



CORPORATE MAGAZINE

ISSUE 1 - FEBRUARY 2021

One strong brand

In January of this year, ICT Group presented its new corporate identity. [P10](#)

Industry 4.0

Industry 4.0 calls for an integrated approach to OT and IT. [P20](#)





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Making the world a little **smarter** every day

COLOFON

As a leading European industrial technology solutions provider our 1,600 dedicated technical professionals offer our clients services including: recruitment and staffing, testing and training, software development, project-based solutions, consultancy and managed services.

With a track record spanning more than 40 years, ICT Group has both extensive multi-domain expertise and in-depth industry knowledge. Integrating these strengths into compelling technological solutions puts us in a unique position to help our customers make their business processes more efficient, flexible, simple, safe and – as a result – more sustainable.

ICT Group has identified the areas in which its range of expertise has the highest impact and where the solutions it offers provide the highest added value for customers. This approach enables us to further enhance our technological expertise and innovative capabilities in our focus areas: R&D Engineering, Industrial Automation, Infra & Mobility and Healthcare.

With our Smarter Industries solutions we serve the automotive, manufacturing, high-tech, food, chemicals & pharma, oil & gas and logistics industries. Our solutions in Smarter Cities are focused on water, rail and road infrastructure as well as public transport and mobility. Within Smarter Healthcare we provide solutions in the domains of medical data exchange and obstetrics.

Furthermore, ICT Group delivers its own software products including a cloud-based platform for IoT, digital transformation and artificial intelligence and proprietary software for obstetrics and Mobility as a Service. With our Motar low-code platform we facilitate quick and flexible model-based development at faster speed and lower costs.

ICT Group N.V. is a listed company which operates in the Benelux, Bulgaria, France, Germany and Sweden.

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New Year, New Corporate Identity

We proudly present the sixth edition of our corporate magazine in our new look and feel. With our new branding, we want to show the cohesion between the ICT Group companies. In this magazine, we are pleased to show you some examples and tell you why we have taken this step.

Staying connected in challenging times

Last year was a challenging year for everyone. Working from home was the norm and this norm became increasingly strict. The flexibility of our employees was unprecedented and I am proud to say

that we were able to continue our services in the same high-quality manner. Especially in challenging times, it is important to remain positive and to go the extra mile so a great compliment is in order for all employees and relations. To stay connected with our business

relations, we organised regular knowledge sessions as well as webinars and hosted various online events. Our employees, also in our foreign branches, are happy to tell you how they stayed connected. In this issue, you will find their personal stories.

“In challenging times, it is important to remain positive and to go the extra mile so a great compliment is in order for all employees and relations.”

In October of last year we introduced INNOCY, an innovative consultancy and engineering firm originating from a merger of ICT companies NedMobiel and Proficium. INNOCY covers the entire spectrum, from the strategic and tactical to the operational level, right across the life cycle of assets. I invite you to read more about their services in this issue. In the beginning of this year ICT completed the acquisition of Yellowstar, a Dutch web-based solutions provider, offering real-time insight, access and control in supply chains. The company has an international focus, is active in the same geographical markets as ICT and strengthens ICT’s position in the industrial, trade, retail and logistics markets. Yellowstar will continue to operate as an independent entity, with its own market identity and software solutions for specific customer groups.

Staying Innovative

In the past year, we have again delivered innovative projects and were able to demonstrate our added value. In addition we have used our years of experience and our understanding of the specific requirements of the various industries to develop our own industry-specific software solutions, which we bundled in a new division. Our solutions are often used in vital situations and it is therefore important to remain innovative. The story of the software-driven car, for instance, provides a great insight into the automotive world. Other good examples of solutions that help us create a smarter world are the stories of CIS Solutions about smart remote facility management and the application of our MOTAR platform to reduce the time to market for our clients.

Within Industry 4.0 we see that the developments call for an integrated approach to Operation Technology (OT) and IT. They make use of the same data, processes are increasingly aligned and systems are becoming more interconnected. ICT Group can support its clients throughout the complete lifecycle with in-depth knowledge of security as well as 24/7 monitoring and management of critical assets.

I hope you will enjoy reading this issue.
Stay Safe, Stay Connected.

Een nieuw jaar, een nieuwe corporate identiteit

Deze editie van ons corporate magazine is opgemaakt in onze nieuwe huisstijl die is ingevoerd om de de samenhang tussen de ICT Groep bedrijven te tonen. In een jaar waarin thuiswerken de norm was vertellen enkele collega’s hoe zij verbonden zijn gebleven. Wij stellen ook graag INNOCY aan u voor en vertellen meer over onze innovatieve oplossingen en projecten. Het verhaal over software gedreven auto’s geeft inzicht in een snel veranderende wereld en in een van de artikelen vertellen wij meer over de noodzaak om binnen Industry 4.0 IT en OT met elkaar te verbinden.



The fully **software-defined car** is coming

The current transformation within the automotive industry is being driven by four disruptive technologies: autonomous driving, connectivity, electrification and shared mobility (together ACES). The car of the future is clean, quiet, safe, accessible to people without a license and you no longer have to own it to use it, making driving economical. At the same time, software is becoming more important, as it will largely determine the value of the car. In other words, the fully digital car is coming, with software leading the way.

Managing software competence is becoming one of the most important distinguishing factors for car manufacturers, if not the most important. For instance, ten years ago newly built cars would contain about 1 million lines of software code, whereas today cars contain about 100 million lines of code. The software of a fully autonomously driving car will contain between 500 million to 1 billion lines of software code. In contrast, the space shuttle contained around 400,000 lines of software code.

More centralised vehicle architecture

Due to this huge increase in software complexity, the underlying vehicle architecture, the hardware, needs to be updated. On average a car contains about 70 electronic devices, mostly originating from different suppliers, and backed up by up to 200 individual software suppliers. The vehicle architecture we see today therefore consists of a considerable number of decentralised and mostly specific electronic devices. This results in numerous, complex connections within a mainly hardware-defined vehicle. Since software functionality is fixed and alterations require considerable effort, there is very limited flexibility with regard to functional extensions. “This is why car manufacturers are trying to transform their existing decentralised vehicle architecture into a more centralised architecture”, says Jarno Stamsnieder, Business Unit Manager Automotive. “The centralisation happens simultaneously with a separation of hardware and software, allowing new vehicle functions to be added to the software without having to put new hardware in place. This provides the necessary flexibility, similar to what we see in updates on smartphones.”

Enhanced cooperation with car manufacturers

“Each additional line of software code increases the risk of an unsafe traffic situation. Road casualties, in addition to causing human suffering, often result in hundreds of millions of euros of damage for a car manufacturer or subcontractor, not even taking



Jarno Stamsnieder, Business Unit Manager Automotive

into account the damage to brand and reputation,” Stamsnieder says. To prevent this, strict safety requirements are imposed on vehicle software. Compliance with functional safety standard ISO 26262 ensures that system errors are covered, e.g. for safe electronic steering, braking and throttling. Additional compliance with the Safety Of The Intended Functionality (SOTIF) standard covers situational awareness, for instance to prevent an autonomous driving car from speeding on an icy road surface. Moreover, there are the upcoming UNECE WP.29 cybersecurity regulations and software updates. Stamsnieder: “This applies not only to the car, but to all components in the ecosystem, including

De volledig software-gedefinieerde auto komt er aan

De automotive industrie zit midden in wellicht de grootste transformatie die deze markt ooit doormaakte. Er zijn vier trends die elkaar versterken: autonoom rijden, connectivity, elektrificatie en shared mobility (samen ACES). Software krijgt een steeds voornamere rol in het alsmaar slimmer wordende voertuig.

the back-end and the infrastructure. These regulations require an operational demonstration of software updates over the air (OTA). Without meeting with all these standards and regulations, a digital car will no longer be allowed to drive on the road.”

ICT diligently built its reputation in the automotive industry with a mostly technical, organisational and process-based approach, always achieving optimal results. Stamsnieder: “With over thirty years of experience developing high-quality vehicle software, we are a valuable partner for car manufacturers and their suppliers. In the meantime Agile software development has entered the automotive industry, a development that allows ICT to add a tremendous amount of value with our years of experience.”

Stamsnieder concludes: The digital transformation of the automotive industry is in full swing. The craftsmanship needed to launch high-quality safe and secure production quality vehicle software will determine the success of any digital car manufacturer. And particularly in this respect we can deliver the highest impact and highest added value to this market. Craftsmanship is mastery.”

Stay connected in 3D

ICT's Infra & Mobility division plays an important role in the design, operation and maintenance of capital-intensive assets. They are experimenting with Microsoft's HoloLens, the AR and VR glasses that allow you to look inside systems like an X-ray machine, but which doubles as a tool to virtually meet in one room with colleagues who are working from home. During the lockdown, software designer Magiel van Gaalen and junior control engineer Rick Witkam used this tool frequently in their communications.



Rick Witkam
Junior Control Engineer



Magiel van Gaalen
Software Designer

"The HoloLens makes you part of a 3D representation of the real world.

The application scope is unlimited and that is an enormous help, especially in times of COVID."

Magiel van Gaalen, Software Designer

Virtual collaboration

Magiel and Rick use the HoloLens to work together remotely: a great solution during the lockdown. Rick: "This morning Magiel wanted to test something in an application. He watched with me from his own home through the HoloLens. He gave me the instructions and we both saw what was happening." The HoloLens is extremely powerful if you want to assess a physical object. Rick: "Our unit designs solutions such as control systems for bridges and locks. You no longer need to get together on location to see if the control system is working properly; you can view it from any location using the glasses and discuss it with each other. 3D gives you the same experience as when you are physically present near the bridge that your team is working on." For the daily stand-ups with their DevOps team, Rick and Magiel use a software solution that allows you to create an avatar of yourself based on your portrait photo. That avatar is projected into a virtual space where you meet your colleagues. Naturally, the virtual space also includes a Scrum board. Magiel: "The experience is very similar to a real Scrum meeting, which is what you miss in a regular video meeting."

Remotely servicing machines

They notice an increased interest in HoloLens. "We now receive requests from various customers. For example, a machine builder wants to use the HoloLens to service their installed base in the field. Their machines are located all over Europe, so the service engineers also have to travel all over Europe to perform maintenance. They can make this maintenance work a lot more efficient if a service engineer is watching remotely with an operator and gives instructions. Especially now that the service engineers are faced with all kinds of travel restrictions due to the COVID pandemic, there is a huge need for this type of application," says Magiel.

"The HoloLens makes you part of a 3D representation of the real world. And AR also provides you with all kinds of additional decision-making information. And all the while you're just working from home. The application scope is unlimited and that is an enormous help, especially in times of COVID."

Blijf verbonden met 3D

De divisie Infra & Mobility van ICT gebruikt de HoloLens van Microsoft, een AR- en VR-bril waarmee je als een röntgenapparaat in systemen kunt kijken, maar die ook dienst doet als hulpmiddel om virtueel in één ruimte te vergaderen met collega's die vanuit huis werken. Tijdens de lockdown gebruikten Software Designer Magiel van Gaalen en Junior Control Engineer Rick Witkam deze tool veelvuldig in hun communicatie bijvoorbeeld tijdens een scrum meeting of bij het testen van een applicatie. Je kunt er prima een fysiek object mee beoordelen want 3D geeft je dezelfde ervaring als wanneer je zelf aanwezig bent bij de brug waar jouw team aan werkt. Er is ook een toenemende belangstelling voor HoloLens om machines op afstand te onderhouden. De toepassingsmogelijkheden zijn onbeperkt en dat is een enorme hulp, zeker in tijden van COVID.

All unique labels form one strong brand

In January of this year, ICT Group presented its new corporate identity. Carla Stuifzand, ICT Group's Marketing and Communications Director, explains why this step is more than just a new look and feel.



Carla Stuifzand,
Director Marketing and
Communications ICT Group

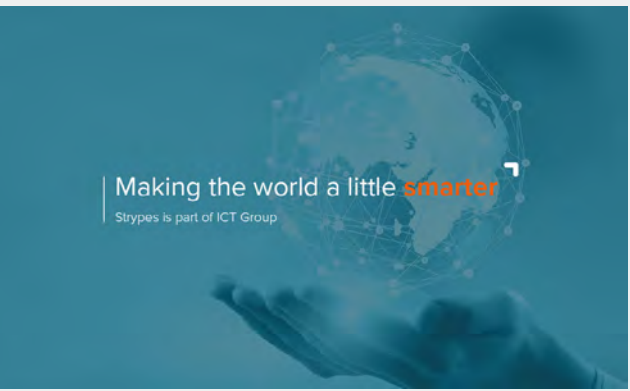
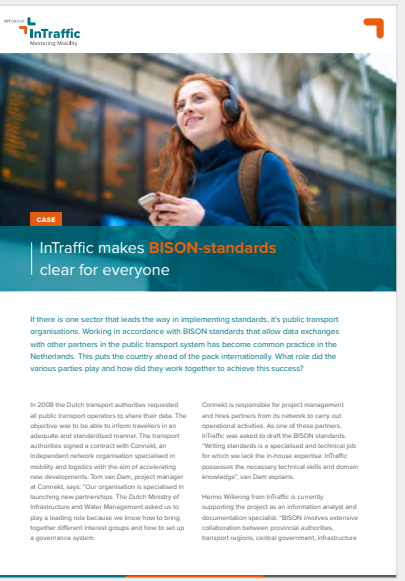
"ICT Group has grown strongly in recent years. This growth has been partly autonomous and partly the result of acquisitions in the Netherlands and abroad. We are therefore in the fortunate position of having a number of very strong brands with excellent recognition in the market," she explains. "In our focus areas: R&D Engineering, Industrial Automation and Infra & Mobility, the ICT Group companies work together intensively to deploy their specific expertise, experience and domain knowledge for our clients. In addition, we use our years of experience and our understanding of the specific requirements of these industries to develop our own industry-specific software solutions. In the new branding, the company names remain central, but at the same time it is clear that a brand is part of the ICT Group. Because we feel it is important to show more cohesion between the various labels, ICT Group and all its subsidiaries now have the same look & feel. The companies can still be reached separately, but have also been brought together in a new website: www.ictgroup.eu." The new style was composed using the shape and colours of the old logos so the new petrol and orange logo looks familiar.

"With the new branding, we show even more clearly the cohesion that was already there internally, but which was still somewhat hidden from the outside world," concludes Stuifzand.



The ICT Group website is a portal that links
to the ICT group companies

www.ictgroup.eu



Alle unieke labels vormen één sterk merk

Sinds januari van dit jaar beschikt ICT Group over een nieuwe huisstijl. Carla Stuifzand, Marketing & Communications Director van ICT Group legt uit waarom deze stap zo belangrijk is. Met de nieuwe branding laten we nog duidelijker de samenhang zien die er intern al langer is, maar die voor de buitenwereld nog wat verborgen bleef.

Thomas Lövsog, CEO Additude Innovation has been working on a project for a year, which started before the Corona pandemic hit Sweden. It is a project with a lot of innovation and an ambitious deadline. How did he cope during these challenging circumstances?



Thomas Lövsog
CEO Additude
Innovation

Innovating in **challenging times**

“For us, the impact of working from home was low. We have our systems in place, everyone already had the tools to work from home, and our type of work you can easily do from home.

However, I did feel the impact of the pandemic. Normally I have a lot of meetings with suppliers. Innovation means trying things out, puzzling together with suppliers until you find the right solution. Now that we couldn’t meet, I had to describe what I needed. Suppliers then sent in some variants that I gave feedback on, so they could make adjustments again.

To keep the project flexible, Additude developed project components in parallel that they would otherwise do sequentially. Basically in the way that pharmaceutical companies also accelerated vaccine development: already starting phase 2 while phase 1 is not yet fully completed. Because we could no longer rely on the delivery times of suppliers for instance in China, we ordered components for

different project parts at the same time. Then we would see what arrived first and would start working on it. That this method of working occasionally led to some more rework, the team accepted. You have to be flexible and adapt to the situation. I think we did that very well.

The project is still ongoing, but partly because of the flexible attitude, we expect to meet the ambitious deadlines. We did a great job adapting to the situation. I’m quite proud of that.”

Innoveren in uitdagende tijden

Innoveren in moeilijke tijden, hoe doe je dat? Thomas Lövsog, CEO Additude Innovation legt uit hoe het mogelijk is om ambitieuze deadlines te halen door flexibel parallel projectonderdelen te ontwikkelen die je normaal achtereenvolgens zou doen. Met trots vertelt hij hoe het team zich aanpaste aan deze nieuwe situatie.

Smart Facility Management by **CIS Solutions**

Industrial buildings use a variety of different control systems to manage its operation. Wouldn’t it be nice to have a vendor-independent dashboard to monitor how your buildings are doing? A dashboard that tells you the actual state of functions such as access control, climate control, fire protection, lighting, and ventilation. And gives you predictive information on functions that need maintenance.

That is what CIS Solutions installed at IPW GmbH ([Industriepark Wörth](#)). IPW provides production halls for suppliers on the premises of a large truck factory and is responsible for the entire operations of the halls. For this purpose, facility management needs an overview of all the facilities under its responsibility with a very quick notification in case possible problems occur.

Pay-per-use IoT solution

The CIS-IoT solution is being used to solve this issue. The solution is independent regarding its cloud provider and can also run locally at the customer’s premises. IPW chose to host the application and data in the AWS cloud and the billing is done via a pay-per-use model. Furthermore, the system is highly configurable by the customer. IPW integrated a map and was able to build dashboards in which all relevant systems are presented at a glance with their current status. The project began with the integration of the emergency lighting system and the fire alarm system. In the future, all existing or renewed systems will be network-enabled and integrated into the dashboard.

Trouble free operation

Andrea Jung, Managing Director of Industriepark Wörth GmbH, says: “In the past, facility management was associated with a lot of legwork. Today, the large dashboard in my office shows me all the current values. In case of problems, I am quickly informed about alarms and security-relevant situations. The new platform is an important step towards a trouble-free operation of a critical hall infrastructure and saves me a lot of time. “

In addition to industrial halls, office buildings are also predestined to be connected to a dashboard via the CIS-IoT solution. Then the focus will be shifted towards air quality, energy consumption and the occupancy of the rooms.

Do you want to read more about this topic?

Then scan the QR code.



Andrea Jung, Managing Director of Industriepark
Wörth GmbH

Smart Facility Management door CIS Solutions

Industriële gebouwen of campussen bevatten tal van gebouwbeheersystemen die allemaal worden geleverd door andere leveranciers. Denk aan toegangscontrole, klimaatbeheersing, brandveiligheidssystemen, verlichting en ventilatie. Om al deze systemen via één dashboard toegankelijk te maken, heeft CIS Solutions een IoT-oplossing ontwikkeld die via de cloud kan worden afgenomen. Eén van de klanten is IPW GmbH, een industriepark rondom een Duitse truckfabrikant, waar ook toeleveranciers eigen productiehallen hebben. IPW is echter verantwoordelijk voor het goed functioneren van deze gebouwen. “In het verleden was facility management een kwestie van veel lopen van het ene naar het andere monitoringsstelsel om te controleren of alles nog goed functioneerde. Nu heb ik één dashboard in mijn kantoor dat me op de hoogte houdt van de actuele status van alle assets”, zegt Andrea Jung, Managing Director van Industriepark Wörth GmbH. Zodra alle gebouwbeheersystemen van de industriële complexen zijn aangesloten, zijn de kantoorgebouwen aan de beurt. Daar zal de focus liggen op energiegebruik, luchtkwaliteit en bezetting van de kantoren.



ProRail opts for **agile working methods** in a safety environment

Companies that develop software which must function in a safety environment need to comply with the European CENELEC standards, which are based on the V-model: build first, test later. This working method leaves little room for flexibility. This is why ProRail chose the SafeScrum approach, combined with Model-Based Testing. This approach allows updates to be implemented at an early stage, while working in compliance with safety standards. The method results in higher quality and lower costs.

ProRail has to adjust the present train security system in order to comply with the European standard ERTMS (European Rail Traffic Management System) – a comprehensive and complex assignment. The project of developing the ERTMS Train Information System (ETIS) was awarded to InTraffic by ProRail. Harm van Beek is Project Leader ERTMS Train Control at ProRail and manages the development of the ETIS-project. Harm describes the importance of quality assurance and safety: “Quality assurance is of the utmost importance for the railroads. The various software systems have to operate in a safe manner, but the interfaces between the various systems must also be developed in accordance with the most stringent safety requirements. After all, the entire chain has to function safely.”

“The safety world has held onto the waterfall model for a long time because of the lack of a good alternative for guaranteeing safety. SafeScrum allows you to find your errors at a much earlier stage and thus correct them much earlier. This working method results in a substantial cost reduction.”

Harm van Beek Project Leader ERTMS Train Control at ProRail

SafeScrum: best of both worlds

InTraffic appointed Erik Veldhuis to the ETIS-project to supervise quality assurance and safety management. He says: “The EU safety standards are based on the V-model: you start by making a complete design of the system to be developed, then you write the code and subsequently you test the code. InTraffic chose to work with SafeScrum to maintain flexibility and safety. Veldhuis: “An implicit feature of the SafeScrum method is that you constantly view the software you design from a security perspective. SafeScrum was developed by experts and has been evaluated positively by external Independent Safety Assessors. “It is a certified method for developing software in compliance with the highest security standards”, Veldhuis explains.

Model-Based Testing

InTraffic uses Axini tooling to test the software. One of the tools Axini supplies is Model-Based Testing

(MBT). This method follows the approach of model-based software development. The unique feature of the Axini-solution is that you don’t need to write and script the test cases by hand. Instead, they are generated automatically in such a way that even the most unlikely scenarios are tested. Combining SafeScrum and MBT fits in with the principles applied by ProRail for the ETIS-project, says Harm. “We want faster feedback on software that has been developed. We want to create a predictable situation when we get closer to delivery dates, in order to ensure steady progress in the overall project.

Focus on quality results in cost reduction

Harm: “The safety world has held onto the waterfall model for a long time because of the lack of a good alternative for guaranteeing safety. SafeScrum allows you to find your errors at a much earlier stage and thus correct them much earlier. This working method results in a substantial cost reduction.”

ProRail kiest voor agile werken in een veiligheidsomgeving

Wie software ontwikkelt die gaat functioneren in een veiligheidsomgeving, moet voldoen aan de Europese CENELEC-normen, die zijn gebaseerd op het V-model: eerst bouwen, dan testen. ProRail koos bij de ontwikkeling van het ERTMS Train Information System (ETIS) voor de door InTraffic voorgestelde methode SafeScrum, een gecertificeerde methode om software volgens de hoogste veiligheidsnormeringen te ontwikkelen, gebruikmakend van Scrum. InTraffic gebruikt voor het testen de Model-Based testing tool van Axini. Het unieke aan deze tool is dat je de testcases niet meer met de hand hoeft te schrijven, maar automatisch kunt genereren, op zo’n manier dat zelfs de meest onwaarschijnlijke scenario’s worden getest. Erik Veldhuis, Safety Manager bij dit ETIS-project, concludeert: “SafeScrum leidt ertoe dat je fouten eerder vindt en dus eerder kunt herstellen. Deze manier van werken leidt tot kwaliteitsverhoging en kostenverlaging.”



Conmeq reduces time-to-market with Motar

Conmeq reduces time-to-market with Motar Mini-loaders are one of the most used machines on construction sites because of their many applications. Due to customer demand, many suppliers replaced their diesel engines with electric powertrains, but this didn't exactly make mini-loaders better or safer.

Boris Koot therefore started Conmeq and designed a new electric mini-loader from scratch. By using ICT's

Motar platform, he was able to develop the software for the mini-loader considerably faster. Koot started working with a small team of engineers. "Developing your own new product costs a lot of time and money. I soon realised that the strength of the new product would lie in software control. Because I wanted to keep our start-up company a compact size, I started looking for a partner who could help me in that area.' This is how I ended up at ICT and their Motar platform:

Conmeq verkort time-to-market met Motar

Mini-loaders zijn een van de meest gebruikte machines op bouwplaatsen. Vanwege de vraag van klanten vervingen veel leveranciers hun dieselmotoren door een elektrische aandrijflijn, maar dat maakte de mini-loaders niet beter en veiliger. Boris Koot startte daarom Conmeq en ontwierp van scratch af aan een nieuwe elektrische mini-loader. Door gebruik van ICT's Motar-platform kon hij de software voor de mini-loader aanzienlijk sneller ontwikkelen.

Motar is een model-based development tool waarmee je software direct vanuit je getekende model naar productie kunt brengen, zonder code te schrijven. Dit verkort de tijd die nodig is voor productontwikkeling. Conmeq kan dankzij Motar blijven doorontwikkelen. Koot: "Een klant hoeft geen nieuwe machine te kopen als hij meer functionaliteiten wil. We passen gewoon de software aan."

a model-based development tool with which you can bring software directly from your drawn model to production, without writing code. This shortens the time needed for product development."



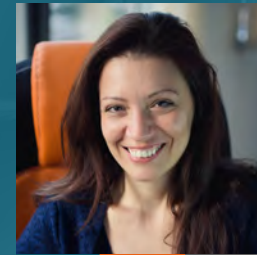
Scan the QR code to read the full story and watch the video

Continuous improvement

Conmeq chose Motar partly because they want to develop the mini-loaders continuously. Koot: "Because a large part of the functionality is in the software, a customer does not need to buy a new machine if he wants more functionality. We just adjust the software. Johan van Uden, Technical Consultant at ICT adds: "Conmeq's mini-loader was originally built to be controlled from the machine by an operator. With the help of Motar we recently made the vehicle fully remote-controlled within one working day." Now that the mini-loaders are finding their way to the market, Conmeq is focusing on the larger vehicles. "We have shown that with a vision of innovation you can change a market. Now that we have taken the first step, we will continue to work with ICT."

BLOG

Nadya Emanuilova has been working at Strypes for a number of years now and has grown from the position of management assistant to a feature integrator function. She can work on projects remotely just fine, but misses the personal contact with her colleagues. How does she stay connected?



Nadya Emanuilova
Feature Integrator

Virtual teambuilding in Bulgaria

"For the project I'm working on, I'm in a team with 20 employees. I speak to these colleagues online every day. The lack of face-to-face contact at work is sometimes difficult, but fairly manageable overall. We were already familiar with just about all the online collaboration tools going: videoconferencing, screen-sharing, collaborating on documents online and communicating via social channels. However, there are times when you miss the in-person interaction, for instance during brainstorming sessions.

Virtual teambuilding

In order to stay in touch with each other, Strypes has prioritised online teambuilding with virtual drinks, receptions and other relaxation ways to unwind. In this way we remain connected. Naturally, what is also important is the connection with customers and potential new employees. Strypes found a solution here by conducting webinars and organising hackathons. In this way we can still share knowledge and experience and stay connected with our stakeholders.

Although it is nice to be in contact with each other remotely, I am very much looking forward to the day when everyone can come back to the office and I can see all my colleagues again. I think we'll look each other up right away and also take the time to catch up with colleagues from other teams we haven't seen for so long. This period has made us all even more aware of the importance of face-to-face contact with colleagues."

Online teambuilding in Bulgarije

Nadya Emanuilova werkt bij Strypes en is van managementassistente uitgegroeid naar Feature Integrator. Ze kan prima op afstand aan projecten werken, maar mist het persoonlijke contact met haar collega's. Ze legt uit hoe zij via online teambuilding toch verbonden blijft met collega's en hoe Strypes door het organiseren van webinars en hackathons contact legt met klanten en potentiële nieuwe medewerkers.



From **initiation** to **demolition** in road, water and rail infrastructure

INNOCY offers asset management at strategic, tactical and operational level

With the merging of NedMobiel and Proficium, the consultancy and engineering firm INNOCY was created. INNOCY is an independent brand within the ICT Group, and provides services that cover the entire life cycle of complex infrastructure. “What makes us special is the fact that we cover the entire spectrum, from the strategic and tactical to the operational level, right across the life cycle of assets. From installation to demolition in road, water and rail infrastructure.” A conversation with Director Bram ten Klei.

Ten Klei: “We see ourselves as the consulting firm of the future. We don’t provide detailed engineering services ourselves, but the service we do provide sets up the entire life cycle process for the client: everything that’s involved in designing, realising, managing, adapting and possibly demolishing roads, railway lines, tunnels, bridges, locks and other road and rail assets. We have the right domain knowledge, the tooling and the experience. In doing so, we help the client to realise and manage his projects.”

Life Cycle Masters

INNOCY focusses on six areas: asset management, project management, security, data, infra development, and technology and automation. Ten Klei: “The common denominator in this list is the life cycle. Hence our slogan: Life Cycle Masters.” INNOCY is also often contracted for parts of projects, for example for preparing the RAMS files (which stands for reliability, availability, maintainability and security) or for providing a technical management and monitoring system for equipment in or on tunnels, bridges and locks. However, often our projects involve guidance in all phases of a project, both in the design and realisation phases and in the operation. For example, this is the case in the project for widening the A9 motorway at Amstelveen. Ten Klei: “We have been involved in various aspects of the bid right from the start, including the operating budget, asset management and life cycle costing. We identified the risk profile and found the optimum balance between the risks, performance and costs during the project and during the maintenance period that follows. So we don’t just make the plan, but we also set up the asset management processes and activities. This means that we deliver the right people throughout the contract period, from asset manager to fault coordinators.”

Make customers self-sufficient

INNOCY prefers to play a risk-bearing role in projects. Ten Klei: “That means that we are not in the game to bill for every single hour we spend. Instead, we always

“What makes us special is the fact that we cover the entire spectrum, from the strategic and tactical to the operational level, right across the life cycle of assets. From installation to demolition in road, water and rail infrastructure.”

Bram ten Klei, Director INNOCY

go for the best solution. We agree on the deliverables and the quality, as well as the related fixed price. We ask ourselves every week what activities we need to perform to create the right results for the client. Our role is that of an entrepreneur rather than that of a supplier of, say, engineers or maintenance specialists. That motivates our employees, because there are opportunities to work in different divisions of the organisation. It is an approach that we want to take further into the market.” Our goal is to always deliver added value that really helps our clients. To do this, you need to know and understand the client and their business, says The Klei. “Only then can you unburden them and solve the problems hands-on. We set up the process along with the required monitoring tools and make sure that the level of knowledge increases. In short, the customer gets a process that runs and a system that works.”

Van doop tot sloop in weg- en railinfra

Door het samenvoegen van NedMobiel en Proficium ontstond advies- en ingenieursbureau INNOCY, een zelfstandig merk binnen de ICT Group. INNOCY biedt diensten die de gehele levenscyclus van complexe rail- en weginfrastructuur omvatten; van doop tot sloop. Het merk bestrijkt het hele spectrum, van strategisch en tactisch tot operationeel niveau, en dat over de hele life cycle van assets.

“We kunnen klanten in alle fases van een project begeleiden, zowel in de realisatie als bij de exploitatie. Met diensten op het gebied van asset management, projectmanagement, veiligheid, data & informatie, infra development en techniek & automatisering. Het doel is om altijd meerwaarde te leveren waar de klant ook echt iets aan heeft. Daarvoor moet je de klant en zijn business kennen en begrijpen. Want pas dan kun je hem ontzorgen en hands-on de problemen oplossen”, zegt Directeur Bram ten Klei. Daarvoor zijn klanten bij INNOCY aan het juiste adres.



Industry 4.0 calls for an integrated approach to OT and IT

Almost any project that involves remote sensor reading is labelled as ‘Industry 4.0’. Yet there are only a few companies which fully realise that the real issue is linking Operational Technology (OT) to IT and enriching both environments with data. We explored the subject with **Roel de Backer, Director Industrial Automation Division**.

“Industry 4.0 is often associated with areas such as the connected factory and data-driven control of production processes. These are usually viewed as goals, but they are essentially no more than means that help to optimise production capacity, improve flexibility within production processes, facilitate collaboration along the logistics supply chain and reduce carbon footprint”, De Backer explains.

Market demand is strong now that COVID-19 is increasing the need for remote-monitoring primary processes and even remote-controlling assets. This trend clearly demonstrates the long-term impact, De Backer says. “When primary production processes require almost no human input anymore, most companies will start redesigning their supply network. The impact extends well beyond merely remote-controlling a machine. The focus needs to be on questions such as: where do you assign the control of primary processes? How do you organise a demand-driven global supply chain?

Integrating IT, OT and data

He defines Industry 4.0 as a combination of OT, IT and data. “Most companies keep OT and IT completely separate. The plant director is responsible for the SCADA and MES systems, while ERP is assigned to the IT domain. The use of the IoT allows machines to be read and operated remotely, which raises the question: who is responsible for the IoT, the plant director or the IT manager? The obvious answer is that there needs to be close collaboration between Operations and IT. There is no distinction any more. The digital transformation must encompass the entire company and the supporting processes (purchasing, warehousing, sales), but certainly also the primary production processes.”

There are only a few companies that are approaching these trends from an integrated perspective, and this comes as no surprise, De Backer says. “Since



Roel de Backer, Director Industrial Automation Division

we separated the two domains, both have their own suppliers. If you publish a tender for the automation of an entirely new or a redesigned factory, you will get different types of companies applying than when you want to introduce new sales channels or launch a new business model with technical support.”

Making data-driven decisions

ICT Group distinguishes itself with its integrated view of IT and OT. “We have expertise in both domains and have in-house data scientists to develop innovative new models. This enables us to support our clients throughout the lifecycle, from greenfield projects to renewing control systems and preventive maintenance and management of all ICT and control systems. In addition, we are thoroughly familiar with security, which is of the utmost importance when linking assets to the cloud. And finally, we offer 24x7 monitoring and management of critical assets. Through this managed service we help our clients make the transition from maintenance to predictive maintenance”, De Backer says. “In short, we offer an integrated approach, and we can work together with the COO and CIO to develop a vision of digital transformation. Our expertise and vast experience in both domains enables us to truly make a difference.”

Industry 4.0 vraagt om integrale aanpak van OT en IT

Industry 4.0 is de combinatie van OT, IT en data. In de meeste bedrijven zijn de OT en IT volledig gescheiden. De SCADA- en MES-systemen vallen onder de verantwoordelijkheid van de plant director, terwijl ERP in het IT-domein valt. Nu door het gebruik van IoT machines op afstand worden uitgelezen en bediend, komt de vraag: valt IoT nu onder de verantwoordelijkheid van de plant director of de IT-manager? Terwijl het antwoord natuurlijk is dat er een nauwe samenwerking moet zijn tussen Operations en IT. Er is geen onderscheid meer.

Roel de Backer, Director Industrial Automation Division bij ICT: “Industry 4.0 gaat veel verder dan ‘the connected factory’ en het datagedreven aansturen van productieprocessen. Het gaat om vraagstukken als: waar beleg je de aansturing van primaire processen? Hoe richt je een vraaggestuurde mondiale supply chain in? Door onze kennis van IT en OT, aangevuld met verstand van security, zijn wij als geen ander in staat om samen met de COO en CIO een integrale visie te ontwikkelen op digitale transformatie.”





New ICT division offers clients a subscription to innovation

ICT Group has many years of project experience in the industrial field and knows like no other the specific requirements that are set here. In order to offer even more added value to our clients, we have bundled our in-house designed industry-specific software into a new division.

Jos Schoemaker, Director of this new division, explains: “Because of our background, we have unique knowledge and expertise in specific markets. As a

result, we quickly see in which direction these markets are developing. From now on, we will be using this domain knowledge in a very targeted way to develop software products that will allow us to help customers jump on a moving train. Instead of developing a separate train for each customer, we will clearly indicate our route and the stations we will be calling at in the coming years. This allows our customers to innovate much faster and at lower cost. At the same time, we can sell our proprietary software solutions to many more customers. It’s a win-win.”

Nieuwe ICT divisie biedt klanten een abonnement op innovatie

Door onze jarenlange ervaring met projecten in het industriële domein kennen wij als geen ander de specifieke eisen die hier worden gesteld. Die domeinkennis zetten we vanaf nu ook heel gericht in om eigen software oplossingen te ontwikkelen binnen een nieuwe divisie. Klanten nemen de producten af als een dienst en krijgen daarmee een abonnement op innovatie. Onder deze divisie vallen OrangeNXT, TURNN, Motar, ICT Healthcare en Yellowstar.

Trouble free operation

“Years ago, we already saw the demand for mobile solutions for service engineers and the possibilities of adding remote monitoring and management. From that insight, ICT Group company OrangeNXT developed a plug-and-play cloud platform and a set of products in the field of remote and predictive maintenance. When COVID caused many companies to suddenly need remote management, we were able to quickly help with an off-the-shelf product that they only had to implement and not design from scratch.” Another example is Sense4Baby, a product developed within ICT Healthcare for home monitoring of problem pregnancies. “We were already a major player in the field of obstetrics with products used in the hospital. Years ago it became clear to us that there would be a desire to move care beyond the walls of the hospital. We were the first to design a remote solution for obstetrics. Partly due to COVID, this product now has the wind at its sails,” says Schoemaker.

Combining technical knowledge with domain expertise

A product that is now facing a headwind due to COVID is the Mobility-as-a-Service platform TURNN.

The use of the app allows public transport passengers to plan and pay for their journey in a personalised door-to-door manner, whether they use the bus, train, taxi, shared bicycle, scooter or car. Schoemaker: “We are the first to succeed in combining all modalities in one app, which also allows travellers to pay via the app. We have combined our unique knowledge of public transport with our expertise in the field of system integration. TURNN was developed from the vision that public transport plays an important role in combating traffic congestion, reducing CO₂ emissions and keeping our inner cities livable. Public transport is struggling at the moment, but we are now seeing requests from companies who want to give their employees a TURNN subscription instead of a lease car.” Other products that belong to the new branch are Motar, a low-code platform for developing complex industrial software without writing code, and the recently acquired Yellowstar, which provides modules that give logistics service providers and companies active in manufacturing, trade and retail insights into the entire supply chain. Both these products are also characterised by a clear vision of the market and simple implementation by the customer.



Jos Schoemaker, Director Industry Specific Software division

Jos Schoemaker concludes: “We continue to develop the products according to a clear roadmap that we share with customers. Because customers purchase the products as a service, they benefit from every new feature we add. So through these products we give customers a subscription to innovation.”

