



Public Report

Building a strong brand together

We strive not only
to **grow** in size and
revenue, but also in
the value we add for
our customers

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We want to expand our position in our focus markets.

The combination of technical expertise with in-depth domain knowledge has guaranteed the quality of our services for over 45 years.

Complete



Karim Henkens,
CEO, ICT Group

During the first months of 2023 we introduced our strategic roadmap, “**The new mindset for growth**”. This roadmap marked out a clear route for the following years. Its emphasis was on expanding our position in a number of focus markets: Automotive, High Tech, Industry and Infra, Logistics and Public Mobility. While we are realising this expansion, it is essential that we keep concentrating on project-based work, partly based on a number of solutions that were developed in-house. Looking back to 2023, the 45th year of our existence, we are happy with the first steps we have taken on this journey.

We strive not only to grow in size and revenue, but also in the value we add for **our customers**

Leading player

We have adapted our organisational structure in our endeavour to become a “leading player” in the market segments mentioned. This structure now reflects our strategic roadmap. In doing so, we have ensured that we do this from the common ground that has guaranteed our success and the quality of our services for over 45 years: the combination of technical expertise with in-depth domain knowledge.

The new structure should lead to higher effectiveness in the market as well as a clear commercial focus, ensuring that clients and other stakeholders clearly recognise us as being the leading player in these segments. Our culture is characterised by great commitment and a driven passion for technology, and in 2023, to underscore this, we combined all Dutch divisions under one ICT brand. We will implement a similar change for our foreign subsidiaries in 2024.

Added value

The shift towards activities based on projects and products has resulted in more added value, not only for our clients, but also for our employees. Working in teams for a single client, often on projects that are highly innovative from a technical perspective, creates great satisfaction and contributes to a pleasant working atmosphere. We are becoming increasingly relevant to clients as we keep supporting them at the heart of their IT or OT operations. We pride ourselves on the fact that we have been working for our five largest clients for over 25 years, and that many client relationships go back more than 30 years. This is certainly an outstanding achievement, and it clearly shows our striving to not only grow in size and revenue, but also in the value we add for our customers.

EuroDelivery

Another important part of the “new mindset for growth” is the progress we have made in connecting our EuroDelivery centres in Bulgaria and Portugal. Whereas originally their work primarily served customers in the High Tech segment, in 2023 the focus was on projects for clients in the other strategic market segments. This has resulted in new projects for Industry, Logistics and Public Mobility. We have also made a start on offering EuroDelivery through our branches in Germany and Sweden. This will enrich the opportunities for our customers and it will enable us to meet the tight labour market for skilled IT personnel in North-Western Europe.

Mergers & Acquisitions

Our streamlined strategy for the coming years also includes a clear roadmap for new acquisitions.



These acquisitions must fit within our strategic markets, in geographies that are important to us, and they must also add something to the operations of the various departments and companies. An essential aspect of acquisitions is the cultural element. If it doesn't "feel" right, it overshadows all the objective criteria that apply. This is why we are very happy to have been able to add the Amsterdam-based company Incore to ICT Group in 2023. Incore is a company that specialises in automated supply chain

management solutions with a customer base that includes large retail, food and construction companies. The acquisition strengthens our position in the logistics market segment where we now have a complete offering for distribution and port logistics, thanks to the combination with ICT Netherlands' logistics business unit and our ICT OrangeNXT and ICT Yellowstar labels. In early 2024, ICT Group acquired TriOpSys Utrecht. Their activities also fit in with our aim of becoming a leading player in public mobility, safety & security.

Rising costs

Last year, ICT Group had to contend with sharply rising costs for personnel and purchasing. Unfortunately we could not incorporate these cost increases into our rates in all cases. Combined with a lower demand in a number of our core segments, especially in the second half of the year, this meant that last year's revenue increase did not keep pace with EBITDA. Nevertheless, we can look back with satisfaction at what we have achieved as a company. Our twenty largest clients achieved a substantial increase in turnover and the number of employees across the ICT Group grew by 8%.

Great place to work

In 2023, ICT Group was certified as a Great Place to Work. A trust index of no less than 78% earns us a position among the top performers in our industry. Many thanks go to our employees who have given ICT Group this high score as an employer. It reflects the great atmosphere and pleasure with which our people work at ICT Group. Among other things, the survey showed that at ICT Group employees feel that they can be themselves. In addition, the technical challenges of our projects as well as the mutual camaraderie were seen as particularly positive.

We strongly believe that our employees are our company's most important asset, which is why employee satisfaction remains a spearhead that we will continue to focus on intensively in the coming years.

The world around us is changing rapidly and digitalisation is having a major impact on how we live and do business. This is why we are proud to have been named "Digital Transformer of the Year" once again in 2023. This report contains examples of several compelling projects we have been privileged to realise for clients in our focus markets. Many of these stories are at the crossroads between innovative technology and sustainability. In addition, a number of colleagues from various business units across Europe reflect on how they want, in their own way, to be able to contribute to a better world.

I wish you much reading pleasure and inspiration and thank you for your trust in ICT Group.

Karim Henkens
CEO, ICT Group

Corporate Governance



ICT Group B.V., a private company with limited liability incorporated under Dutch law with its registered office in Barendrecht, the Netherlands (the “Company”) is the parent company of the ICT Group of companies. The Company qualifies as a “structuurvennootschap” within the meaning of the Dutch Civil Code and applies the relevant rules of Dutch company law.

Executive Board

The company has a two-tier management structure, consisting of an Executive Board and a Supervisory Board. The Executive Board is responsible for managing the Company and consists of the following three members: Karim Henkens, Chief Executive Officer, Bart de Jong, Chief Financial Officer and Roy Jansen, Chief Operational Officer.



Karim Henkens,
Chief Executive Officer (CEO)



Bart de Jong,
Chief Financial Officer (CFO)



Roy Jansen,
Chief Operational Officer (COO)

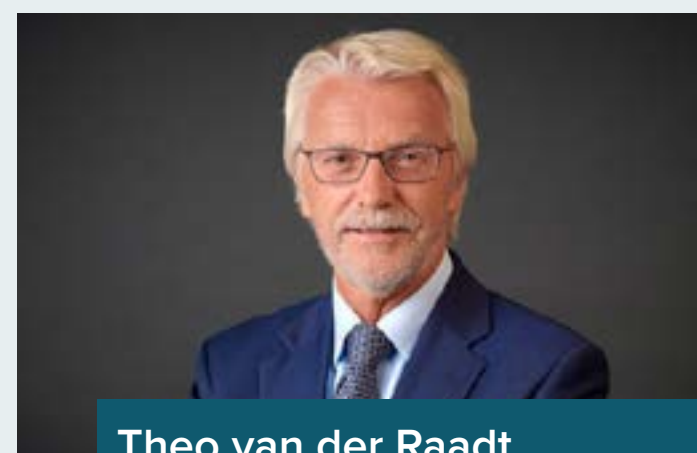
Supervisory Board

The Supervisory Board is charged with supervising and advising the Management Board. The Supervisory Board supervises the policy of the Executive Board and the general course of affairs of the company and

its affiliated companies, comprising the activities of the group companies. The Supervisory Board’s supervision includes the achievement of the company’s objectives, the general strategy of the company and the

risks associated with the business activities, the design and operation of the internal risk management and control systems, the financial reporting processes, compliance with legislation and regulations and the

company’s social responsibility. The Supervisory Board consists of the following five members: Theo J. van der Raadt (Chairman), Koen Beeckmans, Bart Coopmans, Jan-Jaap Bongers and Wim Bijmens.



Theo van der Raadt,
Chairman of Supervisory Board



Koen Beeckmans,
Member of the Supervisory Board



Bart Coopmans,
Member of the Supervisory Board



Jan-Jaap Bongers,
Member of the Supervisory Board



Wim Bijmens,
Member of the Supervisory Board

Celebrating **45 years** together

In 2023 we celebrated our 45th anniversary. Forty-five years of industrial excellence and client-based solutions. We feel proud that we have realized thousands of innovative projects and know we could

not have achieved this without our passionate professionals. With their deep technical expertise and dedication, they create a smarter world, every day. Here's to 45 more years of success.



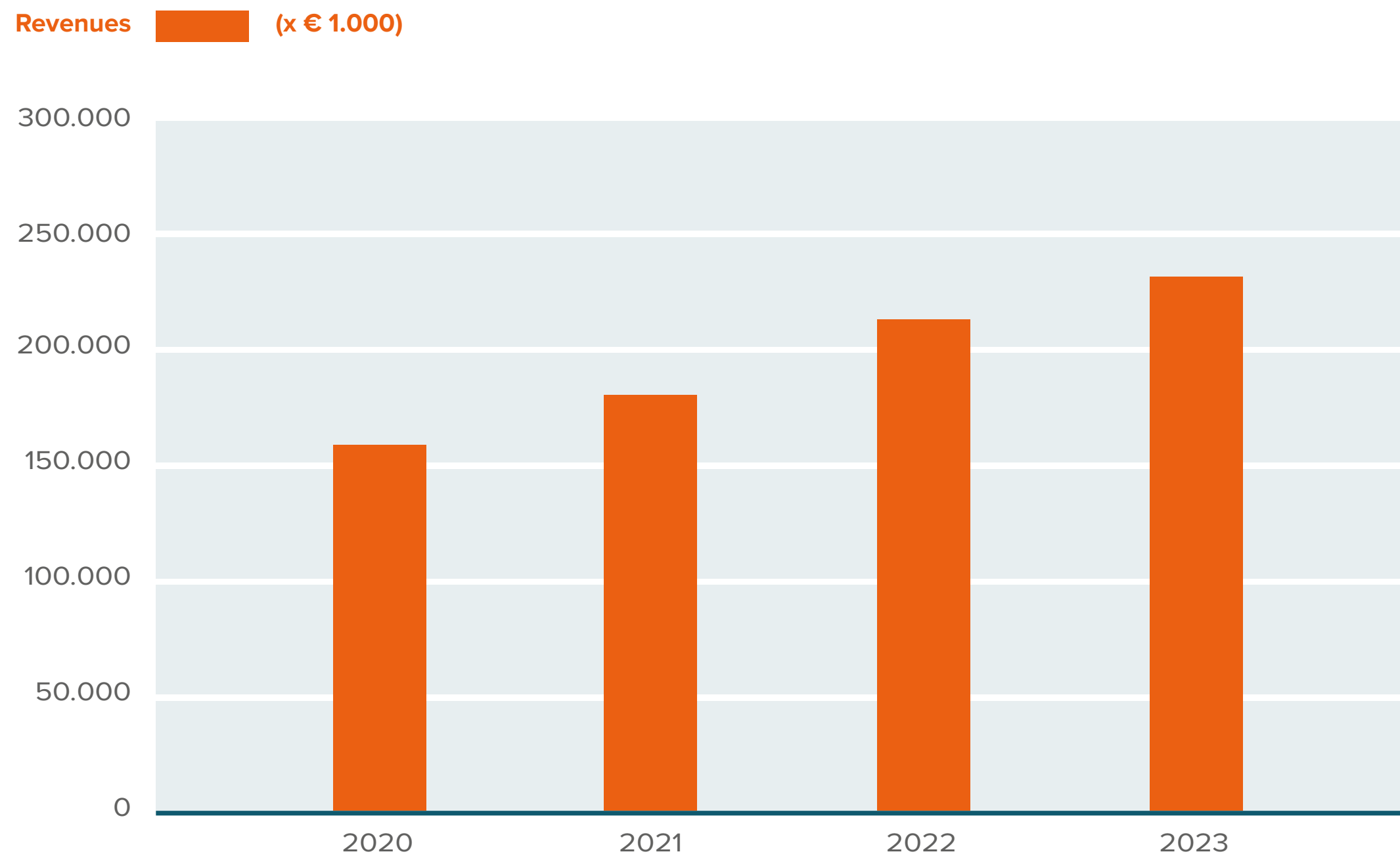
Financial Results

Financial Results

Revenue

2023 was a challenging year with economic headwind in the Netherlands and Germany. Total revenue growth of 6,9% of which organic 6,1%. Acquisition of Incore (closed in September) and the acquisition of TriOpSys (closed in February 2024) are examples of the buy-and-build strategy of ICT Group.

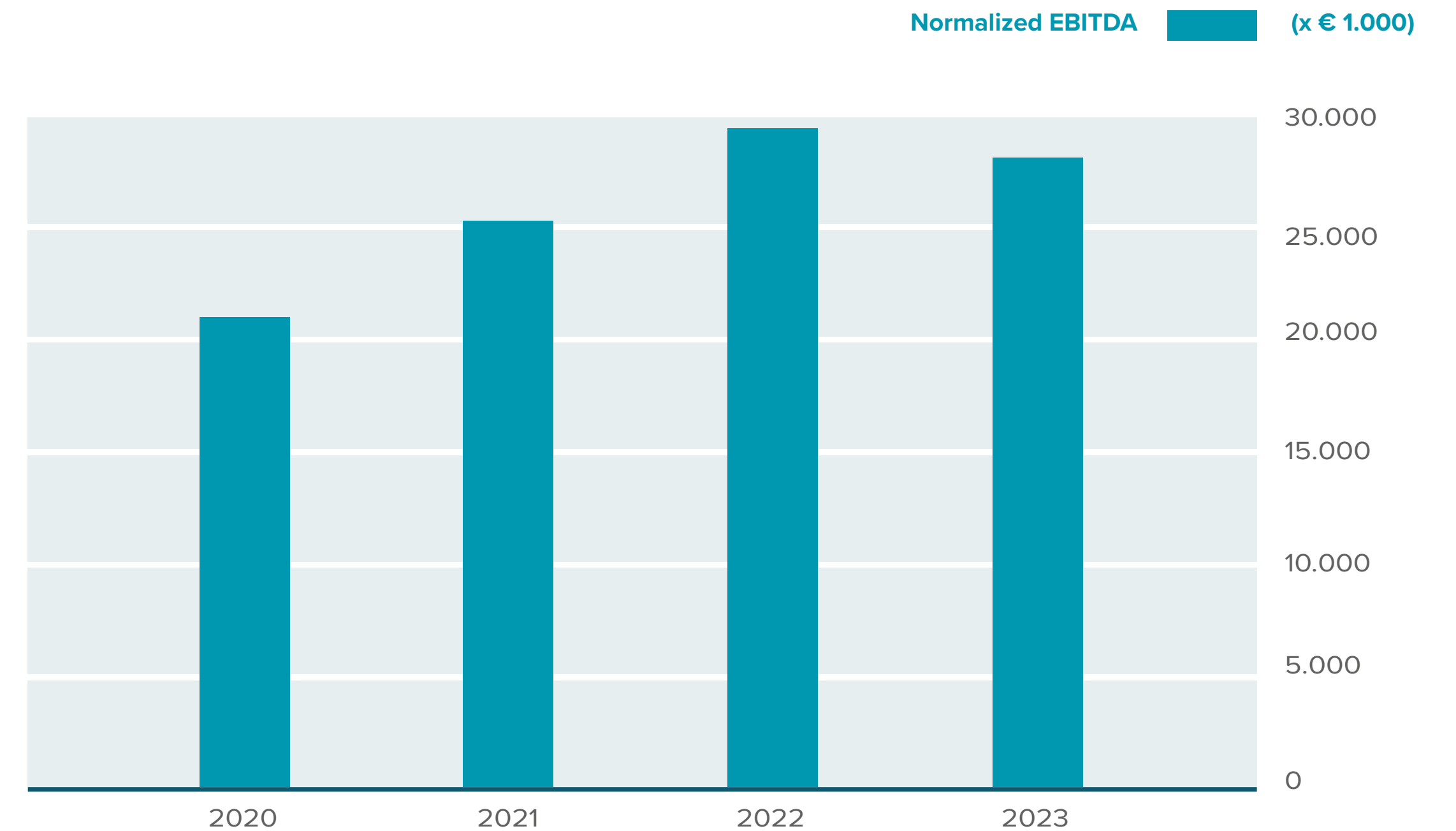
Results (x € 1.000)	2020	2021	2022	2023
Revenues	160.017	182.276	214.659	229.421



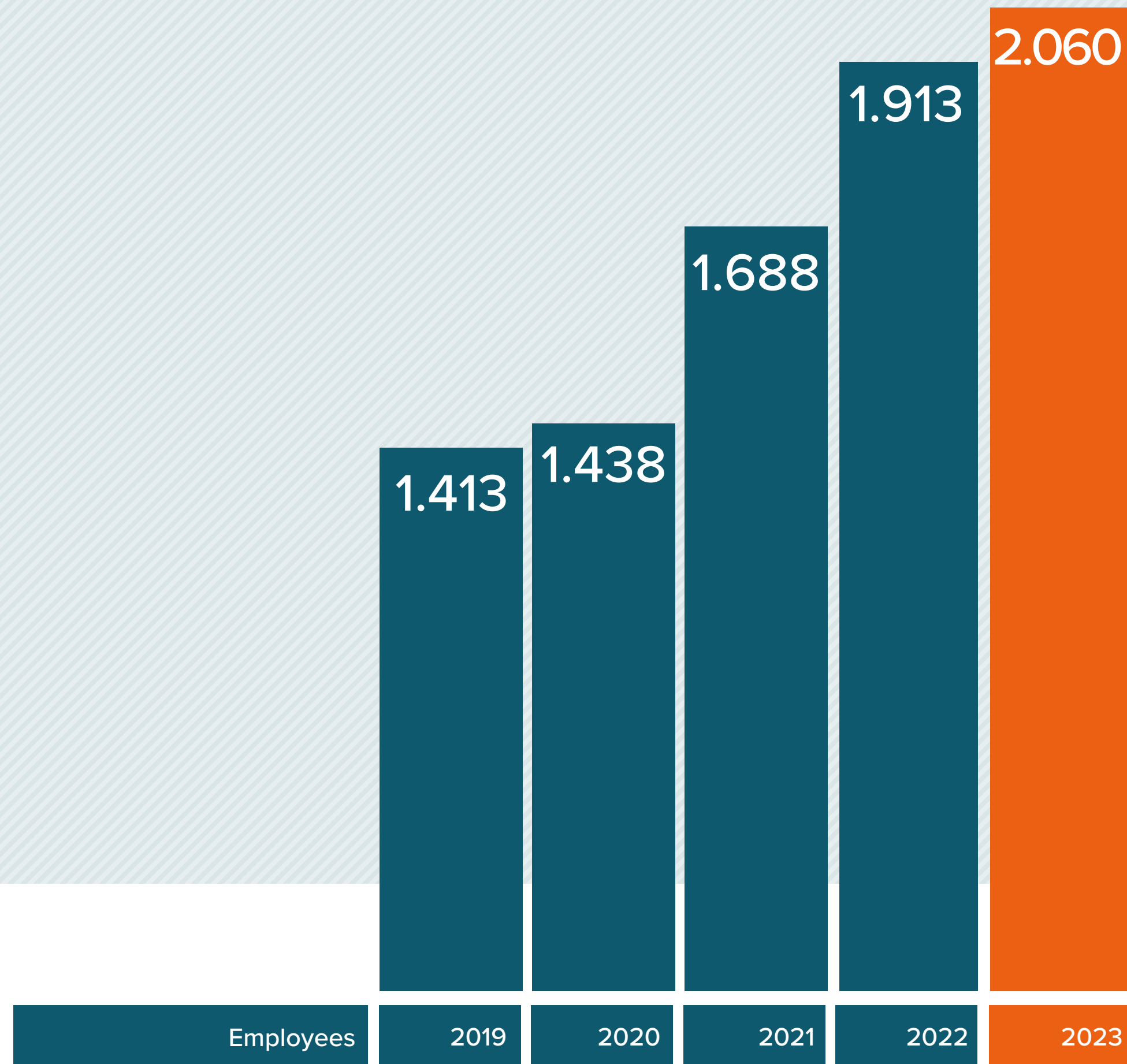
Normalized EBITDA

Due to a lower productivity in the second part of the year: the normalized EBITDA was under pressure (13,7% in 2022 versus 12,1% in 2023). Lower gross margin was partly offset by lower indirect costs.

Results (x € 1.000)	2020	2021	2022	2023
Normalized EBITDA	21.300	25.400	29.300	27.500

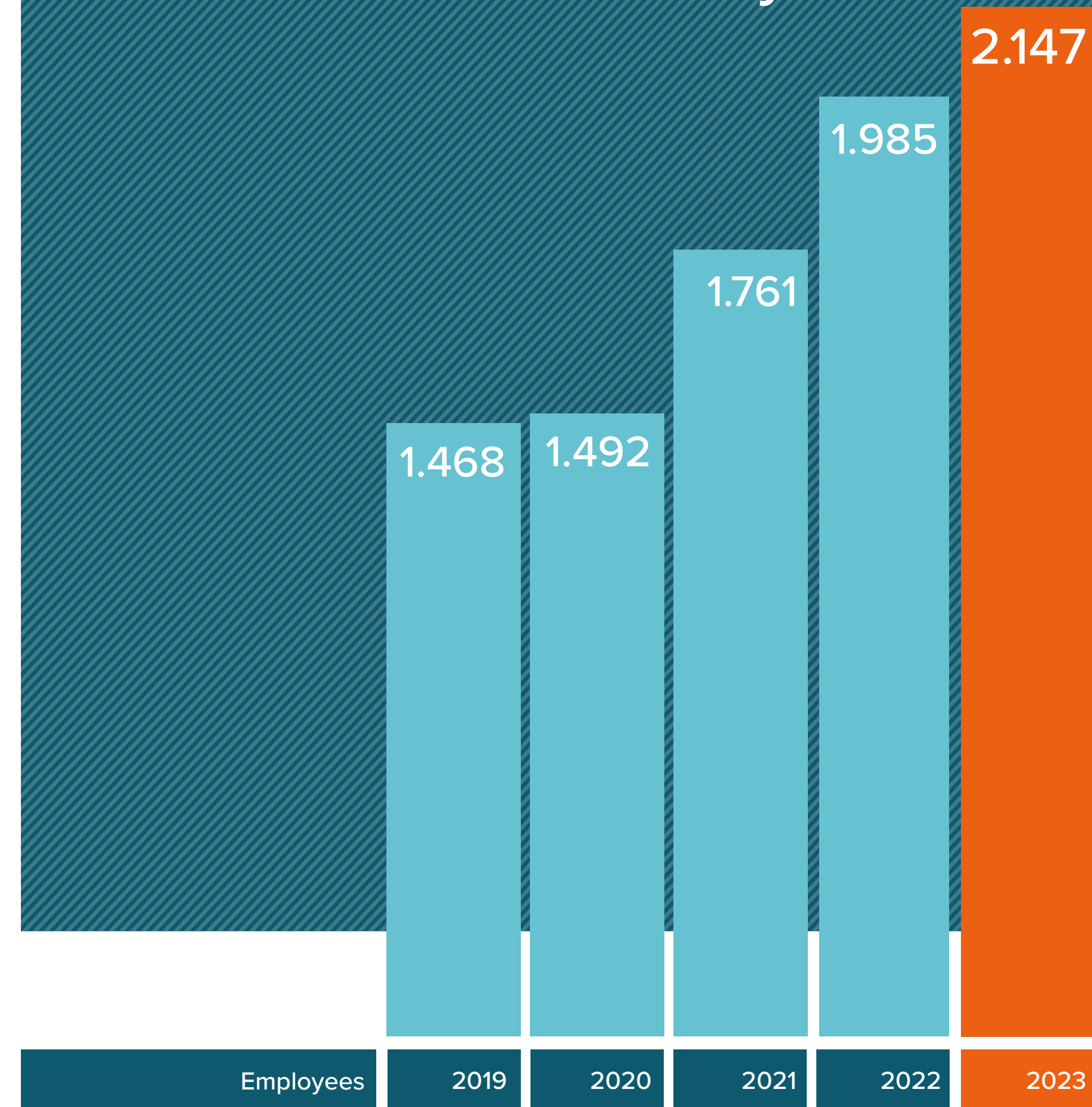


| FTE end of year



FTE end of year	2019	2020	2021	2022	2023
	1.413	1.438	1.688	1.913	2.060

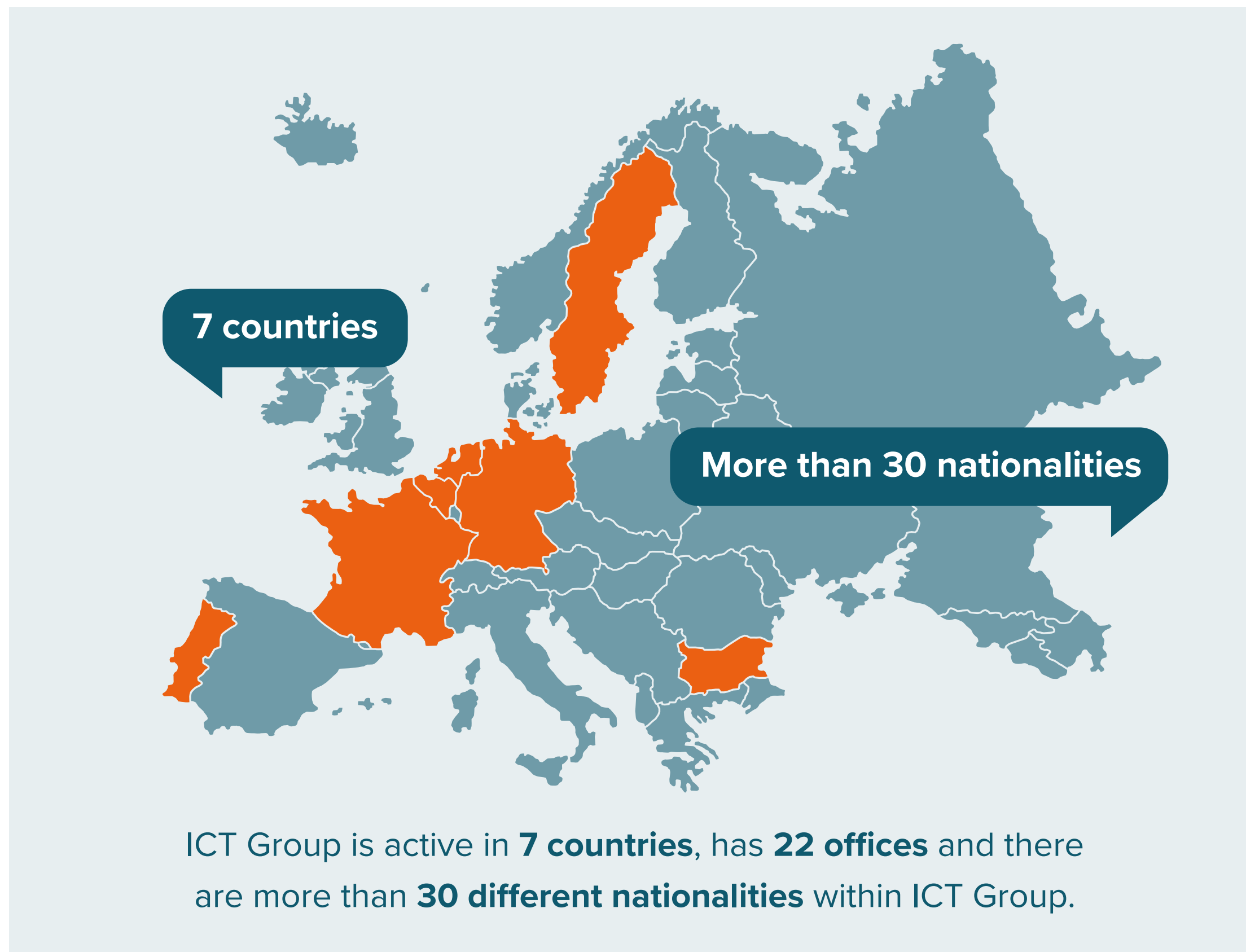
| Headcount end of year



Headcount end of year	2019	2020	2021	2022	2023
	1.468	1.492	1.761	1.985	2.147



Facts & Figures



ICT Group employs **more than**
2.100
 professionals

Longest serving employee
42
 Years

ICT Meaning
 Originally the abbreviation ICT in ICT Group means **'Industriële Computer Toepassingen'** (Industrial Computer Applications) and not the, nowadays, well known term Information and Communication Technology.

45
 YEARS
Long Standing History
 ICT Group has been active in the industrial automation market for over 45 years.

Environment & Social

As a European industrial solutions provider ICT Group is fully aware of its environmental impact. We act in line with the ambitious objectives of our parent company [NPM Capital](#). These objectives clearly state that creating value is no longer just about financial performance. Businesses that cannot make a positive contribution to the environment and society (ESG) will not survive in the future. Besides actively monitoring and managing our own footprint, we strive to add value on sustainability in our projects, together with our clients and partners.

Below you will find a few examples of recent projects.

| Staying connected
in a **sustainable world**



Martijn Kooij, Business Unit Manager,
ICT Raster

ICT Raster and Bachmann join forces for MARIN's Zero Emissions Lab



In an exciting development, the Maritime Research Institute Nederland (MARIN) is taking significant steps towards revolutionizing the testing of eco-friendly shipping with its Zero Emissions Lab (ZEL).

MARIN's objective was to create a facility for testing and configuring propulsion systems for ships that produce zero emissions. Achieving this required a delicate balance between flexibility and safety. To navigate these waters successfully, MARIN sought the expertise of ICT Raster and maritime automation specialists, Bachmann electronic.

Flexibility and future-proof partnership

A core focus of this partnership was flexibility and future-proofing. Acknowledging the rapid advancements in technology, the aim was to bridge the gap between imagination and practical, forward-looking, solutions

Innovative solutions for complex systems

Designing the ZEL presented a unique challenge since there were no prior examples to guide them. However, ICT Raster's innovative reputation stood out. They assisted MARIN in defining crucial safety conditions using the Capella modeling tool. The ZEL's system, meticulously crafted by ICT Raster, consists of three main parts: the shaft line, a 700 Volt DC-bus, and the utilities section. These components were ingeniously designed to optimize space utilization, even within physical constraints.

Bachmann Electronic hardware

This partnership also extends to Bachmann electronic's product range. The ZEL now communicates with seven PLCs, a number set to double soon.

Ensuring the seamless integration of all these systems was a monumental task, but ICT Raster achieved it brilliantly, prioritizing the safety of both machines and processes.

Exceptional Collaboration

Throughout the process of designing this pioneering system, ICT Raster and MARIN encountered and overcame numerous technical challenges. Their collaboration has been truly exceptional, marked by regular meetings and personnel exchanges that epitomize a unique and productive partnership.



Tobias Bakker,
Technical Director, Contronics



Jan-Willem Reuling, Sr. Operations Manager,
ICT Applied Solutions

Dry misting systems to reduce food waste

Contronics' ultrasonic humidifiers combat food waste by creating the ideal microclimate for fruit and vegetables, for example in supermarkets. The latest generation of humidifiers can be monitored remotely and controlled automatically. ICT Group entity Fourtress, currently part of ICT Applied Solutions, has developed several components, including the dashboard.

Optimal microclimate for food products

Contronics develops ultrasonic humidification systems, known as Dry Misting systems, creating an ideal microclimate for vegetables and fruits in supermarkets. Tobias Bakker, technical director at Contronics, explains: "Using microdroplets ranging from 1 to 5 micrometers, a microclimate is established above shelves with the perfect temperature and humidity." The company primarily targets supermarkets and has already sold 15,000 systems in 30 countries, securing a 75 percent market share.

Ecological and economic benefits

These humidification systems offer significant ecological benefits by reducing the waste flow in the food chain by 50 percent. According to Contronics' calculations, they prevent 3,362,534 kilograms of food waste annually.

Additionally, the systems save electricity and water, reduce the need for refrigeration, and cut labor costs, resulting in a short payback period of one to two and a half years.

From dashboard development to algorithm fine-tuning

Contronics approached Fourtress to develop a dashboard for remote monitoring and management of the humidification systems. Fourtress not only developed the dashboard but also was involved in the hardware and embedded software development for LoRaWAN connectivity. The dashboard goes beyond providing insights; it continuously optimizes conditions and enables predictive maintenance.

Future rollout and ongoing collaboration

While the new system is in its final production stages, plans for further enhancements are underway. A major goal for Contronics is the automatic adjustment of systems based on real-time conditions. Contronics and Fourtress continue to collaborate closely to achieve this goal and elevate the fight against food waste.

"Our own calculations have shown that we can eliminate 3,362,534 kilos of food waste every year. Moreover, using the humidifiers saves on electricity and water."

Tobias Bakker



Martijn van Aartrijk, Business Developer and Consultant, ICT InTraffic



John Koot, Sales Director, ICT Applied Solutions

Public Mobility IoT solution for faulty escalators and elevators at stations

Public transport must be accessible to everyone, including people with a disability or reduced energy. Stations in the Netherlands, however, regularly have to deal with defective escalators and lifts. Passengers who depend on these facilities for their travel activities are greatly inconvenienced by this.

For example, if an elevator breaks down at the destination station, passengers may not be able to disembark, but have to travel one station further. Then they have to travel back via the other direction to the platform where the elevator is not broken. Broken escalators and elevators force travelers to look for alternative routes, which leads to delays, frustration, and inconvenience. Especially during busy periods when efficient traffic is crucial. If you would have this information before you leave, then you could at least adjust your plans accordingly.

Remote Monitoring

When essential services are not operational, potential travelers can be discouraged from opting for this form of transport. However, it is currently difficult for station managers to monitor the elevators and escalators in a

simple and efficient way. They often have to deal with many different suppliers and a variety of systems and maintenance contracts.

A new product focused on monitoring elevators and escalators promises an elevated travel experience and improved accessibility at stations. John Koot, ICT Applied Solutions: “With our IoT monitoring solution, we generate real-time signals about the status of elevators and escalators on a single platform. As a result, defects can be corrected, but it can also be used proactively by detecting early signs of malfunctions. Our IoT solution is independent and not limited to specific transporters. It can be integrated into the processes of different providers. The stations’ maintenance team has control over the process from monitoring to repair and can engage third-party suppliers if necessary.”

Up to date travel information

Martijn Van Aartrijk: “ICT InTraffic ensures that a translation is also made into travel information. This allows travelers to be informed through various channels. This includes trip planner apps, in-vehicle information screens, and websites. Research shows that passengers, who rely on the elevator or escalator system at a station, have a better experience when they are informed in advance of any malfunctions. They can then adjust their travel plans accordingly. We are discussing the further roll-out of the product and hope to be operational soon. This will allow public transport to take a step forward in accessibility and reliability of stations.”



Martijn Schram, Business Unit Manager,
ICT Vital Infrastructures

Successful replacement public lighting system **Municipality of Utrecht**



The Municipality of Utrecht is responsible for the operation, annual management and maintenance of more than 60,000 light points in the public space. The public lighting, abbreviated OVL, is powered and switched from 621 OVL control switch boxes spread throughout the municipality. The current OVL control system was in need of replacement. The municipality put the contract out to tender at European level and it was won by ICT Group.

For the implementation of the replacement process, the municipality has opted for a variant in which the core of the OVL control system is replaced by a newly designed core, instead of rebuilding the entire system. This core is based on an existing reliable solution which, in an earlier stage, was co-developed and realized by ICT Group for the pumping station control system of the City of Utrecht.

“We are very pleased with the result of yet another successful delivery at the Municipality of Utrecht.”

Martijn Schram

Sustainable lighting system

When replacing the public lighting control system and switch boxes, the sustainability of the public lighting was also important. For example, the Municipality of Utrecht chose to use LED lighting for public lighting. The new system also allows them to dim the lights to a lower percentage, e.g. 30% in off-peak hours. And, when it is possible and appropriate, they can choose not to switch on any lights.

Implementation and managed services

ICT Group has realized the initial implementation of the software of the central and local OVL control system in a period of two years and is responsible for the

management, maintenance and further development of the system. Martijn Schram, Business Unit Manager at ICT Group: “We are very pleased with the result of yet another successful project at the Municipality of Utrecht. This gives us confidence for a long-term cooperation and offers expansion possibilities for monitoring other asset groups.”



Focus Markets

Within our focus markets Automotive, High Tech, Industry & Infra, Logistics and Public Mobility, Safety and Security we strive to be a leading partner and help our customers grow. Through our cases and stories, we want to give you more insight into these markets.

eCall in-vehicle **safety system**

The eCall system is an in-vehicle safety system that contacts the emergency services in the event of a serious road accident. The system provides the emergency service operator with information such as the precise location of the accident, the number of passengers in the vehicle, the speed at which the accident occurred, and the type of vehicle.

Embedded Software

For a European OEM customer ICT Automotive has developed the embedded software for a connected electronic control unit that connects the vehicle to the internet and backend, while providing the eCall system software as one of its functionalities. The eCall system is an in-vehicle safety system that contacts the emergency services in the event of a serious road accident. This can either be activated automatically or by the press of a button.

“The eCall system is an in-vehicle safety system that contacts the emergency services in the event of a serious road accident.” Johan van Uden

Cyber Security

Developing the embedded software for an eCall system requires a comprehensive understanding of Cyber Security. The software must be designed to ensure that the eCall system is both secure and reliable. The connected electronic control unit running the eCall system is a critical component of the vehicle, and it is essential that it is protected from cyber-attacks. The first step in developing secure embedded vehicle software is to identify the potential Cyber Security risks. This includes identifying the potential vulnerabilities in both the software and the hardware. Once these risks have been identified, the software can be designed to mitigate these risks. This includes implementing security features such as encryption, authentication, and access control.



Johan van Uden, Business Development Manager,
ICT Automotive

Reliable and secure software

Another important aspect of developing embedded vehicle software for an eCall system is to ensure that the software is updated regularly. This is because new Cyber Security threats are constantly emerging, and it is essential that the software is up-to-date to protect against these threats. Regular updates also ensure that the software is optimized for performance and reliability.

Furthermore, it is important to ensure that the software is tested thoroughly before it is deployed. This includes testing the software for vulnerabilities and ensuring that it is compatible with the hardware. Testing should be done in a controlled environment to ensure that the software is reliable and secure.

Growing together with ASML through knowledge sharing

ICT Group/Strypes is aiding ASML with its large-scale software development and maintenance needs. Their partnership extends beyond transactional aspects, encompassing strategic planning and knowledge sharing.

ASML has cemented its place in the semiconductor industry through a reliable integration of hardware systems and innovative designs. In recent years, software has increasingly become a crucial aspect of their operations. Software enables quicker diagnosis of hardware issues and forms the foundation of numerous optimizations in ASML's lithography machines.



Nasko Filchev,
COO, Strypes

Consequently facing new challenges

Consequently, ASML was facing new challenges, including the need for an extensive software development workforce and the management of a large-scale software infrastructure. To tackle these challenges, ASML sought external assistance. They engaged ICT Group and its Bulgarian subsidiary Strypes to oversee important parts of their software infrastructure.

“Working with ASML is demanding yet rewarding: it keeps us sharp and drives our own growth,” Nasko Filchev

Advancing together through knowledge sharing

ASML conducts regular operational, tactical, and strategic meetings with ICT Group/Strypes, which Rob Hendriks,

Business unit manager High Tech, greatly appreciates: “ASML discloses their industry insights, so we can prepare accordingly. This especially enables us, on a strategic level, to devise long-term plans.”

Nasko Filchev, COO at Strypes, adds that ASML's annual Supplier Day event is very helpful: “During these gatherings, ASML discloses their challenges and needs on a tactical level to their key suppliers. The discussion expands beyond technical details to include training plans, thus equipping us for what lies ahead.” The Strypes COO also welcomes the recent assignment of a dedicated business account manager at ASML, who serves as a sparring partner in their collaboration.

Mutually beneficial partnership

Filchev emphasizes that the exchange of knowledge is a two-way street. “We actively engage ASML on specific topics of interest for them.

“By continuously learning from each other and disseminating our knowledge, we can guarantee a mutually beneficial partnership,” Rob Hendriks



Rob Hendriks, Business Unit Manager
High Tech, ICT Group

We discuss our experiments with artificial intelligence (AI) techniques and share our advancements in this field. For instance, migrating legacy Python 2 code to Python 3 is a lot of manual labor. However, you can train a large language model (LLM) to do this for you. A lot of software maintenance tasks can be automated this way.”

Overall, Hendriks believes that sharing both ways is a key aspect of their collaboration with ASML: “By continuously learning from each other and disseminating our knowledge, we can guarantee a mutually beneficial partnership that leads to the advancement of the industry as a whole.”

Important role distribution medical products underestimated within **MDR**

The Medical Device Regulations for medical products also affect the distribution companies in the healthcare chain. Reason enough for Vision Medical Company, a total supplier for primary and secondary care, to take QA/RA seriously and to engage ICT Group to become more than MDR compliant.

QA/RA and MDR compliant

The legislation surrounding the Medical Device Regulations (2017/745 EU, hereinafter referred to as MDR) places high demands on the developers and manufacturers of medical products. What the market underestimates is that these products are often distributed worldwide and buyers sometimes only receive a product months after the order. It is the importer and distributor who oversee the entire chain and who can ensure supervision and compliance with the MDR. Robin Bijdevier, Managing Director at Vision MC, believes that their role in this is so important that they invest in it purposefully.

Integrating MDR into processes

Robin Bijdevier: “A large number of hospitals and various private clinics in the Netherlands are our customers. Quality has always been of paramount importance to us. Since the beginning in 2003, we have met ISO9001 for our procedures and management processes. But a QMS (Quality Management System) can be used by anyone and is not industry-specific. We were specifically looking for a connection with

healthcare and therefore started writing procedures ourselves. The change in the law for medical devices was the reason for us to formally arrange our affairs properly.”

Quality is paramount

“That’s why we called in QA/RA expertise from ICT Group. We need his knowledge of the MDR to integrate MDR into our processes. They first carried out an audit, a gap analysis, of our current QMS and determined which actions we can take to fulfil our role as distributor and importer within the MDR as well as possible. Based on the results, we set up a project that we are now rolling out step by step.”

Continuous optimization

“In the future, we want to comply with ISO 13485, so that we are also compliant with ISO 13485 and MDR as an importer and distributor. We are taking the lead in this so that we can demonstrate to customers that we understand their needs and that the impact of MDR is in safe hands with us. ICT Group is an indispensable support for us in this.”

High Tech



“We stand for quality and want to stay ahead of the curve. ICT Group is an indispensable support for us in this regard.”

Robin Bijdevier, Managing Director, Vision MC



Industry

LMS allows **De Graafstroom** to opt for more cost-efficient MES alternative

Replacing an outdated MES application with a new standard MES software product? That's not what happened at Dairy Factory De Graafstroom. ICT Group developed a customised Line Management System (LMS) with a .NET web portal that has been implemented at several clients. This concept is very suitable for smaller and medium-sized production sites where a standard MES is too expensive and bulky. An LMS with at least the same functionality is cheaper to build and can be maintained and managed by ICT Managed Services.

'Lean' MES

Frank Baars, ICT Industry & Infra's project & operations manager:

"A standard MES offers a lot of functionality for monitoring and controlling production processes and exchanging information with ERP systems. The disadvantage is that you pay high recurring licence fees when you only use a small part of these functionalities.

That was the dilemma for De Graafstroom when the eight-year-old MES solution for controlling the warehouse could no longer be upgraded and supported. We came up with a more cost-efficient alternative: an LMS without licence fees, but with customer-specific functionalities. A 'lean' MES solution."

Flexible solution

"We designed and built this solution using techniques with a .NET application with web portal. ICT Group has extensive knowledge in this domain. This solution developed by ICT Group creates flexibility without high annual licence fees.

"ICT Group has provided us with a hassle-free replacement of the MES."

*Pieter Franke, Head of Warehouse,
De Graafstroom*

De Graafstroom chose this solution because the initial as well as the annual investments are lower than those for a standard MES solution. We discussed the possible options and decided to start by shadowing the new LMS application alongside the outdated MES. This allowed us to monitor data, check signals, compare deviations and test and implement optimisations without any downtime or loss of production. A very powerful testing method. Only minor adjustments turned out to be necessary at the time of 'go live', and these were implemented very quickly."

Carefree replacement

Pieter Franke, De Graafstroom's Warehouse manager, is very satisfied with this alternative: "ICT Group has provided us with a hassle-free replacement of the MES." The deep technological expertise and domain knowledge of ICT Group's software developers and engineers provide clients with LMS solutions to support their business-critical processes and strengthen their market position.

Life Cycle Management at ICT Group

ICT Group has been developing total solutions for industrial automation for over 45 years. While most business units within ICT Group focus on software development, ICT Managed Services focuses on 24x7 monitoring and management and maintenance of the often mission-critical systems for which the software is built.

“The solutions developed by ICT Group often have to serve for up to thirty years, in contrast to office automation. And that with as few disturbances as possible because the software is used in mission-critical environments. This means that the management of this software is extremely important,” says Business Unit Manager ICT Managed Services, Stefan Malee.

Sustainable collaboration

“The strength of ICT Group is that we can take on a project from the design stage to managing and maintaining the project. As ICT Managed Services, we therefore work closely with other business units of ICT Group. When developing software, they already

keep in mind that it also needs to be maintained for ten or twenty years.

“ICT Group’s strength is that we can take on a project from the design stage to managing and maintaining the project.”

Stefan Malee

In fact, more and more customers are procuring a project on the basis of Total Cost of Ownership (TCO). “For example, this was done by the municipality of The Hague, which launched a tender for the renovation of the Hubertus tunnel based on a TCO of fifteen years. Contractor Strukton then approached ICT Group for the development

and management of the tunnel technical installations. Another good example is the municipality of Utrecht, which launched a tender to further develop and manage a half-finished pumping station management system a few years ago. Recently, we also took on the management and maintenance of the system developed by ICT Group, which controls the more than 60,000 light points in the Municipality of Utrecht. Stefan: “In both projects, we worked closely with the business units that developed the software. Such large projects can only be successfully completed if maintenance and management are included from the very beginning. In addition, we take on the lifecycle management of the entire stack. That way, customers only have one point of contact.”

Unique qualities

ICT Managed Services also works for companies that have had their software developed themselves or by another party. “In that case, customers choose us because we are one of the few management

“We are one of the few management organizations that understand both IT and OT.”

Stefan Malee

organizations that understand both IT and OT (operational technology) and can connect those two worlds. There are few other organizations in the Netherlands that are as deep in Industry 4.0 as we are,” says Stefan. “Moreover, we have knowledge of all programming languages that are no longer used very often.”



Stefan Malee, Business Unit Manager ICT Managed Services, ICT Group

Successful cooperation automation Blankenburg connection

ICT Group has been working on the development of the local control software for the tunnel technical installations of the Blankenburg connection since September 2019.

Tackling integration issues in advance

The entire development of the automation took place at an exceedingly early stage in this project. “This was a conscious choice made by construction consortium BAAK and based on a risk mitigating mindset. Tackling integration issues in advance avoids potential delays in the construction phase of both tunnels,” states Pasquale Rinaldi, Programme Manager at ICT Group.



ICT Group developed the software in collaboration with BAAK and other contractors. Even before the technical installations on the Blankenburg connection were physically installed, the software for controlling them had already been tested and integrated within the 3B layer (coordinating control) above. This is the result of meticulous preparation.

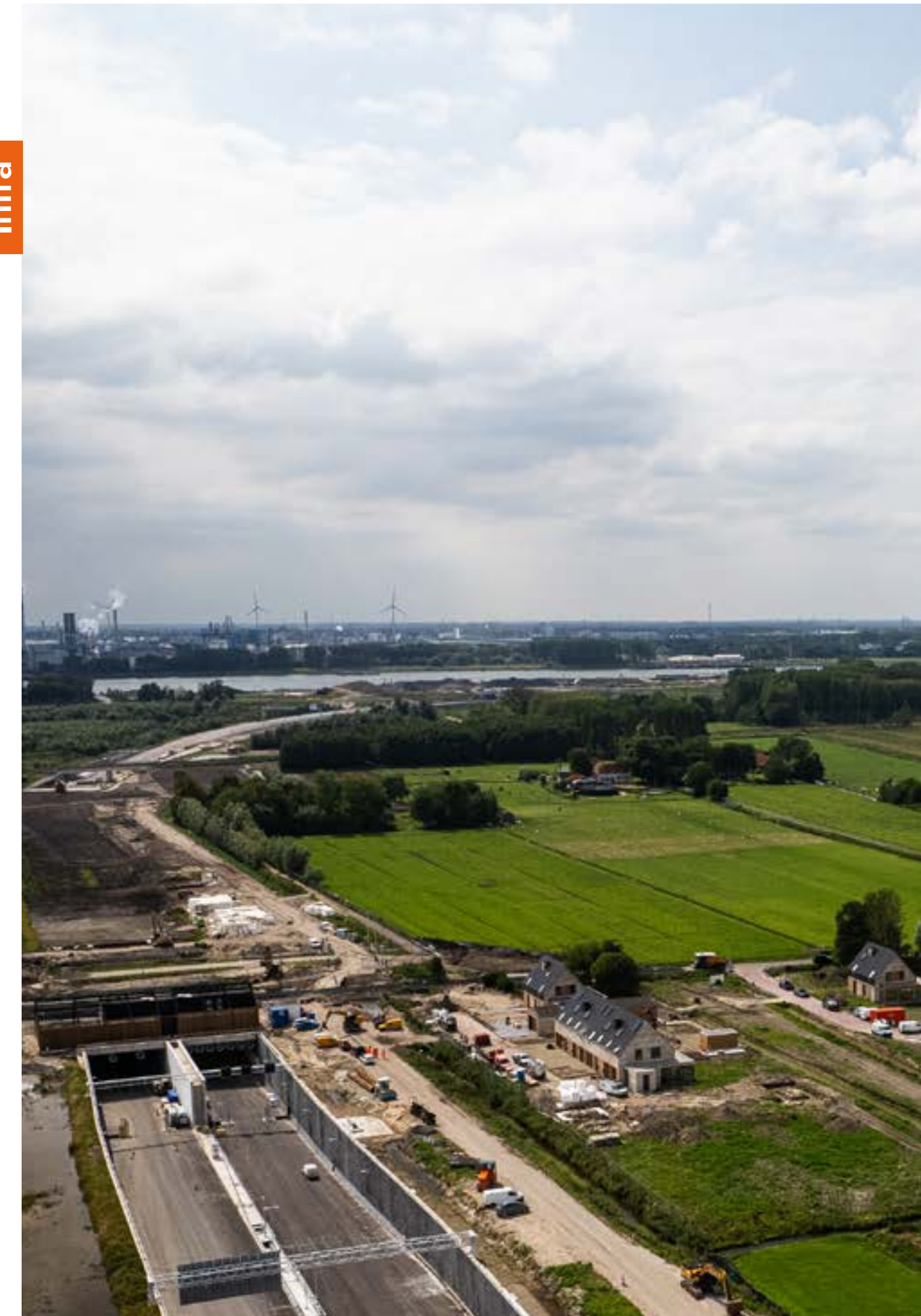
Best for project

ICT Group has its own test environment to simulate and test systems integrally. “We are used to carrying out these kinds of projects and have the capacity, knowledge and expertise in-house. At all levels. Not just of the software, but also of the hardware we control,” says Herman Kraaij, Business Development manager Infra at ICT Group. “Moreover, as an independent system integrator, we do not stick to one system, but have experience with many different systems, so we can always come up with a ‘best for project’ solution.”



“The entire development of the automation took place at an exceedingly early stage in this project.”
 Herman Kraaij, Business Development manager Infra,
 ICT Group

Infra



Heijmans provides insight into CO₂ emission from transport in ICT Incore's Supply Chain Portal

How do we get a grip on the logistics of our projects? Can we easily visualise the CO₂ and nitrogen emission levels related to the transport of building materials? These and other questions prompted Heijmans to implement and extend ICT Incore's Supply Chain Portal. Nikki Pije, senior advisor construction logistics at Heijmans, talks about the journey the company took to get here.

From 1 July 2024, all large, listed companies must comply with CSRD, the new European legislation that imposes reporting requirements in the domains of people, environment and climate. This means that the emission levels related to construction logistics must also be made transparent. Heijmans uses ICT Incore's Supply Chain Portal in order to meet this requirement. Pije: "We had several reasons for choosing ICT Incore's Supply Chain Portal. Naturally, its functionality was of prime importance, but our choice was also based on the fact that ICT Incore has a great deal of affinity with logistics processes, especially within industries other than construction. We can draw inspiration from this."

The Supply Chain Portal acts as a control tower. It contains a huge variety of functionalities, ranging from ordering and arranging the just-in-time supply of on-call building materials to scheduling deliveries and handling receipts efficiently. The portal is used by both Heijmans and subcontractors, suppliers and transporters in order to communicate with each other on everything related to construction logistics. New functionality was added in 2023, partly in view of the CSRD. This included a tool to monitor emission levels related to transport. Its development was a collaboration between Heijmans,

Top Sector Logistics and ICT Incore, says Pije. "We jointly set up what the reporting should look like. Among other things, we use the shipping and final location to calculate the CO₂ emission levels of the transport movements. As a result, users don't need to enter extra data."

Emission reports

Pije has great expectations related to emission reporting. "The CSRD is of course new, it takes all parties involved to get used to reporting on emissions. The Supply Chain Portal has allowed us to make this as easy as possible. We have better insight and can target the activities

responsible for the highest emission levels.

In addition, we can make more targeted choices about where to opt for electric transport and where not to." ICT Incore's experience in construction is also being applied in other industries, says ICT Incore's Madeleine Kroeze. "Heijmans is a pioneer in the field of sustainable logistics. Other

companies with large numbers of transport movements can learn from Heijmans when it comes to emission monitoring and reduction. It's great that ICT Incore has the opportunity to share those lessons with other industries and thus expand the services of our portal for our customers."

"We chose ICT Incore's Supply Chain Portal primarily for its functionality, but our choice was also based on the fact that they have a great deal of affinity with logistics processes, especially within industries other than construction."

Nikki Pije,
Senior Advisor Construction Logistics,
Heijmans

"We have better insight and can target the activities responsible for the highest emission levels thanks to the Supply Chain Portal."

Nikki Pije, Senior Advisor Construction Logistics,
Heijmans

Working on the new ‘ears and eyes’ of trains

The transition to the modern train protection system ERTMS is a major challenge involving a long term process for years to come. ICT Group helped build an IT solution that can switch between the old and new system to allow a phased roll-out.

Not only in Europe but worldwide countries are starting to deploy ERTMS (short for ‘European Railway Traffic Management System’). ERTMS aims at improving the quality of the rail network to make it more efficient and safer. The railways have become increasingly busier over the past years. Many countries, have so far used ATB rail safety systems, that focus on securing the railway section. With ERTMS trains themselves will have more ‘ears and eyes’. This new train protection system supervises continuously the speed and braking distances of each train according to track and train data. If the actual train speed exceeds the permitted data, brakes are applied automatically and the train will be stopped promptly.

Enormous scale

The transition process to ERTMS involves a long-term complex project of enormous scale and requires billions of euros in investments. The ATB signalling systems that have formed the train landscape for many years will no longer be necessary and will disappear. However, for a smooth and problem-free transition to ERTMS a temporary IT solution to take over the speed monitoring of trains in the meantime is absolutely necessary. The Dutch ERTMS organization asked ICT Group to help build this interim system, called STM ATB (Specific Transmission Module).



“We have years of experience in developing software for safety-critical railway systems”

Frans Slothouber, System Designer, ICT InTraffic

“We have been involved closely in the development of ERTMS since 2004. We know the system inside and out, both from the infrastructure side and from the train side”, explains system designer Frans Slothouber. That’s why ICT Group was chosen to co-develop STM ATB. “We developed an open generic STM as a blueprint and roll it out by offering licences for purchase. In this way, transporters and train manufacturers could have their own system built for their own trains”, says Slothouber. The onboard STM ATB system forms a link between the ERTMS equipment on the train and the ATB trackside equipment and makes it possible for ‘ERTMS trains’ to run on ATB tracks. This makes a phased rollout of ERTMS possible, with trains able to run on both ‘new’ and ‘old’ tracks.

Converted

In the Netherlands, NS (the Dutch Railways) already uses an STM ATB license for its trains that are being converted to ERTMS. Further, ICT Group works for a well-known train manufacturer, to adapt the system for use in its trains. ICT Group has developed a similar application for an ERTMS test organization for the ERTMS track in the UK.

“The transfer to ERTMS requires a lot from the railway sector, from transporters to train manufacturers and maintenance companies, explains Wilko in ‘t Anker, sales director at ICT InTraffic. Many companies are looking for suitable solutions, and they rely on us to help them out. We have been working for the sector for many years developing software for safety-critical railway systems, so we have built up a unique position about what is needed to get safety-critical systems like this up and running.”

“Many companies are looking for suitable solutions, and they rely on us to help them out”

Wilko in ‘t Anker, Sales Director, ICT InTraffic

Public Mobility



Read more client cases

As a leading provider of total solutions for industrial automation, we link our technological expertise and specialist multi-domain knowledge to innovative solutions for our clients. Making the world a smarter place day by day.

Together we
create a smarter
world, every day

Crew

Our ICT Group colleagues are self-steering professionals who know who they are and what they are good at. They are at the forefront of industrial automation and digital transformation. But of course, they are not only concerned with helping our clients make their business processes more efficient, flexible, simple, safe and sustainable. In their private lives they also want to make a difference. Read how five enthusiastic colleagues spread across Europe have at least one thing in common: in their own way, they want to create a better world, every day.

Pieter van 't Hof
The Netherlands

Sascha Speckmaier
Germany

Dafina Gadeva
Bulgaria

Amir Kazemzadeh
Sweden

Cláudia Borges & Bárbara Nolasco
Portugal



The Netherlands
Pieter van 't Hof
Technical Consultant, ICT Group

ICT Group has its own David Hasselhoff

Pieter van 't Hof joined ICT Group as a software designer at the age of thirty. Now, ten years later, he works as a technical consultant for Transport and Logistics. Besides this full-time job, Pieter is an experienced lifeguard at the Rockanje Rescue Team. “I can do this wonderful job thanks to ICT Group’s flexible attitude,” he says.

As a technical consultant, Pieter supports the logistic market with regard to container transport in the port of Rotterdam. He does his work for ICT Group with great passion. Equally passionately, he dedicates himself to his fellow man in need at sea or on the beach.

Very serious

“The Rockanje Rescue Team feels like one big group of friends,” Pieter says, “but a group with a very serious goal: prevention and saving lives.” Pieter has been active in the rescue team since 2006. During the winter, he hardly takes any days off, so he can be at the beach a lot in the summer. The flexibility at ICT Group is ideal for him. “I have a lot of control over my schedule and work very independently. Sometimes I even work from the lifeguard’s office.” It also sometimes happens that he has to go out with the rescue team to look for someone at sea in the afternoon and isn’t back home until well after midnight. “In those cases, fortunately ICT Group fully understands that I start a bit later. Whether I need to be in top shape? We have a boat and a watercraft” Pieter laughs. “We train once every fortnight, mainly on techniques and scenarios. During a shift, one moment you’re having a nice chat, and the next moment we can receive a report and start working in earnest. After all, lives may be at stake.

Think first, then act

Pieter’s two jobs may seem like separate worlds, yet there are quite a few similarities. “Despite the fact that there is always an extreme rush during emergencies, in rescue work you have to dare to take a step back to have a good overview of the situation. Acting impulsively can actually cause trouble and chaos. Think first, then act, is the credo. This is also how it goes in my work at ICT Group. I have a rather strong tendency to dive straight in. After all, that’s the Rotterdam mentality. But often it’s wiser to take a step back.

A good analysis gives you a kind of helicopter view, allowing you to see what is really needed. That is one thing I’ve certainly learned by now.”

*“I can do this wonderful job thanks to
ICT Group’s flexible attitude”*

Pieter van 't Hof

Cessna

Pieter experiences a lot at the rescue team. Some events stay with you more than others, is his experience. On Whit Monday 2012, the Rockanje Rescue Team was also involved in the search for a lost plane. Pieter: “We were told that a Cessna had disappeared from the radar. After hours of searching, the coast guard search team found the small plane on a newly raised headland, which wasn’t anywhere on the map yet. Unfortunately, the pilot died later in hospital, but fortunately, the three other occupants, including two teenagers, survived the accident.”

Dare to take a step back

Aftercare is well provided for the people from the rescue team. Partly because of this, Pieter doesn’t “take the events home”. He says that his rescue work allowed him to get to know a softer side of himself. “I also take that with me in my attitude towards colleagues at ICT Group,” he says. “Despite the fact that there is always an extreme rush during emergencies, in rescue work you have to dare to take a step back to have a good overview of the situation.”

Drone images and AI

“We are currently exploring how drone images of the coastline, combined with AI, can be used to automatically recognise (potentially) dangerous situations,” says Pieter. “If we can automatically recognise the locations of these flows, we can take preventive measures.”



Germany
Sascha Speckmaier
Software developer, CIS Solutions

“Sustainability means a lot to me”

Sascha Speckmaier cares deeply about the environment. As a software developer he uses the IoT application for smart facility management he is working on at CIS Solutions to stay off-grid at home. ‘The entire energy system in my house is connected.’

October last year, Speckmaier moved into his newly built house in Hohenlinden, a small village near Munich in the south of Germany. When he received his first energy bill shortly afterwards, he noticed that in his new home a lot of energy was being consumed. To identify the source of the energy guzzlement and gain more insight into his energy usage, he set up multiple measuring stations in his house. In the meantime he also had solar panels installed to reduce the usage of electricity from the energy company. “My plan was to be fully self-sufficient in energy consumption”, he explains.

Speckmaier has worked at CIS Solutions, part of ICT Group since 2017. One of the IT solutions of CIS is an IoT application (I/O.nite) for smart facility management. As a software developer, Speckmaier works at the development of this application for monitoring devices. The same application he uses to monitor the energy usage in his house. “All I had to do was add all devices in the house in order to display their energy use on the dashboard I built. For instance, I added the stove in my kitchen, the lights, my vacuum cleaner and a ventilation fan. At that moment I could directly see where and when my energy is being used up. In this way I found out the high energy consumption was being caused by the heat pump in my new home. Fortunately my solar panels turn out to be very energy efficient. I monitor whenever my solar panels are generating power to fill up my 20kW battery. They are providing more than enough energy for a single household like mine. On a sunny day they come up to 150 kW, enough to also charge my electric car. Since the beginning of March I live completely off-grid. The surplus of electricity I sell to the energy company.”

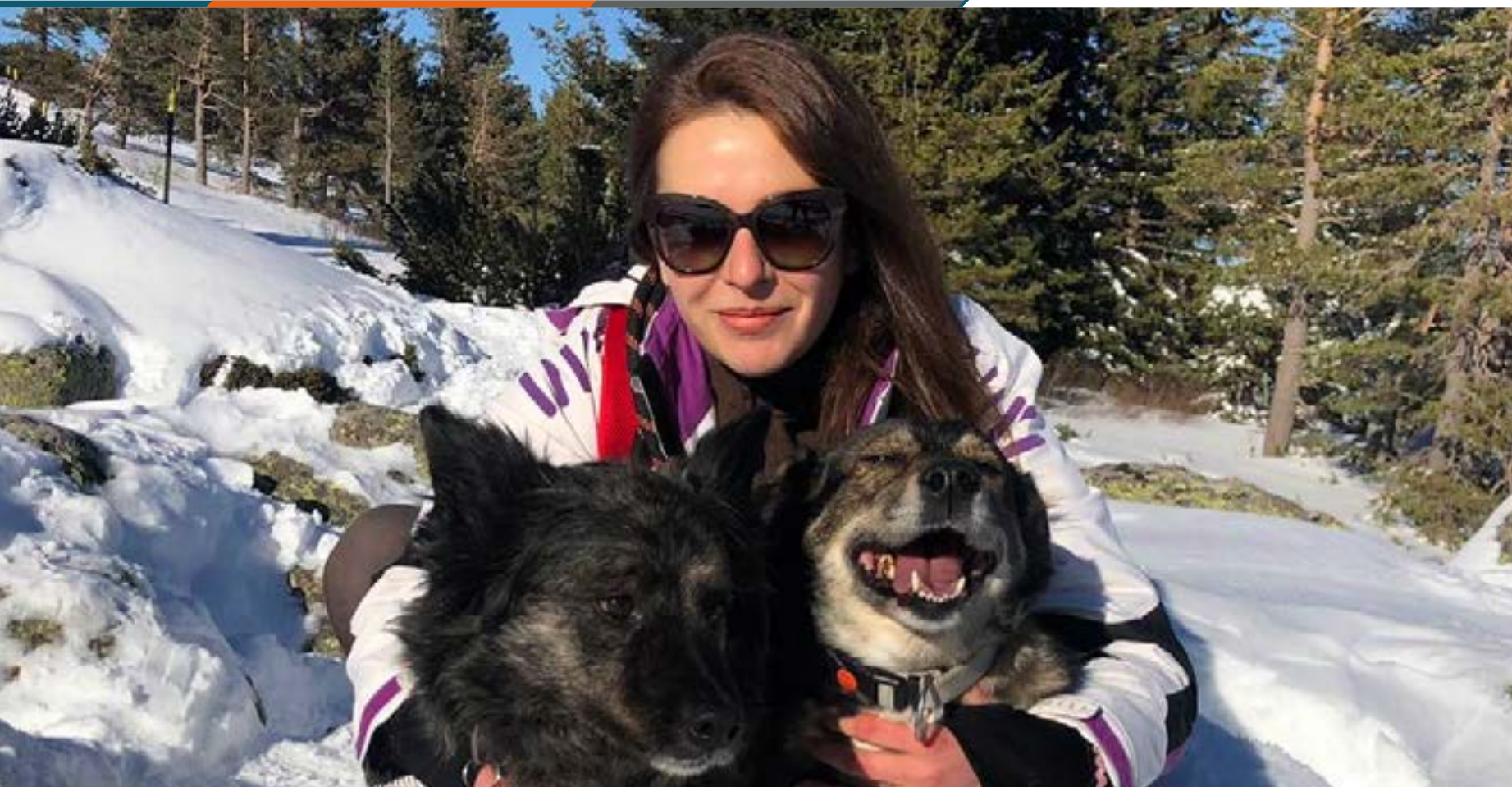
Insight

The monitoring software Speckmaier uses, provides much more information than the standard app from the energy company, because all devices are smartly integrated. “I have real-time insight into the electricity production of my solar panels, the energy storage and I know beforehand how many kilowatts I am using. The entire energy system in my house is connected and I can act on the information I get from this, for example when my battery is empty and I shouldn’t use the heat pump or other devices. This way I can precisely control the energy management in my house and stay off-grid. A colleague of mine is now doing just the same. Some people are sceptical. You have to add your devices one by one, which is a lot of work since there are a lot of devices. I am working on a generic protocol to cover 90 percent of all devices to make this easy with just a simple click.”

“The monitoring software is an excellent tool to support me in my energy usage”

Sascha Speckmaier

Speckmaier’s aim is not only to save money. “Important for me is that I don’t need any energy from a gas or coal power plant. In this way I am able to make a difference. I definitely do this to protect the environment. At this moment I am also looking at my water usage. Sustainability means a lot to me. If you save energy and use your own sustainable energy, it helps against climate change. The monitoring software is an excellent tool to support me in my energy usage. We need to start with taking small steps like these getting your house off-grid. I hope to motivate many people to follow my example.”



Bulgaria
Dafina Gadeva
Controller, Strypes

Taking care of sick and injured animals

Controller Dafina Gadeva, Dafi to colleagues, has a special passion: she takes care of sick and injured animals, makes sure they get the right treatment and then tries to find a good home for them.

As a controller, Dafina spends all day with accounting figures. But when she's not at work, she spends almost all of her free time with 'her' animals. She currently takes in thirteen dogs, around thirty cats and a few birds. Dafina: "I live in Bulgaria. You see quite a few stray animals here. Fortunately, most of them can take care of themselves just fine, but of course that is no longer possible as soon as an animal is injured or otherwise weakened. From an early age I was rescuing animals. Now that I have a job and more resources, I have professionalized that passion. I run a shelter for animals that need temporary care."

"I believe that every living being deserves respect and good care. Sick or injured stray animals can't stand up for themselves, so I do that for them. The great thing is that animals can show you how happy they are with your help. They give so much love back. It's really very satisfying."

"Animals give so much love back"

Dafina Gadeva

A big heart

"My connection with animals has been transformative. Their presence has taught me discipline, loyalty, and the profound truth that the realm of possibilities knows no bounds. Interestingly, these insights don't just shape my personal

"My passion brings me into contact with other people with a big heart"

Dafina Gadeva

journey; they also infuse my professional life, offering me a unique perspective that aids in navigating the complexities of my profession.

"The beauty of this work is also that my passion brings me into contact with other people with a big heart", says Dafina.

For example, she work closely with a veterinarian who donates his time. And gets a lot of support from colleagues, friends and family, who help with tasks such as keeping the lofts clean.

"There's a significant amount of support from many individuals for this cause, which is truly heartwarming. It's encouraging to see people demonstrating a shared desire to make a positive impact on the world. I am currently working hard to turn my private initiative into a professional organization so that we can take it to the next level and help even more animals in need."



Sweden
Amir Kazemzadeh
Software engineer, Additude

“For me, this was the right thing to do”

A number of employees from Additude Sweden volunteer in the evenings helping out at the special winter shelter for young homeless people in Malmö. The nature of the work is socially significant but at the same time emotionally challenging, says Amir Kazemzadeh.

In the winter period, The Swedish Red Cross in Malmö opens a special ‘värmestuga’ (warming shelter) for young homeless people between the ages of 18 and 25. Here they get a place to sleep and a hot meal. For a large part the shelter is being run by volunteers. Amir signed up together with around twenty colleagues. They drew up a schedule and decided to help out each Tuesday, but they also contribute on other nights.

Amir himself comes from Iran. He and his wife emigrated two years ago. August last year Amir started as a software engineer at Additude. “I have really found my place in Sweden and here at Additude. That also plays a role in my motivation to help young vulnerable people. Social inclusion is very important. Our goal is to ensure that these people do not feel left behind and receive support from other members of society. I am very happy Additude opened this window for me to give something back to society.”

“Our goal is to ensure that these people do not feel left behind and receive support from other members of society”

Amir Kazemzadeh

Advice

The work at the warming shelter is very sensitive, says Amir. “It is important not only to provide food and shelter but also to engage with people. If they come to us and want to talk, then we are available to discuss their problems and perhaps offer some suggestions.

The other day, this young man from Afghanistan asked me what kind of work I do, and as I explained, he said it was his dream to also work on software development. So, I told him Malmö has a special center with free courses on coding, and they also provide equipment like a laptop. I hope he will find his way there.”

“I am very happy Additude opened this window for me to give something back to society”

Amir Kazemzadeh

At the same time, Amir honestly admits, the work is difficult to do. “It is hard to witness the vulnerability of these youngsters. Many of my colleagues have had multiple sessions. Some find it challenging, but they still give it a try. And we go there in pairs, which makes it a good opportunity not only to learn to know each other better but also to connect through the work we do at the shelter.”

Next steps

The winter shelter closes at the end of March. People at Additude are already looking for a next volunteer job. “We all feel that we should continue with these kinds of activities. For instance, we are looking at assisting at the Red Cross project that offers children extra help on their school studies, teaching them maths or sciences, because their parents are not available for that. One of the best things you can do for society is to support marginalized groups to be more included by offering them all the chances possible to have a good start.”



Portugal

Cláudia Borges, Personal assistant, Strypes
Bárbara Nolasco, Human resources, Strypes

“Every colleague was happy to participate”

The collection of food and supplies for homeless people and people in need was a natural thing to do for both teams of Strypes Portugal. Initiators Cláudia Borges and Bárbara Nolasco tell the story.

“When we suggested to arrange the collection of food and supplies all our colleagues were immediately enthusiastic. Portugal faces, like others countries, a housing crisis”, Bárbara says. “There is an increase of people who could use some help”, Cláudia adds. “Every colleague agreed on that and was happy to participate.”

Claudia is a personal assistant in the Strypes team in Lisbon. Bárbara is located in the Porto office and works on human resources (HR). Both teams cover a wide variety of challenging IT projects. Activities are growing fast, so are the teams of mainly young IT talents. “Many of our colleagues still live at home with their parents, because they cannot afford to have their own space, due to the high prices and demand”, Bárbara continues. “For them, this was an additional reason to join with donations. Most of our colleagues wanted to buy the products themselves, to really put an effort into this action.”

Mindset of collaboration

The collection action, held last February, was a success. “We had five full bags, in both offices”, Cláudia beams. The donations, varying from canned food to soap, were handed over to CASA - Centro de Apoio ao Sem Abrigo, a national volunteer organization supporting the homeless people and people in need. “We plan to organize a similar collection action later this year. We are already in contact with different organizations”.

“In this we also acted as one team, just like when we work on complex IT projects”

Bárbara Nolasco

In their daily work, both teams closely work together because of the complex IT projects they undertake. This mindset of collaboration strongly contributed to the success of the collection action, Bárbara and Cláudia believe.

“The IT solutions we offer, are always the result of team work. The same goes for the collection action. In this we also acted as one team.”, Bárbara says. “Strypes Portugal working environment gives us the chance to not only be an employee but also to undertake activities like this for a good social cause”, Cláudia states. “That’s really important.”



*Cláudia Borges and Bárbara Nolasco,
Strypes*



Colofon