	-2,707	758	1,204

27. TRADE AND OTHER PAYABLES

1000 EUR	31.12.2017	31.12.2016
Non-current liabilities		
Other non-current liabilities, non-interest bearing		
Non-current advances received	190	102
Other non-current liabilities, non-interest bearing	488	500
Total	678	602
Current liabilities		
Trade and other payables		
Trade liabilities	9,162	3,711
Accrued liabilities, deferred income	6,023	6,643
Other liabilities	3,116	5,822
Total	18,302	16,176
Material of accrued expenses and deferred income consist of personnel expenses and other accruals.		
Fair value of the other liabilities than derivatives doesn't significantly differ from the initial carrying value, because the impact on discounting is not significant when taking into account the maturities of the loans.		
Financial liabilities at fair value through profit or loss		
Liabilities based on derivatives		
Balance sheet value on Jan. 1	6	0
Changes in fair value	-6	6
Balance sheet value at the end of the period	0	6

28. FINANCIAL RISK MANAGEMENT

Under its normal business activities, Bittium Corporation is exposed to several financial risks. The primary financial risks are foreign exchange rate risk, interest rate risk, investment risk and default risk. The goal of the Group's financial risk management function is to reduce adverse effects of price fluctuations and other uncertainties on earnings, balance sheet and cash flows as well as to ensure sufficient liquidity. In its risk management, the Group uses financial instruments such as forward exchange agreements and interest rate swaps. External professional portfolio managers are employed for investing activities.

The Group's general risk management principles are approved by the Board of Directors. The responsibility for their implementation lies with the group finance department together with operational units. The Group finance department identifies and assesses risks and obtains relevant financial instruments for hedging them in close co-operation with the operative units. Management evaluates risk concentrations from the viewpoint of business activities, taking into consideration shared factors between underlying variables such as those arising from changes in economic conditions or other variables. Operations and funding programs executed in the financial markets are mainly concentrated into the parent company. Subsidiaries are mainly funded through intra-Company loans and Group account overdraft credit limits.

The Group's financial risks are divided into market, default and liquidity risk.

Market Risks

Market risks are caused by changes in foreign exchange rates, interest rates and the price of securities. Fluctuations in these may have an impact on the Group's income statement, cash flow or balance sheet.

Foreign Exchange Rate Risk

The Group operates globally and is exposed to transaction risk from foreign exchange positions as well as to risks due to the translation of investments in different currencies to the functional currency of the parent company. The most relevant currencies for the Group are the Euro and the US dollar. Foreign exchange rate risk is caused by commercial activities, monetary items on the balance sheet and net investments in foreign subsidiaries. A business unit's functional currency or generally used currencies (EUR, USD) are used as invoicing currency. Additional information on functional currency and foreign currency conversion is available in the accounting principles section of the consolidated financial statements.

The Group follows a currency strategy that aims at securing the margin of business activities in changing market conditions by minimizing the effect of fluctuations in foreign exchange rates. According to the principles of the currency strategy, surely considered and the most probable net cash flow in a particular currency is hedged as net position. The cash flow is defined based on the net position of the trade receivables, trade payables, order intake and forecasted net currency cash flow. According to the currency strategy the degree of hedging can vary from approximately 50 percent to 100 percent of the forecasted net position when net position exceeds EUR 1 million. The Group could also apply hedge accounting as defined in the IAS 39 standard. Hedge accounting was not applied during 2017. At the end of the financial period the counter value of the hedged net position was EUR 0.0 million. During the financial year the amount of the hedged position has been changing between EUR 0.0–5.0 million.

The Group has hedged the transaction risk related to its income statement and the translation risk related to equity on the balance sheet or economic risk has not hedged. Foreign currencies denominated equities of foreign subsidiaries on December 31, 2017 was EUR 2.0 million (EUR 3.2 million in 2016) from which dollar denominated equities of foreign subsidiaries was EUR 1.0 million (EUR 1.8 million in 2016).

Notes to the Consolidated Financial Statements

On the closing date, the Group had the following foreign exchange derivative contract nominal amounts outstanding (the nominal amounts do not represent the amounts exchanged by the parties):

1000 EUR	2017	2016
Forward contracts		
Market value		-6
Nominal value		5,000

Dollar denominated assets and liabilities translated to euros using the closing date's value:

1000 EUR	2017	2016
Long-term assets	0	1
Long-term liabilities	0	759
Current assets	1,809	2,676
Current liabilities	848	111

The table below describes the 10 percent appreciation or depreciation of the Euro against the US dollar, other variables remaining constant. The sensitivity analysis is based on foreign currency denominated assets and liabilities as of the closing date. The change in dollar denominated trade receivables and debt would primarily have been due to fluctuations in the foreign exchange rate.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2017	2016	2017	2016
EUR appreciates	-100	-200	-100	-200
EUR depreciates	100	200	100	200

Interest Rate Risk

Part of the Group's debt is tied to fixed interest rates.

At the closing date, the Group had the following fixed interest rate debts outstanding:

1000 EUR	2017	2016
Fixed interest rate debts	1,209	2,063

The table below describes the interest rate risk of debts should there have been a ± 1 percent change in interest rates of short term reference interest rate debts, other variables remaining constant. The figures presented indicate the change in yearly interest expense calculated using the average amount of debt during the financial period.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2017	2016	2017	2016
Loan stock January, 1	3,200	1,400		
Loan stock December, 31	1,200	3,200		
Average loan stock	2,200	2,300		
Change in interest	+/- 0	+/- 0	+/- 0	+/- 0

Market Risk of Investment Activities

The Group's interest investments result in interest rate exposure, but their effect is not considered significant. The Group's revenue and operative cash flows are mainly independent of market rate fluctuations.

The Group invests in low-risk interest rate funds and therefore it has not been exposed to security price risk of fluctuations in the stock markets. According to the Group's principles, investments related to cash management are made in liquid and low-risk money market or bond instruments

and thus have not been hedged using derivatives.

The table below describes the distribution of investments in securities at the closing date.

	2017	2016
Stock shares	0.0 %	0.0 %
Bonds	64.1 %	65.2 %
Money market investments	35.9 %	34.8 %
Total	100.0 %	100.0 %

Notes to the Consolidated Financial Statements

The combined value of the above instruments during the financial period has ranged from approximately EUR 56.4 to EUR 67.4 million. At closing date their value was approximately EUR 56.4 million. This risk concentration has been managed by investing in well spread and low-risk money market funds.

The table below describes the price risk of the investments if they had exhibited a ± 1 percent change in a market rate of interest, other variables remaining constant. Financial assets that are recognized at market value in the income statement affect net income. Changes in the value of for-sale financial assets affect equity. In the cal-

culations it is presumed that the Group's investments change with the interest rate level in question. The sensitivity analysis describes the total market risk of investment activity because all investments are in the interest rate instruments.

1000 EUR	Changes in income statement before tax		Changes in equity before tax	
	2017	2016	2017	2016
Interest investments	+/- 400	+/- 400	+/- 400	+/- 400

Default Risk

Group's credit risks are mainly related to accounts receivable, cash, financial investments and derivatives used in hedging. In its deposit, financial investment and hedging activities Bittium operates only with well-known partners who have good credit rating.

About 84 percent of the Group's trade receivables are from ten customers. The other trade receivables are distributed among a wide customer base and across several geographical areas. Credit risk is mitigated for example by documentary credits or bank guarantees when needed. Default risk concentration is mainly assessed as a single customer's share of total trade receivables but also according to the receivable's date of maturity.

Bittium's significant default risk concentration is EUR 0.7 million which represents approximately 5.1 percent of the total accounts receivable.

During the past financial year the amount of recognized credit losses was approximately EUR 0.0 million (EUR 0.0 million in 2016). The amount of loans granted to affiliated company were EUR 0.1 million at the

end of 2017 (EUR 0.0 million in 2016). Group did not have capital loans granted outside of the Group at the end of 2017 (EUR 0.0 million in 2016).

The amount of the Group's counterparty default risk is consistent with the book value of financial assets at the closing date. For the maturity distribution of trade receivables, see note 19.

Liquidity Risk

The Group and business segments strive to continuously evaluate and monitor the amount of liquid funds needed for business operations and loan repayments. The Group strives to guarantee the availability and flexibility of financing by its strong financial position and liquid investments. The Group has also EUR 10.0 million credit facility agreement with Nordea Bank AB, Finland branch and EUR 10.0 million credit facility agreement with OP Corporate Bank Plc. From these agreements, intended for general financing purposes, EUR 10.0 million are valid until December 31, 2018 and EUR 10.0 million until December 31, 2019. The agreements include conventional covenants that are, among others, related to equity ratio, transfer and pledge of the assets. These credit facilities were in use EUR

0.0 million at the end of the reporting period. For the maturity distribution of the Group's debt, see note 25.

Capital Structure Management

The Group strives to optimize its capital structure and thus support business activities by ensuring normal operating conditions under all circumstances. An optimal capital structure also ensures that the cost of capital is minimized.

The capital structure is affected by dividend policy and share issuance. The Group can alter and adjust dividends paid to shareholders as well as share repurchases. The Group can also alter and adjust the amount of shares issued, or make decisions on the sale of assets.

The management has continuously monitored the development of the Group's net gearing and solvency ratio. The Group's interest bearing net debt at the end of 2017 was EUR -61.7 million (EUR -91.8 million in 2016) and net gearing was -52.9 percent (-70.3 percent in 2016). The Group's solvency ratio at the end of 2017 was 85.6 percent (87.0 percent in 2016).

Fair Values of Financial Assets and Liabilities

This section presents the Group's fair valuing principles for all financial instruments. The table below presents book values for each item in detail. Their fair values are not considered to materially differ from the book values presented in the consolidated balance sheets.

1000 EUR	Note	Book value 2017	Fair value 2017	Book value 2016	Fair value 2016
Financial assets					
Other financial assets	16	112	112	132	132
Trade receivables and other receivables	19	18,151	18,151	24,018	24,018
Financial assets at fair value through profit or loss	20	56,401	56,401	66,935	66,935
Cash and cash equivalents	21	6,518	6,518	27,987	27,987
Financial liabilities					
Bank loans	25	5	5	1,698	1,698
Finance lease liabilities	25	1,204	1,204	1,456	1,456
Trade payables and other debts	17, 24, 26	20,500	20,500	19,518	19,518
Currency forwards	27			6	6

Investments in Shares and Funds and Other Investments

For-sale financial assets consist mainly of money market investments that fair values are based on the quotes of the closing day (IFRS 7 fair value hierarchy level 1; quoted prices (unadjusted) in active markets for identical assets or liabilities).

Derivatives

The fair values of forward contracts are defined based on publicly quoted currency and interest rate information and using commonly accepted valuation methods (IFRS 7 fair value hierarchy level 2; instruments whose fair value is observable either directly (i.e. as prices) or indirectly (i.e. derived from prices)). These calculations have been carried out by an outside professional party.

Bank Loans

Book values are considered to closely approximate fair values.

Finance Lease Liabilities

Book values are considered to closely approximate fair values.

Trade Receivables and Other Receivables

The original book value of receivables is considered to equal their fair values, since the effect of discounting is non-significant considering the maturities of the receivables.

Trade Payables and Other Debts

The original book value of payables and other debts is considered to equal their fair values, since the effect of discounting is non-significant considering the maturities of the receivables.

Notes to the Consolidated Financial Statements

29. ADJUSTMENTS TO NET CASH FROM OPERATING ACTIVITIES

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Business transactions without payments		
Depreciations	3,902	3,263
Share of profits in associated companies	-39	
Employee benefits		246
Other adjustments	-1,673	-1,076
Total	2,189	2,434

30. OPERATING LEASE AGREEMENTS

The Group as lessee

The total of future minimum lease payments under non-cancellable operating leases for each of the following periods:

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Not later than one year	516	2,169
Later than one year and not later than five years	914	222
After five years	63	

The Group owns its facilities in Oulu and Kuopio. The facilities in other locations are rented. In average the maturities of the lease agreements are from 1 month to 5 years and normally they include an option to extend the rental period from originally agreed end date.

The Group as lessor

The Group has leased the excess office and production facilities with lease agreements valid until further notice. These agreements have been released at the end of year 2017.

31. SECURITIES AND CONTINGENT LIABILITIES

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
Against own liabilities		
Floating charges	1,000	3,607
Guarantee limits at the maximum	10,217	2,281
Other contractual liabilities		
Falling due in the next year	1,884	2,078
Falling due after one year	995	33
Mortgages are pledged for liabilities totaled		
Loans from financial institutions		3,216
Other liabilities (guarantees issued)	1,201	
Material purchase commitments	9,882	3,603

32. RELATED PARTY DISCLOSURES

The Group has the following structure:

	Country of incorporation	Owned by Parent %	Owned by Group %
Parent			
Bittium Oyj	Finland		
Subsidiaries			
Bittium Technologies Oy	Finland	100.00	100.00
Bittium Wireless Oy	Finland	0.00	100.00
Bittium Safemove Oy	Finland	0.00	100.00
Bittium Biosignals Oy	Finland	0.00	100.00
Bittium Medanalytics Oy	Finland	0.00	100.00
Kiinteistöosakeyhtiö Oulun Ritaharjuntie 1	Finland	0.00	100.00
Bittium Germany GmbH i.G.	Germany	0.00	100.00
Bittium Mexico S.A. de C.V.	Mexico	0.00	100.00
Bittium USA, Inc.	USA	0.00	100.00
Bittium Technology (Beijing) Co. Ltd	China	0.00	100.00
Bittium Singapore Pte. Ltd	Singapore	0.00	100.00

Information on the associated companies is presented in the note no. 15.

Related party transactions and balances:

1000 EUR	2017
Associated companies	
Net sales	172
Receivables	336

Notes to the Consolidated Financial Statements

1000 EUR	2017	2016
Employee benefits for key management		
Salaries and remuneration		
Managing director of the parent		
Hannu Huttunen 1.1.–31.12.2016, 1.1.–31.12.2017	214	214
Total	214	214
Remuneration of the members of the board of the parent, the financial committee and the managing directors of the business segments		
Staffan Simberg 1.1.–31.12.2016, 1.1.–31.12.2017	18	21
Erkki Veikkolainen 1.1.–31.12.2016, 1.1.–31.12.2017	25	31
Kirsi Komi 1.1.–31.12.2016, 1.1.–31.12.2017	17	20
Juha Putkiranta 1.1.–31.12.2016, 1.1.–31.12.2017	14	18
Seppo Mäkinen 1.1.–31.12.2016, 1.1.–31.12.2017	14	18
Tero Ojanperä 1.4.–31.12.2017	10	
Total	99	107
Members of the group executive board	804	929
Share-based incentives		
Board of Directors	66	54
Managing Director		66
Members of the Group executive board		180
Total	66	300

There have not been any business transactions or open balances between the related parties.

Loans and guarantees to related party

There are no loans or guarantees granted between the related parties.

33. SIGNIFICANT EVENTS DURING THE REPORTING PERIOD

On July 6, 2017 Bittium announced that the Finnish Minister of Defence Jussi Niinistö had authorized Finnish Defence Forces to purchase Bittium Tactical Wireless IP Network (TAC WIN) system products. Bittium and Finnish Defence Forces plan to sign a Framework Agreement for the delivery of Bittium TAC WIN products, that covers years 2018–2020, with the total value of the agreement being EUR 30 million (excl. VAT) if materialized in full. According to the Framework Agreement, Finnish Defence Forces would issue separate purchase orders for the products each year. The Framework Agreement did not change Bittium's financial outlook for the year 2017.

The Framework Agreement was told to be a continuation to the long cooperation between the Finnish Defence Forces and Bittium. It will continue the renewal of the Finnish Defence Forces' command, control and communications system, where the Software-Defined Radio based Bittium TAC WIN system acts as the backbone for tactical data transfer. The Framework Agreement was signed on August 9, 2017.

On August 8, 2017 Bittium announced that Bittium Wireless Ltd, a subsidiary of Bittium Corporation, and the Finnish Defence Forces have signed a Letter of Intent concerning the purchase of new software defined radio (SDR) based tactical radios and the preparations of the purchase. The Letter of Intent encompasses products belonging to the new Bittium Tough SDR product family: tactical handheld radio Bittium Tough SDR Handheld and tactical vehicular radio Bittium Tough SDR Vehicular. According to the Letter of Intent, Bittium will develop the products with their own R&D investments and the Finnish Defence Forces will support the development work by ensuring that the

products are suitable for their purposes and by making preparations for the purchase of the products.

The Letter of Intent does not bind the parties into making a purchase agreement. Making the purchase agreement requires that the Finnish Ministry of Defence first authorizes the purchase, based on which Bittium and the Finnish Defence Forces would then make a separate purchase agreement. Based on the Letter of Intent, if materialized in full, the total value of the purchase agreement would be approximately EUR 130 million distributed over about 10 years. The Letter of Intent is in force until the binding purchase agreement comes into effect or until December 31, 2019. Should the purchase materialize in full, it would have a significant impact on Bittium's net sales from the year 2019 onward. The Letter of Intent did not change Bittium's financial outlook for the year 2017. The Letter of Intent continues the long-term cooperation between the Finnish Defence Forces and Bittium in developing the performance of the command and control (C2) systems and the supporting software defined radio technology of the Finnish Defence Forces.

On October 10, 2017 Bittium Corporation lowered its financial guidance for the year 2017. The reason for this was the delay in the first phase of the product deliveries for the Mexican Mexsat satellite phone system, to be mainly executed in 2018 due to the internal reasons of Mexican governmental customers. Bittium had expected earlier those product deliveries to be executed during the second half of 2017.

Bittium announced that it expects that the net sales in 2017 will be lower than in the previous year (EUR 64.2 million, in 2016).

The operating result was expected to be clearly negative (EUR 2.5 million, in 2016). In the Half Year Financial Report January-June 2017, published on August 9, 2017 Bittium still expected that the net sales in 2017 will be at the same level as in the previous year (EUR 64.2 million, in 2016) and the operating result to be negative (EUR 2.5 million, in 2016).

The decline in the amount of the product deliveries of the Mexsat mobile devices in 2017 did not change Bittium's long-term growth outlook. The year 2017 had already been expected to be challenging mainly due to the termination of significant customer cooperation with a global network equipment manufacturer.

Notes to the Consolidated Financial Statements

34. SUBSEQUENT EVENTS

The Group management is not aware of any significant events after balance sheet date, that would have had impact on the consolidated financial statements.

35. KEY RATIOS

	IFRS 2017	IFRS 2016	IFRS 2015	IFRS 2014	IFRS 2013
	Continuing operations	Continuing operations	Continuing operations	Continuing operations	
INCOME STATEMENT, MEUR					
Net sales, MEUR *)	51.6	64.2	56.8	52.7	199.3
Net sales change, %	-19.6	13.0	7.8		14.6
Operating profit/loss, MEUR *)	-6.2	2.5	2.3	0.8	8.1
% of net sales	-12.0	4.0	4.1	1.5	4.1
Profit/loss for continuing operations before taxes, MEUR	-5.8	3.1	2.1	0.6	7.2
% of net sales	-11.3	4.9	3.7	1.2	3.6
Profit for the year from continuing operations, MEUR	-4.8	3.5	2.3	1.3	6.7
% of net sales	-9.2	5.5	4.1	2.4	3.3
Profit after tax for the year from discontinued operations, MEUR	1.7	0.0	539.0	11.2	24.3
% of net sales	3.2	0.0	948.7	21.3	12.2
Profit for the year attributable to equity holders of the parent, MEUR	-3.1	3.5	541.3	12.5	30.9
% of net sales	-6.0	5.5	952.8	23.7	15.5
BALANCE SHEET, MEUR					
Non-current assets	46.7	30.3	14.4	48.8	46.1
Inventories	10.6	4.1	2.2	2.2	0.8
Current assets	81.1	118.9	142.8	115.8	97.4
Shareholders' equity	116.7	130.6	137.6	93.4	81.7
Non-current liabilities	1.5	3.1	2.0	7.6	6.1
Current liabilities	20.2	19.6	19.8	65.8	56.5
Balance sheet total	138.4	153.3	159.4	166.8	144.4
PROFITABILITY AND OTHER KEY FIGURES					
Return on equity % (ROE) *)	-3.9	2.6	2.0		9.0
Return on investment % (ROI) *)	-4.5	2.6	2.5		9.2
Interest-bearing net liabilities, (MEUR)	-61.7	-91.8	-121.4	-35.0	-37.7
Net gearing, %	-52.9	-70.3	-88.2	-37.4	-46.1
Equity ratio, %	85.6	87.0	90.5	62.3	65.1
Gross investments, (MEUR) *)	20.1	18.5	7.4	4.5	7.9
Gross investments, % of net sales	38.8	28.8	13.1	8.5	4.0
R&D costs, (MEUR) *)	15.0	6.9	7.3	6.9	18.5
R&D costs, % of net sales	29.1	10.8	12.9	13.0	9.3
Average personnel during the period, parent and subsidiaries *)	614	569	511	486	1627
Average personnel during the period, jointly owned company					300

*) Continuing operations. Excluding Automotive business income statements from periods 1.1.–1.7.2015 and 2014.

**) comparable key figures for 2014 N/A

	IFRS 2017	IFRS 2016	IFRS 2015	IFRS 2014	IFRS 2013
STOCK-RELATED FINANCIAL RATIOS					
Earnings per share from continuing operations, EUR					
Basic earnings per share	-0.133	0.098	0.020	0.010	0.051
Diluted earnings per share	-0.133	0.098	0.020	0.010	0.051
Earnings per share from discontinued operations, EUR					
Basic earnings per share	0.046	0.000	4.687	0.086	0.188
Diluted earnings per share	0.046	0.000	4.685	0.085	0.187
Earnings per share from continuing and discontinued operations, EUR					
Basic earnings per share	-0.087	0.098	4.708	0.096	0.239
Diluted earnings per share	-0.087	0.098	4.706	0.095	0.238
Equity per share, EUR					
	3.27	3.66	3.86	0.71	0.63
Dividend per share EUR *)					
	0.3	0.3	0.3	0.04	0.02
Dividend per earnings, %					
	-344.6	305.3	6.4	42.7	38.9
P/E ratio					
	-64.9	57.7	344.3	35.9	51.8
Effective dividend yield, %					
	5.3	5.3	4.3	1.2	0.8
Market values of shares (EUR)					
Highest	7.88	7.40	7.80	3.83	2.90
Lowest	5.55	5.15	3.27	2.30	0.64
Average	6.55	6.05	4.92	2.85	1.55
At the end of period	5.65	5.67	7.01	3.36	2.66
Market value of the stock, (MEUR)					
	201.7	202.4	249.6	441.8	346.1
Trading value of shares					
MEUR	83.1	126.4	837.1	188.0	72.0
1000 PCS	12,684	20,888	169,993	66,019	46,483
Related to average number of shares %	35.5	58.6	147.8	50.4	35.9
Adjusted number of the shares at the end of the period (1000 PCS)					
	35,693	35,693	35,600	131,493	130,101
Adjusted number of the shares average for the period (1000 PCS)					
	35,693	35,670	114,983	130,975	129,528
Adjusted number of the shares average for the period diluted with stock options (1 000 PCS)					
	35,693	35,670	115,037	131,663	130,092

*) Proposal of the BoD for 2017

Notes to the Consolidated Financial Statements

CALCULATION OF KEY RATIOS

Return on equity % (ROE)	=	$\frac{\text{Profit for the year} \times 100}{\text{Total equity (average for the accounting period)}}$
Return on investment % (ROI)	=	$\frac{\text{Profit before tax} + \text{interest and other financial expenses} \times 100}{\text{Balance sheet total} - \text{interest-free liabilities (average for the accounting period)}}$
Net gearing, %	=	$\frac{\text{Interest-bearing liabilities} - \text{cash and cash equivalents} \times 100}{\text{Total equity}}$
Equity ratio, %	=	$\frac{\text{Total equity} \times 100}{\text{Balance sheet total} - \text{advances received}}$
Earnings per share	=	$\frac{\text{Profit attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares average for the period}}$
Equity per share	=	$\frac{\text{Equity attributable to equity holders of the parent}}{\text{Share issue adjusted number of the shares at the end of the period}}$
Dividend per share	=	$\frac{\text{Dividend for the period (Board's proposal) per share}}{\text{Adjustment coefficient of post-fiscal share issues}}$
Dividend per earnings, %	=	$\frac{\text{Dividend per share} \times 100}{\text{Earnings per share}}$
P/E ratio	=	$\frac{\text{Share issue adjusted share price at the end of the period}}{\text{Earnings per share}}$
Effective dividend yield, %	=	$\frac{\text{Dividend per share} \times 100}{\text{Share issue adjusted share price at the end of the period}}$

36. SHAREHOLDINGS AND SHARES

Breakdown of Shares by Shareholding, December 29, 2017

Number of shares	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
1 - 100	9,261	42.1	438,244	1.2
101 - 500	7,086	32.2	1,883,763	5.3
501 - 1000	2,332	10.6	1,844,561	5.2
1001 - 5000	2,516	11.4	5,680,289	15.9
5001 - 10000	409	1.9	3,005,057	8.4
10001 - 50000	322	1.5	6,586,820	18.5
50001 - 100000	30	0.1	2,064,955	5.8
100001 - 500000	20	0.1	4,555,323	12.8
500001 - 999999999999	9	0.0	9,634,154	27.0
Total	21,985	100.0	35,693,166	100.0
nominee-registered	8		1,009,639	2.8

Breakdown of Shareholders by Shareholder Type, December 29, 2017

Shareholders by shareholder type	Number of shareholders	Percentage of shareholders	Number of shares	Percentage of shares and votes
Corporations	506	2,3	3,072,968	8.6%
Financial sector	9	0,0	1,409,910	4.0%
Public sector	5	0,0	3,208,121	9.0%
Non-profit organizations	31	0,1	189,442	0.5%
Households	21,353	97,1	26,635,930	74.6%
Foreign owners	73	0,3	167,156	0.5%
Nominee-registered shares	8	0,0	1,009,639	2.8%
Total	21,985	100,0	35,693,166	100.0%

Notes to the Consolidated Financial Statements

Largest Shareholders, December 29, 2017

	Number of shares	Percentage of shares and votes
Number of shares total	35,693,166	100.0
1. Hulkko Juha	1,506,955	4.2
2. Veikkolainen Erkki, Chairman of the Board	1,505,025	4.2
3. Ponato Oy	1,501,300	4.2
4. Varma Mutual Pension Insurance Company	1,365,934	3.8
5. Ilmarinen Mutual Pension Insurance Company	1,296,529	3.6
6. Nordea Bank AB (PUBL), Finnish Branch	725,029	2.0
7. Hilden Kai	658,000	1.8
8. Fondita Nordic Micro Cap Placeringsfund	567,000	1.6
9. EVLI Finnish Small Cap (fund)	508,382	1.4
10. ELO Mutual Pension Insurance Company	500,000	1.4
Total	10,134,154	28.4
Others (incl. nominee-registered shares)	25,559,012	71.6

The Board and CEO

Veikkolainen Erkki, Chairman of the Board	1,505,025	4.2
Komi Kirsi, Member of the Board	3,618	0.0
Mäkinen Seppo, Member of the Board	2,871	0.0
Ojanperä Tero, Member of the Board	1,500	0.0
Putkiranta Juha, Member of the Board	12,871	0.0
Simberg Staffan, Member of the Board*	52,871	0.1
Huttunen Hannu, CEO	10,000	0.0
Total	1,588,756	4.5

* Including the shareholdings of a company controlled by Staffan Simberg.

Income Statement, Parent

1000 EUR	Notes	2017	2016
NET SALES	1, 2	764	974
Other operating income	3	1,379	1
Personnel expenses	4	-926	-1,193
Depreciation and reduction in value	5	-9	-3
Other operating expenses	6	-910	-1,222
OPERATING PROFIT		297	-1,443
Financial income and expenses	7	813	904
PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES		1,110	-539
APPROPRIATIONS	8	540	4,000
PROFIT (LOSS) BEFORE APPROPRIATIONS AND TAXES		1,650	3,461
NET PROFIT FOR THE FINANCIAL YEAR		1,650	3,461

Balance Sheet, Parent

1000 EUR	Notes	Dec. 31, 2017	Dec. 31, 2016
ASSETS			
Non-current assets			
Intangible assets	9	68	48
Tangible assets	10	73	73
Investments	11	39,750	39,750
Non-current assets total		39,890	39,870
Current assets			
Receivables			
Current receivables	12	37,430	19,042
Receivables total		37,430	19,042
Financing securities	13	56,401	66,935
Cash and bank deposits		3,643	20,834
Current assets total		97,474	106,811
TOTAL ASSETS		137,364	146,681
SHAREHOLDER'S EQUITY AND LIABILITIES			
Shareholder's equity			
Share capital	14	12,941	12,941
Invested non-restricted equity fund		25,953	25,953
Retained earnings		94,237	101,484
Net profit/loss for the year		1,650	3,461
Shareholders' equity total		134,782	143,840
Provisions			
Provisions, non-current	15		
Provisions, current		37	1,056
Liabilities			
Current liabilities	16	2,546	1,786
Liabilities total		2,546	1,786
SHAREHOLDERS' EQUITY AND LIABILITIES TOTAL		137,364	146,681

Cash Flow, Parent

1000 EUR	2017	2016
CASH FLOW FROM OPERATING ACTIVITIES		
Profit before taxes	1,650	3,461
Adjustments:		
Depreciation according to plan	9	3
Effects of non-cash business activities	-1,559	-4,232
Financial income and expenses	-813	-904
Cash flow before change in net working capital	-713	-1,672
Change in net working capital		
Change in interest-free short-term receivables	-189	-85
Change in interest-free short-term payables	241	-81
Cash flow before financing activities	-661	-1,838
Interest paid	-864	-278
Dividends received	1	0
Interest received	1,677	1,250
Net cash from operating activities	152	-867
CASH FLOW FROM INVESTING ACTIVITIES		
Purchase of tangible and intangible assets	-30	-51
Net cash used in investing activities	-30	-51
CASH FLOW FROM FINANCIAL ACTIVITIES		
Share option plans exercised		31
Change in interest-free short-term financial receivables in Group	-21,550	-14,102
Change in interest-free short-term financial payables in Group	410	-6,080
Received group contributions	4,000	
Dividend paid and capital repayment	-10,708	-10,708
Net cash used in financial activities	-27,848	-30,860
NET CHANGE IN CASH AND CASH EQUIVALENTS	-27,725	-31,778
Cash and cash equivalents at beginning of period	87,769	119,547
Cash and cash equivalents at end of period	60,044	87,769
Change in cash and cash equivalents in balance sheet	-27,725	-31,778

Cash and cash equivalents include liquid and low risk financing securities.

Accounting Principles for the Preparation of Financial Statements

The financial statements have been prepared in accordance with the Finnish Accounting Act.

Valuation Principles

Valuation of Non-current Assets

Non-current assets are capitalized in the balance sheet at the original acquisition cost deducted by accumulated depreciation. Depreciations according to the plan is calculated either using the straight-line method or the reducing balance method, taking into consideration of the useful life of assets.

The depreciation periods are:

Intangible assets	3–10 years
Tangible assets	3–5 years

Valuation of Financial Securities

Financial securities are valued at fair value. The fair value of forward exchange are defined based on forward exchange prices on balance sheet date and option contracts are defined based on market prices on balance sheet date.

Pensions

The Company has organized pension coverage for its personnel through independent pension insurance companies. The pension insurance expenditures are included into personnel expenses.

Leasing Agreements

Leasing agreements and fixed-term rental agreements are reported as contingent liabilities off the balance sheet.

Income Tax

Taxes of the financial year have been reported in the income statement as income taxes. Deferred tax or liabilities or receivables has not been recorded on the financial statement.

Foreign Currency Items

The transactions in the income statement have been converted into euro using the exchange rate of the transaction date. Receivables and payables denominated in foreign currency have been converted into euro by using the exchange rate of the European Central Bank at the balance sheet date.

Net Sales

Sales of goods is recorded when goods have been handed over to the customer or the services have been rendered. Sales are shown net of indirect sales taxes and discounts.

Notes to the Financial Statements of the Parent Company

1000 EUR	2017	2016
1. NET SALES BY SEGMENTS		
Other functions	764	974
Total	764	974
2. NET SALES BY MARKET AREAS		
Europe	751	965
America	13	9
Asia	0	0
Total	764	974
3. OTHER OPERATING INCOME		
Other operating income	1,379	1
Total	1,379	1
<p>The other operating income includes the reversal of provisions related to the sale of Automotive segment as well as VAT returns related to sale of shares which have been returned due to changes in legal interpretation.</p>		
4. NUMBER OF PERSONNEL AND PERSONNEL EXPENSES		
Average number of personnel during the period		
Other functions	7	8
Total	7	8
Number of personnel at the end of the year	7	8
Personnel expenses *		
Management salaries	214	214
Board of Directors	165	162
Other salaries and wages	398	665
Total	776	1 041
Pension expenses	136	133
Other social expenses	14	19
Total	926	1 193
<p>* The amount does not include the calculatory costs of share-based compensation. This cost is shown in the consolidated financial statements according to IFRS. The Board of Directors salaries include the share-based compensation.</p>		
5. DEPRECIATION AND REDUCTION IN VALUE		
Intangible rights	6	2
Other capitalized long-term expenditures	2	1
Machinery and equipment	1	1
Total	9	3

Notes to the Financial Statements of the Parent Company

1000 EUR	2017	2016
6. OTHER OPERATING CHARGES		
IT equipment and SW expenses	82	76
Premises expenses	41	42
Administrative services	488	683
Travel expenses	62	84
Voluntary staff expenses	29	39
Other business expenses	208	297
Total	910	1,222
Auditor's charges		
Auditing	21	13
Tax advice	7	31
Other services	6	108
Total	33	151
7. FINANCIAL INCOME AND EXPENSES		
Income of investments		
From others	811	903
Total	811	903
Other interest and financial income		
From Group companies	432	75
From others	428	212
Total	861	286
Other interest and financial expenses		
To Group companies	1	0
To others	857	285
Total	858	285
Reduction in value of investment	0	0
Net financial income and expenses	813	904
Net financial income and expenses includes exchange gains and losses	3	-8
8. APPROPRIATIONS		
Received Group contributions	540	4,000

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
9. INTANGIBLE ASSETS		
Intangible rights		
Acquisition cost Jan. 1	246	203
Investments during the period	29	44
Acquisition cost at the end of the period	275	246
Accumulated depreciations Jan. 1	-204	-203
Depreciation for the period	-6	-2
Book value at the end of the period	64	42
Other capitalized long-term expenditures		
Acquisition cost Jan. 1	6	
Investments during the period		6
Acquisition cost at the end of the period	6	6
Accumulated depreciations Jan. 1	-1	
Depreciation for the period	-2	-1
Book value at the end of the period	4	6
Intangible assets total		
Acquisition cost Jan. 1	253	203
Investments during the period	29	50
Acquisition cost at the end of the period	281	253
Accumulated depreciations Jan. 1	-205	-203
Depreciation for the period	-8	-2
Book value at the end of the period	68	48

Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
10. TANGIBLE ASSETS		
Machinery and equipment		
Acquisition cost Jan. 1	4	3
Investments during the period	1	1
Acquisition cost at the end of the period	5	4
Accumulated depreciations Jan. 1	-3	-2
Depreciation for the period	-1	-1
Book value at the end of the period	2	2
Other tangible assets		
Acquisition cost Jan. 1	71	71
Acquisition cost Dec. 31	71	71
Book value at the end of the period	71	71
Tangible assets total		
Acquisition cost Jan. 1	75	74
Investments during the period	1	1
Acquisition cost at the end of the period	76	75
Accumulated depreciations Jan. 1	-3	-2
Depreciation for the period	-1	-1
Book value at the end of the period	73	73
11. INVESTMENTS		
Investments in subsidiaries		
Acquisition cost Jan. 1	39,749	39,749
Book value at the end of the period	39,749	39,749
Investments in other shares		
Acquisition cost Jan. 1	1	1
Book value at the end of the period	1	1
Investments total		
Acquisition cost Jan. 1	39,750	39,750
Book value at the end of the period	39,750	39,750

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
12. CURRENT RECEIVABLES		
Accounts receivable		
From Group companies	92	89
Total	92	89
Other receivables		
From Group companies	36,439	18,783
From others	133	162
Total	36,572	18,946
Prepaid expenses and accrued income		
From Group companies	540	0
From others	226	7
Total	766	7
Current receivables total	37,430	19,042
13. FINANCING SECURITIES		
Cash and cash equivalents include liquid and low risk financing securities		
Financial assets at fair value through profit or loss	56,401	66,935
14. SHAREHOLDERS' EQUITY		
Share capital at the beginning of the period	12,941	12,941
Share capital at the end of the period	12,941	12,941
Invested unrestricted equity fund at the beginning of the period	25,953	25,923
Share issue		31
Invested unrestricted equity fund at the end of the period	25,953	25,953
Retained earnings at the beginning of the period	104,945	112,192
Dividend distribution	-10,708	-10,708
Net profit for the period	1,650	3,461
Retained earnings at the end of the period	95,887	104,945
Distributable earnings at the end of the period	121,840	130,898
Shareholders' equity total	134,782	143,840

Notes to the Financial Statements of the Parent Company

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
15. PROVISIONS		
Provisions		
Provisions, current	37	1,056
Total	37	1,056
16. LIABILITIES		
Current liabilities		
Accounts payable		
To Group companies	482	61
To others	110	35
Total	593	96
Other short-term liabilities		
To Group companies	1,816	1,357
To others	29	34
Total	1,845	1,391
Accrued expenses and deferred income		
To others	108	299
Total	108	299
Current liabilities total	2,546	1,786

1000 EUR	Dec. 31, 2017	Dec. 31, 2016
17. SECURITIES AND CONTINGENT LIABILITIES		
On behalf of Group companies		
Guarantee limits	10,028	1,726
of which guarantees in use total	1,155	
Leasing liabilities		
Falling due in the next year	1,053	1,230
Falling due after one year	909	1,141
Rental liabilities		
Falling due in the next year	5	13
Contractual liabilities		
Falling due in the next year	42	78
Falling due in 1-5 years	0	
18. NOMINAL VALUE OF CURRENCY DERIVATES		
Foreign exchange forwards		
Market value		-6
Nominal value		5,000

	Owned by Parent, %	Owned by Group, %	Book value 1000 EUR
18. SHARES AND HOLDINGS			
Subsidiaries			
Bittium Technologies Oy	100.00	100.00	39,749
Other holdings by Parent			
Partnera Oy			1

Proposal by the Board of Directors on the Use of the Profit Shown on the Balance Sheet and the Payment of the Dividend

According to the parent company's balance sheet at December 31, 2017, the distributable assets of the parent company are EUR 121,840,275.23 of which the profit of the financial year is EUR 1,649,956.18.

The Board of Directors proposes that the Annual General Meeting to be held on April 11, 2018 resolve to pay EUR 0.30 per share as additional dividend based on the ad-

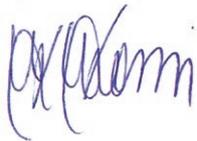
opted balance sheet for the financial period of January 1, 2017–December 31, 2017. The dividend will be paid to the shareholders who are registered as shareholders in the Company's register of shareholders as maintained by Euroclear Finland Ltd on the dividend record date, Friday April 13, 2018. The Board of Directors proposes that the dividend be paid on Friday April 20, 2018.

There have not been any substantial changes in the Company's financial position after the financial year. The Company has good liquidity and according to the Board of Directors, the proposed distribution of profits does not danger the Company's solvency.

In Oulu, on February 21, 2018



Erkki Veikkolainen
Chairman of the Board



Kirsi Komi
Member of the Board



Juha Putkiranta
Member of the Board



Staffan Simberg
Member of the Board



Seppo Mäkinen
Member of the Board



Tero Ojanperä
Member of the Board



Hannu Huttunen
CEO

Auditor's Note

Our Auditor's Report has been issued today.

In Oulu, February 21, 2018

Ernst & Young Oy
Authorized Public Accountant firm



Juhani Rönkkö, Authorized Public Accountant

Auditor's Report

(Translation of the Finnish original)

To the Annual General Meeting of Bittium Corporation

Report on the Audit of Financial Statements

Opinion

We have audited the financial statements of Bittium Oyj (business identity code 1004129-5) for the year ended 31 December, 2017. The financial statements comprise the consolidated balance sheet, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the Group's financial position as well as its financial performance and its cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

Basis for Opinion

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of our report.

We are independent of the parent company and of the group companies in accor-

dance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5(1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 5 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis

for our audit opinion on the accompanying financial statements.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

Responsibilities of the Board of Directors and the Managing Director for the Financial Statements

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the Group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the Group or cease operations, or there is no realistic alternative but to do so.

KEY AUDIT MATTER	HOW OUR AUDIT ADDRESSED THE KEY AUDIT MATTER
<p>Revenue Recognition <i>We refer to the Group's accounting policies and to the note 3</i></p> <p>Fixed price contracts in long-term construction contracts are part of the Group's business practice. These projects constitute a significant portion of the consolidated net sales. In the financial statements for 2017 the revenue recognized from these projects was 13.5 million euro, which is 26 percentage of the total net sales. The Group applies the percentage of completion method for recognizing revenue from long-term construction contracts, which involves the use of significant management estimates. E.g. the following estimates include significant management judgement for each project: stage of completion, total contract costs and the project margin. The financial outcome of a project is based on the estimates made by the management and will come more accurate when the project advances.</p> <p>In the Group net sales a key performance indicator, which might generate an incentive to prematurely recognition of revenue. Revenue recognition was determined to be a key audit matter and a significant risk of material misstatement referred to in EU Regulation No 537/241, point (c) of Article 10(2), because of the risk related to correct timing of revenue.</p>	<p>Our audit procedures in which risk of material misstatement on revenue recognition has been taken into account included, among other:</p> <ul style="list-style-type: none"> • tests of the accounting principles of the Group on revenue recognition and comparing them with the applied accounting standards; • examination of the nature of revenue, stage of completion and financial contract terms behind the revenue recognized in the long-term projects; • tests of revenue recognition, which included testing of the calculations and the estimates used in the revenue recognition; • analytical procedures on revenue and • tests of the notes of revenue recognized.
<p>Development expenses <i>Reference: Accounting principles and notes 6, 8 and 13</i></p> <p>Development projects with significant size are constantly ongoing in the Group. As of 31.12.2017 the carrying value of the development expenses was 11.9 million euro, which is 9 percentage of the total assets and 10 percentage of the equity.</p> <p>As part of the accounting process for the R&D expenses the management makes assumptions and estimates that has an effect on the carrying values and depreciation methods of R&D expenses.</p> <p>Development expenses was determined to be a key audit matter and a significant risk of material misstatement referred to in EU Regulation No 537/241, point (c) of Article 10(2), because of the above mentioned reasons there might be risk of material misstatement in the accounting of R&D expenses.</p>	<p>Our audit procedures in which risk of material misstatement on development expenses has been taken into account included, among other:</p> <ul style="list-style-type: none"> • tests of the costs capitalized and of the calculations prepared for depreciations; • tests of the production estimations made by the management; • tests of the financial profit expectations made by the management for the products developed; • tests of the notes of development expenses.

Auditor's Responsibilities for the Audit of Financial Statements

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, indi-

vidually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not de-

tecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness

of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the parent company's or the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear

on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Other Reporting Requirements

Information on Our Audit Engagement

We were first appointed as auditors by the Annual General Meeting on April 12, 2002, and our appointment represents a total period of uninterrupted engagement of 16 years.

Other Information

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises information included in the report of the Board of Directors and in the Annual Report, but does not include the financial statements and our report thereon. We obtained the report of the Board of Directors prior to the date of the auditor's report, and the Annual Report is expected to be made available to us after the date of the auditor's report.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed, we conclude that there is a material misstatement in the information included in the report of the Board of Directors, we are required to report this fact. We have nothing to report in this regard.

Oulu, February 21, 2018

Ernst & Young Oy
Authorized Public Accountant Firm

Juhani Rönkkö
Authorized Public Accountant

Bittium

Connectivity to be trusted.
www.bittium.com

Bittium / Ritaharjunte 1, FI-90590 Oulu, Finland / t. +358 40 344 2000 / f. +358 8 343 032 / www.bittium.com

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