

ANNUAL
REPORT
2022

Building Smart, Safe and Smooth Future

TELESTE



Contents

BUILDING SMART, SAFE AND SMOOTH FUTURE

Key Figures	4
CEO's review	5
Teleste's year 2022	8

YEAR 2022 AND THE WAY FORWARD

Teleste's strategy	11
Year 2022 and the way forward	12
Teleste Networks	13
Video Security and Information	15

BUILDING ON TECHNOLOGIES AND INNOVATIONS

Teleste Networks	18
Video Security and Information	20
Innovation	25

ONE TELESTE – OUR PASSIONATE PROFESSIONALS

OUR WAY OF WORKING

Operations, logistics and sourcing	31
Corporate responsibility	36

OUR MANAGEMENT

Board of directors	39
The management group	41
Information for shareholders	43

Key Figures

Teleste is an international technology group that offers an integrated product and service portfolio that makes it possible to build a networked and secure society while reducing negative impacts on the environment. Our solutions enable television and broadband services, secure safety in public places and support the smooth use of public transport.

With solid industry experience and drive for innovations, we are a leading international company in broadband, security and information technologies and related services. Our customer base consists of data communications operators, train manufacturers, public transport operators and public sector organisations. We are the world's leading technology company in our operating areas.

Net sales,
M€

165.0

(2021 144.0)

Adjusted operating result,
M€

2.0

(2021 5.5)

Adjusted earnings
per share, €

-0.01

(2021 0.21)

Orders received, M€

188.5

(2021 175.5)

Dividend, €

0.0*

(2021 0.14)

**board proposal*

TELESTE

→ **Pääsisäänkäynti**
Main entrance

CEO'S REVIEW

Solid progress and record order book growth within an exceptional operating environment

The first months of 2022 were characterised by some major events in our external operating environment: the rapidly worsening geopolitical situation in Europe, changing macro-economic landscape and rising inflation, as well as the continuing pandemic outbreak in China. The year continued under exceptional circumstances, but we were able to make solid progress towards our strategic goals. The year 2022 ended with a solid order book, notable year-on-year revenue growth and recovering profitability during the 2nd half.

In February 2022, the geopolitical landscape in Europe changed in a fundamental way when Russia started its war against Ukraine. Consequently, we suspended selling our products to Russia and Belarus. While our thoughts have been with the victims of the war, we have supported the Red Cross in providing humanitarian assistance to Ukraine and the nearby regions. Whilst the direct business impact from the war has so far been relatively

limited for Teleste, the indirect consequences made a notable impact on our operating environment, including further disruptions in logistics and material availability, as well as rising energy costs.

Global supply chains continued to be severely disrupted throughout 2022, with long and unpredictable material lead times and increasing component costs. We were able to maintain our delivery capability by significantly buffering materials into our inventories. This necessary measure led to a high increase in our net working capital, straining our liquidity reserves, which we consequently increased with new credit facilities.

Customer demand remained strong in all our operating areas, resulting in a record high order book and revenue growth. Achieving net sales growth in this exceptionally difficult component availability situation proved to be challenging and passing the rising component and material costs through to the sales prices will require continued efforts in 2023. The pressure on the gross margin continues, and it will not be fully eliminated until the global supply chains normalise.

WALKING THE TALK OF THE CABLE BROADBAND INDUSTRY'S 10G VISION

The demand for network products remained very good throughout 2022. We received new orders from broadband network operators in several European countries in various product groups and reached significant milestones in North America where we signed a master supply agreement with a major US cable broadband operator for DOCSIS 4.0-compliant 1.8 GHz amplifiers and distributed access architecture technology. We have also received another order for distributed access architecture technology from a medium-sized operator in the US, and we are in active discussions with several other operators.

Driven by increased remote working, digital services, and the growing consumption of streaming services, the demand for broadband capacity and higher end-user speeds will continue to grow. To ensure competitiveness compared to fibre-to-the-home buildouts, the cable network industry has created a technology roadmap pertaining to the next-generation DOCSIS 4.0 standard that will enable up to 10 Gbps broadband speeds to homes over the

existing coaxial cabling. The operators especially in North America are expected to invest heavily in the technology, whereas in Europe a more moderate investment wave is predicted due to some operators switching partially to fibre investments. We are increasing our efforts in the North American market and expect to start to see a gradual shift of network products' revenue from Europe to North America in the coming years.

We believe we are ahead of our competitors in the development of 1.8 GHz DOCSIS 4.0-compliant network products. In 2022, our DOCSIS 4.0 compliant passive products entered the market and were warmly welcomed by our European customer base. We also showcased our 1.8 GHz amplifier technology to several customers and the product tests are proceeding as planned with deliveries expected to commence in the second half of 2023.

SECURITY AND INFORMATION SOLUTIONS BECOMING INCREASINGLY SMART AND REAL-TIME

In video security and public transport information solutions, we received several significant new orders during the year. Deliveries progressed largely as planned, thanks to inventory buffering, whilst profitability of many fixed-price projects was strained by increasing costs. The markets, especially for public transport information systems, turned to growth again in 2022, although the availability of

components and materials continued to limit the development. We are expecting to see steady market growth in the coming years, fuelled by megatrends such as rapidly developing urban environments and their safety, the increase of sustainable public transport services and versatile smart digital systems designed for a smoother everyday life.

Ensuring competitiveness in the complex, project-based market requires Teleste to continuously make R&D investments in new intelligent solutions, and the share of software systems in these solutions will continue to grow. What this means is that our public transport information systems are developing to be increasingly smart and real-time. The intelligence of video security solutions is also increasing, including real-time mobile video surveillance systems and comprehensive situational awareness systems, which include management of additional sensor-level data flows alongside video.

STRONG COMPANY CULTURE TO DRIVE BUSINESS AND WELL-BEING

We expect volatility to continue in the external operating environment during 2023, and we do not expect the challenging supply chain situation to return to normal soon. We have launched a broad range of measures to improve profitability and optimise working capital, and these will continue during 2023. The company has also launched a programme to sharpen its strategy to lay the road for 2023 and thereafter.

Our business has a strong foundation. Despite the difficult operating environment, our order book and focus on performance provide grounds for future success together with our committed employees that have worked with focus and determination to keep our wheels turning throughout the year 2022. One of our key focus areas for 2023 is fostering a leadership and company culture that allows us, as a team, to better achieve our strategic goals and aim for great performances.

The new Teleste culture vision will be introduced in the beginning of 2023, combining the strengths and development targets that we Telestians have identified together. Our culture defines the way we are as a workplace and community, from recruitment to long-lasting careers and sustainable performance.



We aspire to be a company where all of us can be proud of what we do and the way we do it. This, we believe, will affect every facet of our business.”

*Esa Harju,
CEO of Teleste*

OUR MISSION: We make your everyday life smart, safe and smooth.

OUR VISION: To be the best partner for the networked society.

OUR VALUES: Customer centricity, respect, reliability, and result orientation.

Teleste's year 2022

~ 400

ABOUT 400 TELESTIANS answered our survey on Teleste Culture to help us find out what to be proud of within the company and where to do better.

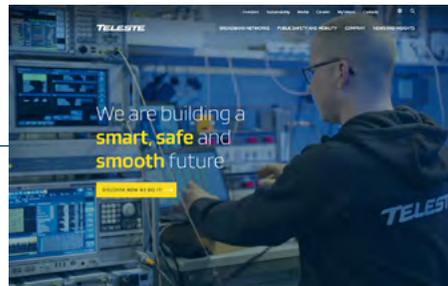


TELESTE INTERCEPT, our joint venture with Antronix in North America, celebrated its 5th anniversary.



ESA HARJU started as CEO of Teleste Corporation on January 1.

Q1



RENEWED TELESTE WEBSITE was launched to better serve our customers and all those interested in our activities.

Q2



LIVE EVENTS returned and we were thrilled to meet our customers and industry colleagues face-to-face at ANGA COM 2022.



VALERIAN SAND was appointed head of our Video Security and Information business.



EXPANSION WORK was completed at our facilities in Littoinen, Finland, bringing us additional space for logistics and manufacturing.

TELESTE LEADER FORUM engaged our team leaders to think about the importance of psychological safety and operational contingency in exceptional circumstances.



83.9

83.9% OF RESPONDENTS in our biannual MyPulse survey evaluated that we have a good team spirit.

Q3



INDUSTRY AWARD TO OUR 1.8 GHZ AMPLIFIER TECHNOLOGY. Our intelligent 1.8 GHz ICON4300 amplifier was recognised as among the best in the industry by the 2022 Broadband Technology Report's Diamond Technology Reviews.

Q4



WE JOINED the public transport industry at InnoTrans 2022, the leading international trade fair for transport technology, after four long years of waiting.



LET'S SHARE IDEAS! Our new campaign promotes innovation and open discussion throughout the company.

Year 2022 and the way forward

Teleste's strategy

KEY DRIVERS BEHIND OUR STRATEGY:

- **Climate change**

The immediate need to slow down the climate change drives everyone to find ways to reduce CO₂ emissions. At Teleste our solutions drive the use of the public transportation and high quality, intelligent communication networks that play important role in achieving the goal.

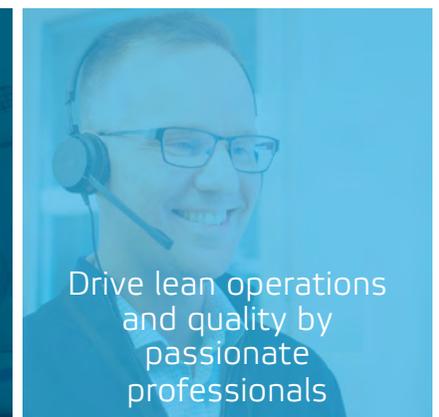
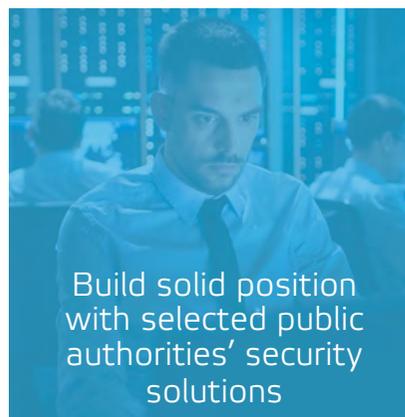
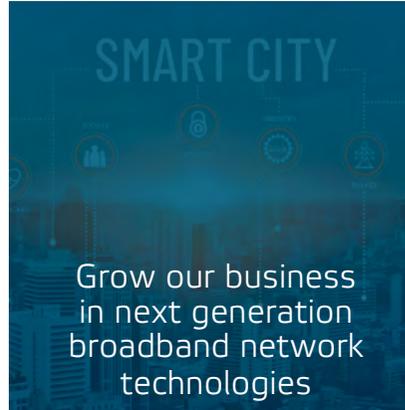
- **Globalization and urbanisation**

Urbanisation drives the demand of public transportation and highlights the need for public security. Utilising smart technologies for data communication networks and real-time sharing of information, our solutions enable smooth and safe living environments for people, while creating grounds for the networked society on a global scale.

- **Digitalization and technological development**

Digitalisation and technological development are key enablers for new, increasingly personalised, services over the internet, and phenomena such as IoT requiring high level of connectivity. Our technologies ensure multi-gigabit connectivity and networks evolving in pace with the demands for more capacity and more reliable, high-quality services.

OUR STRATEGIC CORNERSTONES:



Year 2022 and the way forward

Teleste is part of a global shift into a new era and our products and services are related to socially important and even critical functions, such as high-speed broadband connections, public transport solutions and security. Our mission is to create added value for society and people: with our products and services, we build and maintain many of the central, critical functions of society and make your everyday life smart, safe and smooth.

GROUP OPERATIONS, JANUARY-DECEMBER 2022

The demand for Teleste's products and technologies increased in 2022. Orders received by the Group grew by 7.4% and amounted to EUR 188.5 (175.5) million. Order book increased by 21.6% to EUR 132.2 (108.6) million. Net sales increased by 14.6% to EUR 165.0 (144.0) million. Both orders and net sales increased in access network products as well as in public transport information solutions and video security solutions.

The adjusted operating result decreased by 64.3% to EUR 2.0 (5.5) million. Higher material costs, personnel expenses and other operating expenses had a negative effect on the adjusted operating result. Increases to the selling prices of Teleste's products have a delayed compensating effect for the negative impact of increased costs.

Cash flow from operations was EUR -7.8 (13.5) million. Cash flow from operations was reduced by the operating result and the increase of working capital, which was due to the growth of net sales and

inventories. The Group had to significantly buffer materials and components in inventories to secure the delivery capability.

Teleste continued to invest in technology leadership and renewal of its offering to customers. Investments by the Group totaled EUR 12.1 (11.1) million, representing 7.3% (7.7%) of net sales. Of the investments, EUR 5.8 (5.7) million was related to product development. Leases capitalised in accordance with IFRS 16 amounted to EUR 2.3 (3.5) million, while other investments in tangible and intangible assets came to EUR 4.0 (1.9) million. The investments in tangible and intangible assets include the expansion of the production facility in Littoinen, Finland. Product development projects focused on next-generation distributed access architecture solutions and DOCSIS 4.0-compliant amplifiers, situational awareness and video security solutions and passenger information systems. The product development function also evaluated alternative components to address shortages in materials.

Teleste Networks

We offer broadband network and video headend solutions and technologies for telecommunications network operators. Our smart and innovative portfolio allows operators to ensure top-quality broadband and TV services for their subscribers while reducing the total cost of network ownership and maintaining flexibility towards technology changes.

We have decades of experience in broadband network and video headend technologies and how they are best utilised for offering future-proof services with extremely high availability. Our main market areas are in Europe but we aim for growth especially in North America.

DIGITALIZATION ACCELERATED BY WORLD CRISES

High-speed broadband connectivity has proved its immense value to our societies during the pandemic, enabling work from home, remote education and more. Retrospectively, we can now confirm the robustness and scalability of cable infrastructure as cable operators were able to cope well with the sudden surge in traffic during 2020 and 2021. And while the impact of the pandemic is gradually disappearing in Europe and North America, hybrid work is here to stay and accelerating digitalization is innovating new virtual applications like telemedicine, esports etc. requiring highly reliable and low-latency connectivity for our homes.

In addition, the trend of complementing broadcast TV services with streaming media over internet is continuing, offering access to content anytime – anywhere – on any device.

Modern broadband networks make all this possible. In Europe, millions of households are receiving their high-speed internet through networks built with Teleste products. We at Teleste take pride in helping societies to maintain their everyday operations during the pandemic while enabling new digital innovations in the future.

FIXED NETWORKS MOVING TO 10G CAPABLE INFRASTRUCTURE – DOCSIS 4.0 IS THE ANSWER

While distributed access architecture is reaching maturity, the cable industry has outlined its technology roadmap for the next decade under the DOCSIS 4.0 version of the cable broadband standard. This next version of DOCSIS introduces a set of technologies promising 10 Gbps speeds to consumers over existing last-mile coax networks. With this promise, cable infrastructure will maintain its competitiveness compared to fibre-to-the-home networks for the next 10+ years.

We are expecting that this industry roadmap will create an investment wave to increase speed and capacity particularly in the North American networks. In Europe, with imminent competition from fibre-to-the-home infrastructure, we are expecting several operators with cable assets to

overbuild their existing last-mile coax with fibre during the next 10 years. As a result, the upcoming investment wave in Europe for DOCSIS 4.0 will be more limited compared to the DOCSIS 3.1 wave.

During 2022, the cable industry has been able to demonstrate that the DOCSIS 4.0 10G promise is a realistic proposition. In April, CableLabs organized a 10G showcase event, where Charter Communications, the world's 2nd largest cable operator, was demonstrating a DOCSIS 4.0 end-to-end system built with early product prototypes from selected technology vendors. A similar demonstration was repeated at the SCTE Cable-Tec Expo event in September. Teleste's DOCSIS 4.0 compliant 1.8 GHz amplifier prototypes were selected for both demonstrations.

The demand for DOCSIS 4.0 & 1.8 GHz capable network passives has started in minor volumes during 2022. The amplifier market will start in volumes in 2023, when both new products and operators are ready for mass deployments. The deployments are expected to start first in North America due to existing network constraints.

Teleste has proven its thought leadership globally around 1.8 GHz transmission technologies and we believe we are the clear industry leader, being able to deliver compatible products in 2023.

NORTH AMERICAN MARKET ENTRY GAINING TRACTION

In addition to showing our thought leadership and the advanced state of our R&D, we've been able to win two North American cable operators as customers for our Distributed Access architecture (DAA) and 1.8 GHz amplifier products. First orders have been received with volume deliveries starting during the 2nd half of 2023.

We have been supporting three additional North American cable operators to evaluate and prepare their DOCSIS 4.0 network upgrades through providing them with Teleste 1.8 GHz amplifier prototypes.

These wins are giving us real evidence that a European technology vendor can succeed as an international technology vendor – while the North American operators have so far been relying on local suppliers.

Our innovations and experience on intelligent network devices are unique in the North American market and hence we are seeing significant business potential for them once the 1.8 GHz market takes off.

HFC UPGRADES CONTINUED WHILE NEW PROJECTS SLOWED DOWN

Cable operators in Europe continued to upgrade their traditional HFC networks during 2022. We strengthened our market position in the declining market, with stable sales volumes exceeding our expectations. Good demand for classical HFC products negatively impacted technology transition to DAA. While our DAA sales grew, the growth was

slower than expected. We are continuing to support our wide customer base on their journey to building these future-proof networks, with more field-trials and deployments expected during 2023.

SUPPLY CHAIN ISSUES NOT OVER YET

While societies in Teleste's main market areas have been recovering from the COVID-19 pandemic, the war in Ukraine has extended and expanded the supply chain challenges that started during the pandemic. Combatting this phenomenon has created lots of extra work across our organisation from sourcing and manufacturing to R&D and sales.

The supply chain chaos is impacting our business in three ways: delivery capability; cost inflation and material inventory levels. Thanks to our well-integrated demand-supply processes and holding our manufacturing and R&D in our own hands, the impact on Networks' delivery times has been limited. Cost inflation has forced us to transition higher unit costs to customer price increases, aiming to protect our gross margin levels. The most significant negative impact has been rising component inventory levels as we have been forced to place our component orders more than a year in advance while customer demand has been difficult to forecast.

STRATEGIC FOCUS FOR 2023

Our strategy for Networks' business is focused on distributed access architecture solutions, DOCSIS 4.0 compliant 1.8 GHz products and entering the North American market. The customers need to develop the capacity, quality, and reliability of their

networks to provide more comprehensive services and an improved user experience for their customers.

While DOCSIS 4.0 gives cable networks a 10+ years' lease of life, fibre-to-the-home network building will accelerate and complement the legacy coax infrastructure in coming years. Our vision is to provide our customers with products enabling smooth transition from coax to fibre, starting from optical passives and evolving to Remote-OLT solutions, the fibre equivalent of Distributed Access Architecture.

During 2022, we talked a lot about Teleste culture. Great team spirit has always been our strength, and during the past year it was once again exciting to see how it inspired us to jointly develop technologies and solutions that move our entire industry forward. In the future, we want to take even better care of our work community and our people, the true driving force behind our success.



In addition to showing our thought leadership and the advanced state of our R&D, we've been able to win two North American cable operators as customers for our Distributed Access architecture and 1.8 GHz amplifier products."

*Hanno Narjus, Head of Teleste's
Networks business area*

Video Security and Information

We deliver a broad range of video and information management solutions to the public safety and mobility industry. The product range covers passenger information management solutions, display technologies, as well as video surveillance and situational awareness solutions. Our main customer segments include public transport operators, rolling stock manufacturers and the public security sector.

The product offering builds on scalable product platforms, supplemented with project-specific system design, customisation and configuration, project management, technical integration, installation and commissioning, software and hardware support and maintenance, as well as training.

We have a solid market position among the leading rolling stock manufacturers, public transport operators and public authorities. Our primary market areas are in Europe and North America.

A TWOFOLD YEAR WITH A RECORD-HIGH ORDER INTAKE

The year 2022 was characterised by a duality: while new challenges were triggered in our business environment, we also started to gradually leave the exceptional COVID-19 time behind us. The difficult situation on the component market continued but, in general, we were able to turn our focus increasingly to developing the post-pandemic business.

Russia's invasion of Ukraine in February shocked the world and increased crisis awareness, especially in our neighbouring regions, but the direct effects of the offensive war on our operations remained minor during the year. However, its indirect effects to inflation and the European energy market raised our operational costs towards the end of the year, and we took several measures to control these in our own operations as well as in cooperation with our suppliers, partners, and customers.

In terms of public safety and mobility solutions, our business developed steadily, supported by our typically long-term contracts with major rolling stock manufacturers. In video surveillance solutions and public transport operator business, we won new customers and opened up further business opportunities for the future. And at the end of the year, our order backlog reached a record high level, providing a good basis for future profitable growth.

INTEGRATION AND LIFECYCLE EXPERTISE ADD CUSTOMER VALUE

As a technology provider, we have an ambitious approach to the future of our offering. We strive to transform the possibilities of technology into solutions that best serve our customers' needs and aim to be their trusted partner for even the most demanding projects.

In public safety and mobility solutions alike, the development is clearly moving towards larger, smarter, and automated ecosystems where information is transferred and managed seamlessly in real-time. To build such systems, well-designed integration of software to various platforms is needed together with the enabling infrastructure in urban environments and public transport.

Our expertise and innovation capabilities in these areas give us the opportunity to add new value for our customers in future.

Our customers' systems typically have a very long lifetime that extends even over decades, and the customers are looking for solutions that work as intended during the entire time. Lifecycle management has become an increasingly significant part of meeting the high operational requirements, and it continued in 2022 as one of our priority areas. We don't just sell, we also support, maintain, replace

and upgrade – in other words we ensure that our customers are able to guarantee the safety of people, the smoothness of using public transport, and an excellent passenger experience even when their needs, the technologies, and expectations change.

LOOKING TO THE FUTURE WITH DETERMINATION AND DRIVE

During 2022, Telestians again demonstrated their ability to ensure continuity of business in a professional, committed, and cooperative manner. Looking to the future, their role in the company's success will become greater by degrees as we continue to grow, manage increasingly complex and larger systems and projects, and align our product roadmaps more closely together.

Determined development of work methods and competencies will guide us on the way, complemented with a growth mindset. In addition, we will continue investing in excellent leadership skills to provide the necessary everyday support and empowerment for our people. Effective and open communication, well-defined targets and carefully selected metrics enable everyone to succeed in both their own and our common goals.

In 2022, we also talked especially a lot about innovation. Investments on that front will continue and are needed to ensure our future competitiveness. Our expertise lies in seeing beyond today and helping our customers identify factors essential to their operations. The standard is high, and we continue to reach for the highest levels of performance.

//

Our business is long-term and to succeed, we must stay on top of the emerging technologies that will shape the future of our industries. The evolution of technologies is ongoing, and we want to be strongly involved in it."

***Valerian Sand**, Head of Video Security and Information business area*



Building on technologies and innovations

A firm focus on future 1.8 GHz networks

In 2022, the cable industry was talking about its vision of 10G broadband services to subscribers on many fronts. At Teleste, we continued work to provide the industry with the building blocks required for the future cable network ecosystem, including 1.8 GHz amplifiers and passives that need to be available or in place before the investment wave to the next-generation higher frequency networks can be started. An important step forward is the ongoing shift to Distributed Access architecture, for which products based on remote PHY technology have matured and can be rolled out in volumes already today.

VALIDATING THE CABLE INDUSTRY'S 10G VISION

During 2022, we witnessed considerable advances towards end-to-end 1.8 GHz networks within the cable broadband industry. As expected, the transformation was driven forward by the North American cable MSOs looking to catch up in the data transfer capacity of their existing broadband infrastructure that, in many cases, falls behind consumers' current connectivity expectations. In

Europe, the urgency of 1.8 GHz upgrades continued seemingly less, mainly because of the previously done 1.2 GHz deployment wave that still gives operators some unused network spectrum to fulfil the growing capacity demand.

We have been ahead of the curve with our 1.8 GHz ICON amplifiers launched in the autumn of 2021 for the North American market. While our European style 1.8 GHz amplifiers are being placed onto the drawing board, the ICON amplifiers have already proven their capability to make 10 Gbps broadband speeds reality for consumers. Their capacity performance was demonstrated as part of the first successful end-to-end 1.8 GHz network 'showcase' organised in April by CableLabs, a non-profit organisation promoting innovation, research, and development in the cable industry, after which we were happy to host several of our major operator customers validating the devices in our Littoinen lab facilities.

We were also able to live up to another important promise of the 1.8 GHz technology, namely that it enables drop-in upgrades to existing amplifier locations to avoid relocating amplifiers in field to shorten the coax sections in-between. This was confirmed in a live '10G Showcase' organised by Charter Communications, one of the leading

North American cable operators, during the SCTE Cable-Tec Expo where the implemented network included five cascaded amplifiers and a booster from the ICON family. The successful demonstration further validated the viability of 1.8 GHz technology as an investment track for operators looking to continuously increase data transmission speeds and capacity in their HFC networks.

RF PASSIVES STARTING THE 1.8 GHz UPGRADE WAVE

While the path is now laid out for operators to drive full speed towards the industry's 10G vision, upgrading the RF passives is expected to be on the longest road simply because of the massive number of products in the outside plant. Fortunately, the cable network infrastructure can be gradually upgraded, so it pays for operators to anticipate future requirements and start updating passives as soon as old components need to be replaced. Our wide range of carefully selected, high-quality outdoor & indoor 1.8 GHz passive components is now available with full compliancy also with existing lower-frequency technologies. Shipments of the products started on a high note in 2022 with customers across Europe giving them a warm welcome.

DISTRIBUTED ACCESS PRODUCTS EVOLVING

The initial reaction from operators to the COVID-19 pandemic was to focus on keeping their services for consumers up and running and cope with the rapid surge of network traffic. In 2021, network buildouts restarted with Distributed Access remote PHY deployments, which continued throughout 2022 due to the mature technology. Deliveries of our first-generation Distributed Access products maintained a good level, with new customer deals won and interoperability of the technology to CCAP (Covered Cable Access Platform) cores from different vendors confirmed. Our focus is now on the development of the second-generation products that we expect to be important especially in the North American market.

AHEAD WITH FUTURE-PROOF HEADEND TECHNOLOGY

On the headend front, stable demand continued for our Luminato 4X4 platform, which can do an excellent edgeQAM (quadrature amplitude modulation) job today while also securing premium broadcast TV delivery over Distributed Access networks. In the future, when networks will be upgraded in phases taking several years to complete, this kind of flexibility is a must-have feature for video delivery platforms that need to offer Digital video broadcasting (DVB) based TV broadcast services both in traditional HFC and Distributed Access architecture environments.

The first customer deals related to operators adopting the architecture transformation were won in 2022, and we expect the platform to attract a growing interest in the future when more and more operators will be moving to Distributed Architecture as a step towards the next-generation higher frequency networks.



While the global component shortage continued to effect R&D operations, the year 2022 gave us many reasons to be pleased with the performance of our equipment and the hard work and determination of our engineering team. Our target is to maintain a leading position in the HFC technologies and to leverage both our RF engineering capability and state-of-the-art products to provide operators a credible and clear path towards the next chapter in the cable network saga."

*Pasi Järvenpää,
Head of Teleste's R&D*



VIDEO SECURITY AND INFORMATION

Towards interconnected infrastructures

In 2022, we saw the safety and security landscape in Europe chattering urgently as a result of the war in Ukraine. From the point of view of public security systems and technologies, the crisis was reflected in a growing interest towards solutions that allow authorities and security operators to increase their understanding of their operating environment as a whole. What is needed is an increasingly deeper level of integration and interconnectivity within public safety and security systems - and the same trend is clearly visible everywhere where different information systems are utilised for the benefit of organisations and people's everyday lives.

BOOSTING SITUATIONAL AWARENESS AND SECURITY ON THE MOVE

During the year, we collaborated on many fronts to increase our customers' understanding of modern public security technologies and the opportunities they offer to keep pace with the rapidly evolving security needs. Our situational-awareness and video-surveillance platforms have reached a high level of maturity and today they provide a solid choice for growing towards larger operative ecosystems and adopting the opportunities offered by advanced data technologies such as Artificial Intelligence.

Reaping our long-term contribution and learnings on 5G standardisation in the rail industry, we also allocated our resources to the development

of video surveillance 'on the move', a set of features and functionalities enabling access to live ultra-high-definition video in real-time on mobile devices. As the 5G technology matures, we see it continuing as a fertile seedbed for further development of our solutions, especially when it comes to transmitting data and video streams in-between security operators' different mobile units and ground systems.

BETTER SOFTWARE QUALITY THROUGH PRODUCTIZATION

Software productization may sound like it leads to solutions that are not very flexible, but the way we see it, it can also be done in a way that benefits the customers. Utilising proven, well-working and standardised software and processes, we are able



Cybersecurity matters more than ever

The more integrated and interconnected information systems and infrastructures become, the less siloed they can be, and this opens up new attack vectors for cyber criminals to take advantage of. During recent years, the number of cyber attacks has been rising on the global scale, hitting a record high in 2022, and increasingly advanced cybersecurity methods are needed to safeguard infrastructures and data. To help our customers stay one step ahead of the risk factors, we have continued investments in our cybersecurity capabilities and foresee that they will keep growing in importance for both our customers and our own IT infrastructure.

to offer better software quality and agile updates to our customers and respond to their requests more quickly. This doesn't mean that we are selling the same software solution for all customers, instead customer-specific interfaces or other modules are an elemental part of our software, and our software products can be configured and expanded according to the customer's needs.

Based on our approach, we launched a new product-based software for the delivery and management of on-board passenger information in 2022. The S-ARRIVE® is based on open, modular software architecture that makes it an easy fit for different kinds of applications within public transport operators' ecosystems. We were pleased to see that the software attracted a lot of interest among our customer base at InnoTrans, the leading international trade fair for transport technology arranged in September, and its first official release will follow in 2023.

FUTURE CALLS FOR EFFECTIVE INFORMATION SYSTEMS

As governments and societies are calling on the public transport industry for help in battling the climate crisis, people need to be convinced to opt for trains, busses, and metro instead of their private cars. This will require increasingly effective and smart public transport models capable of utilising real-time data collected not only from mass transit but also from roads and highways, ports and ferries, airports, city operations, as well as police, fire, and rescue departments.

This is where our solutions come in: the new S-ARRIVE®, for example, comes with flexible

interfacing options that enables operators to integrate and manage it seamlessly with other on-board systems including on-board CCTV (Closed Circuit TV), passenger counting, on-board network and information displays. The same kind of functionality can be found in all our software targeted for modern mobility as well as public safety and security solutions. The ecosystem thinking is here to stay, and we see the interconnected technologies will provide entirely new opportunities for these industries in the future.



A smart and safe living environment is ultimately the goal for most of our public security and mobility customers, and today digital technologies play a decisive role in achieving the target. They promise considerable benefits in terms of collecting and utilising data, improving operations and service level, and connecting multiple stakeholders to work within larger ecosystems. This is where our solutions come in: our secure, ultra-scalable systems are ready to interconnect, evolve and propel alongside the changing needs of people, societies, and our customers."

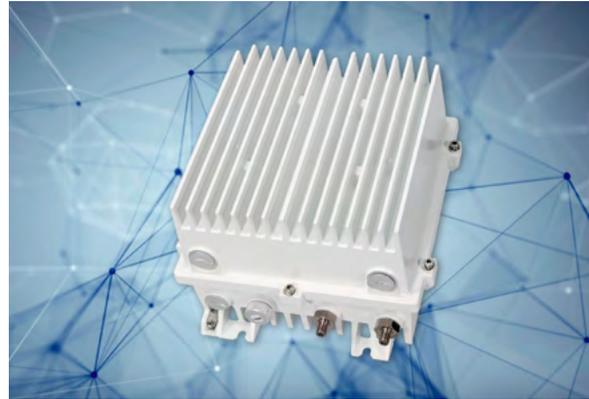
***Pasi Järvenpää,**
Head of Teleste's R&D*





Industry award to our 1.8 GHz amplifier technology

Our intelligent 1.8 GHz ICON4300 amplifier was recognised as among the best in the industry by the 2022 Broadband Technology Report's Diamond Technology Reviews. The amplifier is designed for the North American cable broadband market, and it stands out as a future-proof choice for operators on the path towards bringing greater broadband speeds to homes.



Industry interoperable Distributed Access portfolio

The interoperability of our Distributed Access technology is tested with all major Converged Cable Access Platform cores and trusted video cores. While our customers continue to invest in developing the capacity, quality, and reliability of their networks, we are fully supportive of sustainable network ecosystems where open competition is fostered and vendor lock-in is not accepted.



Walking the talk of the cable industry's 10G vision

We participated in the first successful DOCSIS® 4.0 Extended Spectrum DOCSIS amplifier cascade demonstration in April, followed by another successful showcase in September. In both events, an end-to-end 1.8 GHz network system was created with equipment from us and other prominent cable equipment vendors to showcase the superior performance of DOCSIS 4.0 technology. We were happy to validate the cable industry's capabilities to achieve its symmetrical multi-gigabit services to the home.



10G capable network devices to a major operator in North America

We received the first orders from a major U.S. cable broadband operator for our next-generation 10G capable cable network technology. Our 1.8 GHz amplifiers will bring the considerably higher network capacity, and a possibility to benefit from the built-in intelligence of our devices to increase operational efficiency.



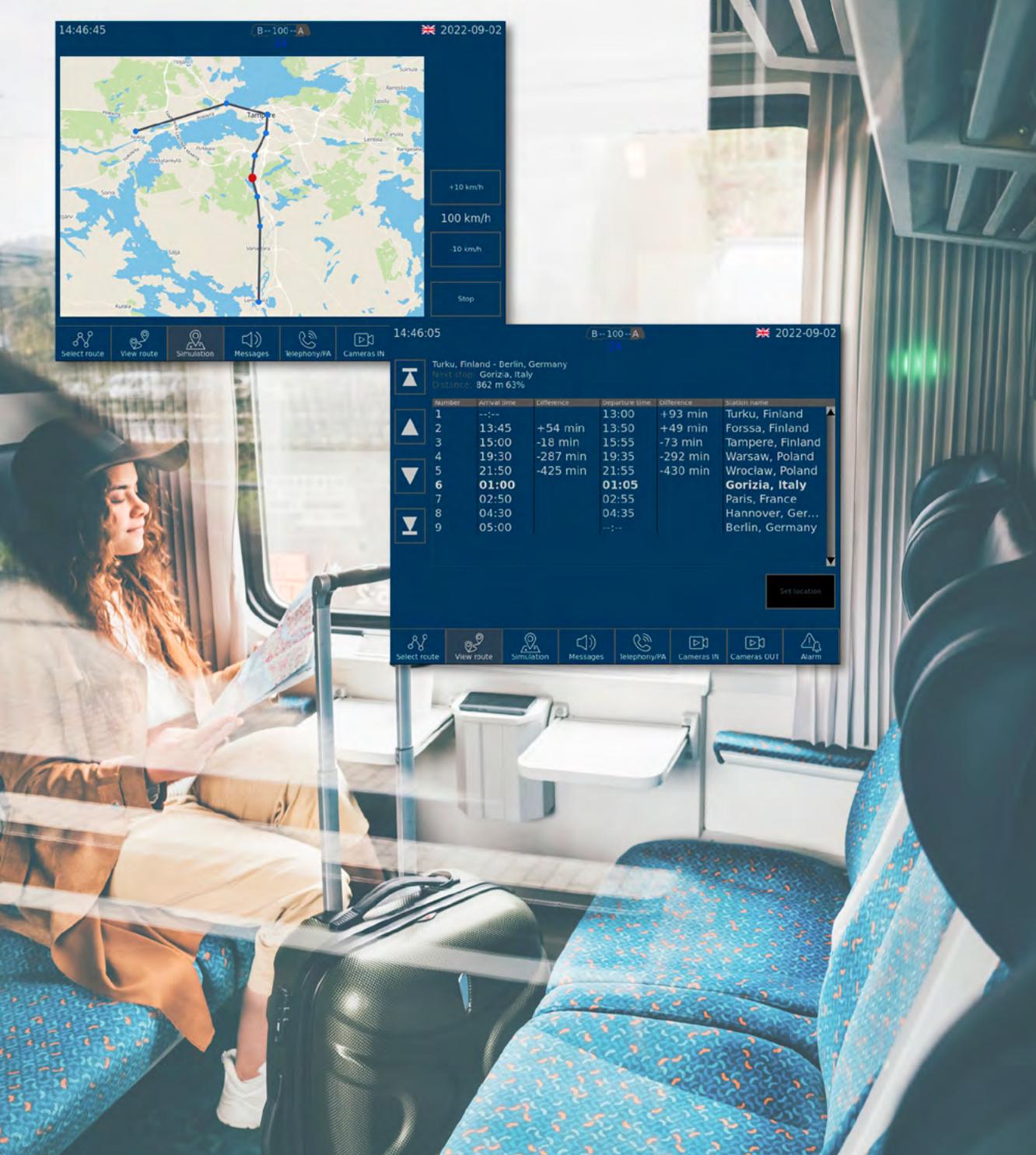
Amplifiers and passives for VodafoneZiggo's network upgrade

Our broadband amplifiers and RF passives were chosen for VodafoneZiggo's nationwide network upgrade in the Netherlands. With high quality and secured availability, the products help the customer ensure premium broadband services to its subscribers.



Headend technology to help Telia Finland renew its video delivery platform

Telia Finland harnessed our Luminato 4X4 video headend platform to fulfil their video delivery needs. While broadcast television continues to be an important service for consumers, the platform ensures that it can be delivered over both traditional and Distributed Access networks with premium quality and reliability.



S-ARRIVE® software for uninterrupted on-board passenger information

We launched a new product-based software for rolling stock manufacturers and public transport operators that want to deliver uninterrupted, real-time information for their passengers on-board. The software helps create an excellent door-to-door travel experience and enables our customers to grow an effective transport ecosystem through integration with other on-board systems.

Onboard systems to Alstom's new trains in Europe

Alstom selected a wide range of our onboard systems for its new trains for a large project in Europe. Our deliveries cover visual and audio passenger information management, video surveillance and seat reservation solutions that will all work in real time with the transport operator's central on-the-ground systems, enabling seamless management and flow of information to the fast-moving trains.

Better service capabilities in Italy and nearby regions

Our team was reinforced by the rail technology specialist Ermetris, which became a Teleste company in January 2022. Together we are able to provide rolling stock manufacturers and public transport operators in Italy and the nearby regions with increased service capabilities and knowhow. Today, public transport systems are becoming increasingly complex, and we are pleased to be able to help our customers ensure that their solutions and whole ecosystem functions as intended throughout their entire life cycle.

INNOVATION

Onboard with the future state-of-art technologies

In 2022, we at Teleste have been proud to be the company implementing the world's very first video surveillance compliant with FRMCS (Future Railway Mobile Communication System), a railway-relevant specification stemming from 5G specifications. The implementation is now only a few steps away from being completed. The work has been carried out together with many of our key customers within the EU funded research project 5GRAIL.

With its aim to verify the first set of FRMCS specifications and standards (FRMCS V1), the 5GRAIL project focusses largely on developing and testing prototypes of the FRMCS ecosystem. The validation will be achieved through cross-border emulation trials, which cover significant portions of railway operational communication requirements and includes the core technological innovations for rail expected from 5G release 16 and pre-release 17.

Teleste's focus and responsibility in the 5GRail project is on the verification and validation of video surveillance applications compliant with FRMCS. When the project is at completion in 2023, Teleste will be the first vendor in the world to offer an FRMCS-compliant video surveillance system to the railway market.

When looking back on our journey with the FRMCS, it has not been a short stint. In the fall of 2015, we joined for the first time a 5G-standardization group and started the dialogue with other companies regarding needs for video surveillance in the railway industry. Some years later, we had a specification in our hands, which introduced the video surveillance offload use case, where data is transferred wirelessly from the train to the stations.

We are looking forward with excitement to 2023 and beyond - and strive to be ready to offer the world's very first FRMCS-compliant video surveillance solution for all our current and future customers!



Telestians got inspired to share ideas

In September 2022, we launched an idea campaign and different channels for Telestians to share ideas. The response to the campaign was very positive and we received several ideas from across the company within the first few weeks.

One of the first to share his thoughts was Matti Heikkilä, who came up with a new invention after hearing his colleagues talk about a particular problem, exchanging thoughts with them, and soon coming up with a solution. His invention was accepted by the Teleste patent board, and it is now considered to be featured in many of our products. A perfect example of how discussing and sharing with colleagues helps us move forward!

One Teleste – our passionate professionals

Together forward through challenges

In 2022, we saw the exceptional world situation continue, with the war in Ukraine and the general economic situation creating uncertainty and increased crisis awareness in people's everyday lives. The challenges were felt also here at Teleste due to, for example, the prolonged instability of the component market. Our teams worked tirelessly to live up to the changing circumstances, and we were able to maintain high performance and resilience. For this, thanks goes to our dedicated people.

One of the absolute bright spots of the year was experienced in the spring when the COVID-19 pandemic restrictions were lifted almost worldwide, and it was again possible to work in the offices as usual. Being able to meet and interact face-to-face with each other ties our working community more strongly together and improves opportunities to share experiences and knowledge and foster innovation. However, we have also wanted to harvest the good learnings from the previous years and continue to give our people more freedom of choice in their work, combining remote and in-office work when possible.

LEADERSHIP DEVELOPMENT CONTINUES

During 2020-2021, we implemented a leadership training programme for Teleste's management and supervisors together with Aalto EE (Aalto University Executive Education), and almost 130 of our team leaders graduated from it with generally excellent results. In 2022, the development of leadership skills continued based on Teleste leadership principles created together with the personnel. With some help from Aalto EE, we focussed especially on the training of new team and project leaders, and on top of that our goal was to educate all Teleste team leaders in matters related to well-being at work and management in the exceptional global circumstances that have continued for few years already.

We believe that investing in good leadership allows us to support our entire community and the company's goals even when the future seems somewhat difficult to predict.

WHAT'S UP WITH OUR WORK COMMUNITY?

For a few years now, we have been utilising a biannual MyPulse survey to give Telestians a channel to share their thoughts about working with the company. The survey focusses on finding out where Teleste stands as an employer and in which direction our company culture is developing. In addition, questions related to motivation and engagement, leadership, and team spirit are emphasised.



Of all the survey areas, the one that emerges as our greatest asset time and time again is the work community. In fall 2022, more than 83% of the respondents felt that the team spirit at Teleste was good or better, giving us reason to be proud of how we in general act towards each other as colleagues and team members. We were happy to note that also motivation and engagement had continued rising on the company level. Of course, the survey also helps us identify areas to improve both for the company and specific teams. The higher the response rate, the better tool the survey provides, so every response counts when planning the next focus areas and development targets.

As our company is step by step approaching 70 years of age, the time was also right to delve deeper into the unique features that make our work community so highly valued. In the summer of 2022, more than 400 Telestians across the company helped us map what our daily work culture consists of and how it could be further improved. Based on the answers, we wrote out our vision of how we as Telestians feel about work, which values and targets we believe in, and what will help us get to where we have set ourselves to go. Implementation of the new Teleste Culture vision will begin in 2023.

TRANSFORMATION OF A MODERN TECHNOLOGY COMPANY

The times after the COVID-19 pandemic have been marked by rapid change in the labour market. In the crossfire of new ways of working, changing career expectations and expanding opportunities, we have

to think about what our image as an engaging, developing technology company will be like in the future and what kind of foundation it will be built on. Putting a focus on Teleste Culture will be a part of this important work, but what will also be needed is a clear roadmap to embrace the changing work life.

For many years, the average length of employment in our company has been very long, but many of those who have built the current Teleste are leaving working life in the next decade, and we will see a new generation of talents coming to our work community. We wish to evolve as an attractive employer for both new and existing Telestians and to communicate even more clearly how we respond to expectations regarding, among other things, career opportunities, way of working and management, as well as the company's social and environmental responsibility.

We take the ongoing change as an opportunity and are eager to transform the company into what the new work life requires. At the same time, we are proud of our heritage, the love of experimenting, developing, and learning new things. This is the cornerstone of our road ahead.

Tuomas Vanne

Senior Vice President, People and competence



Personnel

The Group employed 861 (863) people on average during the period under review. At the end of the review period, the Group employed 844 (847) people, of whom 43% (45%) worked abroad. Approximately 3% (3%) of the Group's employees were working outside Europe

HR mission

Telestians enjoy and succeed in their daily work and achieve common goals while building a smart, safe and smooth future.

The cornerstones of our people strategy

- Talented Telestians
- Smart and harmonised HR processes
- Positive employee experience
- High quality leadership and management



Coming across international experts at DigiMESH

In September 2022, Teleste and the EU-funded DigiMESH project organised a networking event for highly educated immigrants living in Finland. The event aroused great interest and 25 international experts took part in it. In addition to telling the participants about Teleste's work culture and career opportunities, we hoped to hear from them how Teleste could develop into an even more diverse and interesting workplace for international talent. The inspiring discussion revolved around the participants' wishes regarding the employer, the balance between work and free time, the importance of psychological safety in the workplace, and the power of networks in the job search. We were happy that many participants were very interested in concrete employment opportunities at Teleste, and LinkedIn contact requests were exchanged at a rapid pace during the event.

Our way of working



OPERATIONS, LOGISTICS AND SOURCING

Ahead of the curve in manufacturing

Supply chain challenges have been a headache for worldwide manufacturing since the COVID-19 pandemic and 2022 showed no end to the turbulent times. As industries continue to struggle to get around the uncertain situation, future-proof manufacturing has become the talk of the town and strategies to ensure it are increasingly in demand. The unfolding challenges had their effects on Teleste's operations as well, but we have also been able to gain from our long-term work on manufacturing engineering and technology and smart processes.

Throughout 2022, maintaining a high level of performance in sourcing and operations continued among our key priorities. The exponentially rising material lead times caused delays in some of our customer deliveries, but we were able to maintain a relatively good delivery reliability compared to the industry overall. Our Sourcing and Sales and Operations planning teams continued their excellent performance to manage the uncertain situation, and our talented people kept us well positioned in our customer base.

LONG-TERM WORK FOR IN-HOUSE PRODUCTION PROCESS

Today, we see an increasing number of businesses reconsidering their supply chains. With material availability problems and rising component costs, it is wise to think about the entire operations,

logistics and sourcing process to improve future resilience. Remaking supply chains is a way to strengthen the ability to adapt, and it is also causing more and more businesses to relocate their manufacturing closer to home.

Deviating from what has been the global mainstream for the last decade, preserving product manufacturing for the most part in our own hands has been one of Teleste's core principles. We have executed more than 15 years' operations strategy work and management structure to highlight the importance of the "Teleste Smart Manufacturing programme" and high-speed development activities. As a result of the work, today we can call our process one of the best in the world and its implementation is underway also at our Forssa facilities.



Building on uniform operating methods and operational agility, deep cooperation between our teams, and constant desire to learn and innovate, the smart manufacturing approach adds an element of intelligence and interconnection to the traditional fabrication methods. The carefully designed and data-driven process is the key behind our manufacturing capabilities, and it again proved its worth in helping us maintain our operational performance in 2022.

DIGITAL TRANSFORMATION CONTINUES

Striving towards 100% customer satisfaction on our delivery capabilities requires that we constantly find new ways to benefit from the emerging technologies and the new opportunities they may enable. In 2022, our digital transformation efforts continued with the further development of an in-house Warehouse Management System (WMS), targeted to be so easy and intuitive to use that the time required to familiarize oneself with the tasks would be less than 5 minutes. The system is able to guide and assist the users in every single step of their work, in a way that minimizes human error but also takes away much of the mental stress associated with the daily tasks.

When the WMS project started, we quickly realised that there were no existing WMS solutions in the market that met our specific requirements and that were agile enough to evolve alongside our strategy and goals. The system is, therefore, designed and built by our own professionals from the ground up. Again, having the entire process in our own hands

brings our teams closer to each other, increases cooperation across the organisation and helps us find solutions that exactly meet our needs. The same spirit of innovation has been demonstrated by our Sourcing and R&D teams, who have even found alternatives for the most difficult-to-acquire components by going back to the R&D design board.

A definite highlight of the year was the completed expansion of our Littoinen facilities, which brought us additional space for both operations and warehousing. The enlarged facilities now have first-class capabilities to deliver the latest generations of broadband network devices for both the European and North American markets, and there is also readiness to support our strategy and business growth in the public transport segment. An important cornerstone of the future is now in place, and with our committed and skilled team, we are ready to mould and define our way to it.

Markus Mattila
*Senior Vice President of Operations,
Logistics & Sourcing*



Broadband nodes for different markets

In Europe, broadband network nodes are often installed in street cabinets, whereas in the United States they are located outdoors on poles, presenting an entirely different set of requirements for the products, and making the US products larger in size. Our Littoinen factory can do both.

Important IT development

Common processes and tools provide better transparency and effectiveness for our operations. As an important part of the target, the go-live of new digital support services in 2022 gave our customers better visibility over the support status of their Teleste devices as well as services available to them.

OPERATIONS, LOGISTICS AND SOURCING

Steadier winds on the sourcing front

Following the development of the previous two years, the year 2022 was once again tinged by the global component crisis. During the year, however, we saw a turn from acute crisis management towards smoother times and ways of working. Even though the supply chain disturbances are far from over, we can control and predict them better, and focus more on what is coming next on the sourcing front.

During 2022, we also reacted to the component crisis by increasing inventory values in order to ensure successful product deliveries. Some of the most critical components had to be acquired at an earlier stage than before, and some of the components we use in production today were purchased even more than a year ago. As the globally heated market also raised the component prices considerably, the investments made were reflected in Teleste's 2022 result.

KNOW ABOUT TOMORROW, PLAN FOR THE FUTURE

The global storm on the sourcing front has already continued for the third year, and in 2022, the COVID-19 restrictions were still not completely over in Asia, where they caused sudden problems in the

supply and logistics chains. The war in Ukraine led to additional instability in the component market, which was reflected from Teleste's point of view in the price uncertainty of components whose manufacturing process uses natural gas or other unique materials.

In terms of procurement, the global situation can be summed up simply as follows: how can we know how the market will work tomorrow and what our customers will think a year from now? During 2022, our unique and highly refined Sales & Operations Planning (S&OP) process was extended from 12 to 18 months. Developed originally 14 years ago, the well-functioning process has helped us balance upcoming demand with supply needs and avoid serious shortages of materials.



Laying road to North America

When creating a new product, new components are always needed. During 2022, we resourced the components required by our new 1.8 GHz ICON products and ensured that our supply chain to North America works as required by the customer.

Throughout the COVID-19 pandemic, we have reviewed the status of critical components on a weekly basis to follow up changes and see whether new critical components have become known. We have no longer had to wonder what will threaten to end for us next, instead we were able to focus more on other issues related to our partner network and supply chains. We also made some changes to our supplier network to better drive the company's strategy forward and actively explored the possibilities of acquiring certain components from closer in the supply market.

Our sourcing team has made considerable efforts for the continuity of Teleste's operations under global challenges, but now our eyes have turned towards the future. We have kicked off groundwork to find out what kinds of skills and procedures we should master next to serve the company's operations in the best possible way, also considering the North American market. We also want to build an even more united sourcing team and methods at the level of the entire company, and that will continue as one of our key focus areas.



World class warehouse management system drives smart manufacturing

A showcase of our top smart manufacturing capability and engineering skills is Teleste's new warehouse management system (WMS), which was deployed into use during 2021 and 2022. Our WMS project began with assessments of 3rd party WMS vendors through several company visits. However, we quickly realized that there were no existing WMS solutions that met our specific requirements or that were agile enough to evolve alongside our strategy & goals. So, the decision was made to build our own.

Teleste's WMS is literally one of a kind. It has been designed and built entirely from the ground up and tailored to our every specific need. The system has quickly become a pivotal part of our smart manufacturing process that ties together each internal logistics phases from incoming material receiving to product shipments.

PRECISION AND QUALITY THROUGH DATA

The WMS offers an enormous data bank, which can be utilized for the whole manufacturing process.

It enables heatmap functionality for the smooth logistics flow and optimized use of resources. Data enables further development for resource and material flow optimization, inventory accuracy and quality controls in real time.

Today, we are also able to deliver end products with an extended level of traceability, down to the component level. Even the smallest of parts can be traced with a serial number back to the moment they were produced, making it easier to identify, optimize and correct for any issues that may arise at any stage of the manufacturing process.

A SYSTEM THAT TEACHES ITS USERS

One of the key benefits of the WMS is the maximal efficiency it provides through predictive management and ease of use. We have been able to create a system where any user can familiarize themselves with the tasks at hand in less than 5 minutes. The intuitive interface guides the operator through every step of the process to, for example, receive, shelve, retrieve, and deliver the right materials, from the right place, at the exact right time. The target is to assist our employees in their work in a way that minimizes human error and takes away much of the stress associated with the daily tasks.

The system is built to serve Teleste's underlying manufacturing approach, where every feature has a purpose, and every piece of code has been written for a specific need. Our in-house software team works seamlessly with our production line workers and logistics operators to bring new functionalities to the software on a regular basis. This Build-Measure-Learn feedback loop is constantly improving the agility of our cellular manufacturing processes and it also enables us to ensure high product quality and reliability to our customers.

COMPLETING THE FINAL PIECE OF THE PUZZLE

Our WMS has also enabled us to optimize our manufacturing process and logistics in a way that delivers improved utilization rates and reduced variation of the production processes. System has also positive impact on our CO2 emissions and material waste, and this is something that we are also very proud of. The final piece of the puzzle was added in the end of 2022 when we integrated our dispatch department to be a part of our WMS. Our smart manufacturing process now extends all the way to the delivery of finished products into the hands of our customers.

CORPORATE RESPONSIBILITY

New environmental objectives for 2025 and 2030

In 2022, Teleste defined its environmental objectives for 2025 and 2030. An important part of them is the reduction of greenhouse gas (GHG) emissions. We also started to measure our Scope 1, Scope 2 and Scope 3 emissions. Our plan is to continue this work especially with Scope 3 calculation to understand the company's total carbon footprint.

The most important areas to Teleste regarding environmental and social sustainability as well as corporate governance (ESG) are evaluated in the materiality matrix that was updated in 2021. The materiality matrix emphasises the relevance of greenhouse gas emissions and product energy consumption to our environmental footprint, and also the use of natural resources and the generation of waste are highlighted as areas that should be measured, monitored, and require actions in the coming years.

ENVIRONMENTAL OBJECTIVES FOR 2025 AND 2030:

Indicator	2021 comparison year	2022 result	2025 Target*	2030 Target*
Scope 1 carbon dioxide emissions (Transport emissions in the services business) [tCO2e]	309	251	-40%	-100%
Scope 2 carbon dioxide emissions (Emissions from own energy consumption) [tCO2e]	761	703	-20%	-50%
Emissions from land, sea and rail transport [tCO2e]	311	350	-10%	-20%
Emissions from air transport [tCO2e]	574	592	-10%	-20%
Own energy consumption, purchased [MWh]	7,306	7,244	-5%	-10%
Share of recycled aluminium in products manufactured in-house	92%	92%	94%	96%
Recycling rate [%] **	60%	51%	75%	80%
Recovery rate [%]	100%	100%	100%	100%

* assuming that the scope of the company's operations will be maintained at the level of 2021

** the company's factory expansion project affected the result for 2022



New eLearning course guides Telestians on sustainability

In 2022, we launched a new eLearning course to guide Telestians to corporate responsibility topics at Teleste. The course increases awareness of our sustainability work and enables understanding of the term ESG and why issues related to it are so important for the company. After completing the course, Telestians will also know more about our ESG objectives and means to achieve them.

Based on the assessment, we have now defined new environmental objectives for the company for 2025 and 2030, complemented by a set of actions targeted to help us meet the goals.

The central aim of the objectives is to reduce Scope 1, 2 and 3 carbon emissions and the amount of purchased energy, while also increasing the use of recycled materials, especially aluminium, in our products as well as improving the recyclability rate. Our CO2 emissions are mostly generated from the energy used on our premises, cargo, and transportation, while the energy consumption created during product life cycle is estimated to have the largest impact on carbon emissions overall, depending on the CO2 intensity of the energy used by the products.

In the coming years, the set objectives will be achieved by taking, among other things, the following actions:

- Implementing Scope 3 calculation and actions based on the results
- Carrying out separate collection of plastic waste to increase the recyclability rate in the Littoinen factory
- Conducting an energy survey to define guidelines for improving our energy efficiency
- Increasing the amount of renewable electricity utilised in leased assets
- Switching to lower emission vehicles in network service operations

At Teleste, we have been working for decades to improve and optimise energy efficiency and power consumption to benefit our customers and lower their energy bills. Now is the time to take even bigger strides towards more sustainable business practises to meet our own objectives and also to help our customers achieve their goals and ambitions in the green transition.



Sustainability principles guiding our R&D, operations and logistics

Our work in R&D, operations and logistics is guided by certain principles aiming for higher overall sustainability.

We aim to continuously improve product reliability, durability, and serviceability to lengthen product life cycle and ensure that they can be easily dismantled and recycled. We always prefer recycled raw materials and avoid the use of single use plastic in our products and packages. Materials used in our products and manufacturing are evaluated to avoid and phase-out the use of substances of very high concern (SVHC) and we also strive to ensure that sourced materials come from ethically and environmentally responsible sources.

We work constantly to reduce energy consumption of our products and/or to increase their energy efficiency. In addition, we consider efficient and sustainable use of water, energy, and materials to be essential for all our operations.

Design for logistics practices is used for optimising product packing and packing on pallets and is thus increasing transportation efficiency. Carbon footprint is reduced by prioritising rail and sea transport over air cargo and by consolidating shipments when possible.

Our Management

Board of directors

TIMO LUUKKAINEN



B.Sc. (Econ.), M.Sc.(Eng.), MBA (IMD), born in 1954
Chairman of the Board since 2020
Member of the Board 2016–2020

Non-independent of a significant shareholder, Chairman of the Board in Tianta Oy.

Principal occupation:
Board professional

Primary working experience:
Ensto Group, President and CEO 2009–2016

Evervent Oy, CEO 2007–2009

In France, England and in Switzerland during 1992–2008: Member of the Management Group of French subsidiary of General Motors, EMEA director of Hyster and Movex -consortiums

CEO of Irrifrance

CEO of ABB subsidiaries 1985–1992

CEO of UPM Kymmene subsidiaries 1981–1985

Other elected positions of trust:

Axopar Boats Oy, Member of the Board 2022–

Axopar Holding Oy, Member of the Board 2022–

Fondita Fund Management Company Ltd, Member of the Board 2021–

Tianta Oy, Chairman of the Board 2018–

JUSSI HIMANEN



M.Sc. (Industrial Engineering), born in 1972
Member of the Board since 2019
Member of the Audit Committee 2020–

Independent of Teleste and its significant shareholders.

Principal occupation:
WithSecure, VP Strategy and M&A 2022–

Primary working experience:
Ramboll Finland, Director Business Development 2018–

Comptel Corporation, Senior Vice President, Strategy 2012–2017

Nokia, Nokia Networks, Nokia Siemens, various positions 1998–2011

Sonera 1997–1998

VESA KORPIMIES



M.Sc. (Econ.), born in 1962
Member of the Board since 2019
Member of the Audit Committee 2020–

Non-independent of a significant Shareholders, CEO and Board member in Tianta Oy.

Principal occupation:
EM Group Oy, CEO 2018–

Primary working experience:
Kymppi Group Oy, COO 2015–2017

Exel Composites Oyj, CEO 2008–2014

Exel Composites Oyj, several positions in Finland and in Germany 1987–2007

Other elected positions of trust:

Axopar Boats Oy, Member of the Board 2020–

Tianta Oy, CEO and Member of the Board 2019–

Efla Oy, Chairman of the Board 2018–

Meconet Oy, Member of the Board 2016–

Scanpole Oy, Member of the Board 2015–

MIREL LEINO-HALTIA



PhD (Econ.), CFA, born in 1971
Member of the Board since 2020
Chairman of the Audit Committee 2020–

Independent of Teleste and its significant shareholders.

Principal occupation:

Professor of Practice, Aalto University 2019–

Board Professional

Primary working experience:

PwC Oy, Partner, consulting 2009–2018

PwC Oy, several positions 2000–2008

Other elected positions of trust:

Ålandsbanken Abp, Member of the Board and the Audit Committee 2022–

Sitowise Oyj, Member of the Board,
Chairman of the Audit Committee 2021–

Euroclear Finland Ltd., Member of the Board,
Chairman of the Audit Committee,
Member of the Governance, Nomination &
Remuneration Committee 2018 -

Member of the Board in several companies within
LocalTapiola Group 2019–
LocalTapiola Group, Member of the Audit
& Risk Committee 2019 -

Indufor Ltd, Chairman of the Board of Directors 2019 –

Savings Banks Research Foundation,
Member of the Board 2020–

HEIKKI MÄKIJÄRVI



M.Sc. (Eng.), born in 1959
Member of the Board since 2018

Independent of Teleste and its significant shareholders.

Principal occupation:

Head of Telia Ventures, 2018–

Primary working experience:

Airbus Ventures, General Partner, 2015–2016

Deutsche Telekom AG, Senior Vice President,
Venture Capital & Group Business Development
and Venturing, 2011–2014

T-Venture GmbH, Chairman of the Supervisory
Board, 2011–2014

Openwave systems INC, Senior Vice President,
Business Development, 2009–2011

Accel Partners, Venture Partner, 2002–2009

Cisco Systems, Technical Director, 1998–2001

Nokia, several management positions in Finland
and in Germany, 1983–1998

KAI TELANNE



M.Sc. (Econ.), born in 1964
Member of the Board since 2008

Independent of Teleste and its significant shareholders.

Principal occupation:

Alma Media Corporation, CEO 2005–

Primary working experience:

Kustannus Oy Aamulehti,
Managing Director 2001–2005

Kustannus Oy Aamulehti,
Deputy MD 2000–2001

Other elected positions of trust:

Tampere Chamber of Commerce and
Industry, Member of the Board 2018–

The management group

ESA HARJU



**President and CEO,
M.Sc. (Eng.)
Born in 1967**

Joined Teleste in 2016

Member of the Management Group since 2016

Primary working experience:
Independent Consultant 2015–2016

Ixonos Plc, President and CEO
2013–2015

Nokia Siemens Networks Finland Oy,
CEO 2012

Nokia Siemens Networks, Head of
Nordic & Baltic Region 2010–2012

Employment by Nokia and Nokia
Siemens Networks since 1991

Other elected positions of trust:
Taiste Oy, Chairman of the Board
2016-

JUHA HYYTIÄINEN



**CFO,
M.Sc. (Econ.)
Born in 1967**

Joined Teleste in 2013

Member of the Management Group since 2013

Primary working experience:
Nokia Corporation, Business Controller
and Director positions in Finance and
Control 2000–2013

Ensto Saloplast Oy, Finance Director
1998–2000

OMG Kokkola Chemicals Oy,
Finance Manager 1994–1998

PASI JÄRVENPÄÄ



**Research and Development,
Senior Vice President,
M.Sc. (Eng.)
Born in 1967**

Member of the Management Group since 2013

Primary working experience:
Joined Teleste in 1994

MARKUS MATTILA



**Operations, Logistics & Sourcing,
Senior Vice President,
M.Sc. (Eng.)
Born in 1968**

Joined Teleste in 2008

Member of the Management Group since 2008

Primary working experience:
Nokia Mobile Phones/Nokia Corporation,
Manager and Director positions in
Operations, Logistics and Sourcing
1993–2008

HANNO NARJUS



**Networks,
Senior Vice President,
M.Sc. (Econ.)
Born in 1962**

Joined Teleste in 2006

Member of the Management Group
since 2007

Primary working experience:
Nokia Corporation, various managerial
positions 1996–2006

Teleste Corporation, Director, Sales/
Continental Europe 1989–1996

VALERIAN SAND



**Video Security and Information,
Senior Vice President,
M.Sc. (Econ.)
Born in 1984**

Joined Teleste in 2022

Member of the Management Group
since 2022

Primary working experience:
Cargotec Corporation, various
managerial positions 2013-2020

TUOMAS VANNE



**People and Competence,
Senior Vice President
M.Sc. (Military Science)
Born in 1979**

Joined Teleste in 2019

Member of the Management Group
since 2019

Primary working experience:
Lidl Latvia and Estonia, Head of HR
2018–2019

Lidl US LLC, Senior Director – HR
2017–2018

Lidl US LLC, Director – Administration
Organization 2016–2017

Lidl Finland Ky, various HR related
management positions 2012–2016

Finnish Defence Forces, various officer
positions 2004–2012

Information for shareholders

TELESTE SHARE

Teleste Corporation is listed on Nasdaq Helsinki in the Technology sector and is quoted in the small cap segment. The company shares are included in the book-entry securities system. The company has one series of shares. In Annual General Meeting each share carries one vote and confers an equal right to a dividend.

On 31 December 2022 Teleste's registered share capital stood at EUR 6,966,932.80 divided in 18,985,588 shares.

As to the company share price in 2022, the low was EUR 3.13 (4.47) and the high EUR 5.76 (6.66). Closing price on 31 December 2022 stood at EUR 3.54 (5.24).

- Trading code TLT1V
- ISIN code FI0009007728
- Reuter's ticker symbol TLT1V.HE
- Bloomberg ticker symbol TLT1VFH

FINANCIAL RELEASES IN 2023

Teleste Corporation Financial Statement 2022 was released on 9 February 2023.

Other releases during 2023:

- Interim report January–March at 4 May 2023
- Half year financial report January–June at 10 August 2023
- Interim report January–September at 2 November 2023

Financial reports are published as stock releases. Publications are available on Teleste's website both in English and in Finnish.

Teleste meets investors, analysts and representatives of the media in news conferences set up in connection with releases of financial reports.

Silent period

Silent period begins 30 calendar days before the publishing of the Interim reports, Half year financial report, and Financial statement release and lasts until the publishing of the Interim reports, Half year financial report, and Financial statement release. During silent periods, Teleste's spokespersons refrain from discussing and commenting on issues related to the company's financial performance or meeting with capital market representatives.

ANNUAL GENERAL MEETING

Teleste Corporation's Annual General Meeting (AGM) will be held on 5 April 2023 commencing at 2 p.m., in Scandic Park Helsinki hotel meeting room Vision 2-3, address: Mannerheimintie 46, Helsinki. Registration begins at 1 p.m. Shareholders registered on the list of shareholders with Euroclear Finland Oy on 24 March 2023 are entitled to participate in the Annual General Meeting. A shareholder who wants to participate in the meeting shall register no later than 29 March 2023 at 4 p.m.

More information:

www.teleste.com/AGM

or by e-mail

investor.relations@teleste.com

PROPOSAL FOR DISTRIBUTION OF DIVIDEND

The Board of Directors proposes to the AGM that no dividend be distributed on the basis of the balance sheet to be adopted for the financial period that ended on 31 December 2022.

More information:

www.teleste.com/AGM

CHANGES IN SHAREHOLDERS' CONTACT INFORMATION

The shareholder register is maintained by Euroclear Finland Oy. Shareholders are kindly requested to inform the custodian of their book-entry account of any changes in contact details.

For more information:

www.teleste.com/investors

Teleste Corporation was listed on Nasdaq Helsinki 30 March 1999. Listing price was 8.20 EUR





www.facebook.com/telestecorporation
www.twitter.com/telestecorp
www.linkedin.com/company/teleste
www.slideshare.net/telestecorporation
www.youtube.com/telestecorporation
www.vimeo.com/teleste



Copyright © 2022 Teleste Corporation. All rights reserved.
Teleste is a registered trademark of Teleste Corporation.

TELESTE CORPORATION

Postal address: P.o. Box 323, 20101 Turku, Finland
Visiting address: Telestenkatu 1,
20660 Littoinen, Finland

Telephone (switchboard): +358 2 2605 611
www.teleste.com
Business ID: 1102267-8