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Smarter Solutions

Cybersecurity opnemen binnen Life Cycle Management

FHI Industrial Cyber Security

10-10-2023 | FHI ICS | Sebastiaan Koning

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10 oktober 2023 | Congrescentrum 1931, den Bosch

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Agenda

- Ontwikkelingen en gevolgen
- Starten met OT cyber security
- Aanpak Life Cycle Management
- Cyber security binnen Life Cycle Management
- Vervolgen van het cyber security Life Cycle proces
- Samenvatting

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Ontwikkelingen



- ▮ Dreigingen nemen toe
 - ▮ Gericht
 - ▮ Incidenteel
 - ▮ Gerichte aanvallen op **OT**
- ▮ Cybercrime is een lucratief business model
- ▮ AI
- ▮ NIS2
 - ▮ **Risk Management** aanpak
 - ▮ Business continuity
 - ▮ Supply chain security

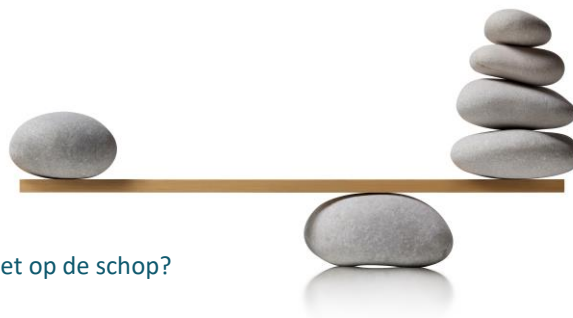


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Gevolgen



- ▮ Cyber security is essentieel onderdeel van bedrijfsvoering
 - ▮ Ook **OT!**
 - ▮ **OT** vergt een andere aanpak dan **IT**
- ▮ Veel verandering
 - ▮ Beleid en procedures
 - ▮ Techniek
- ▮ Aanpassen OT omgeving
 - ▮ Moet de hele procesautomatisering moet op de schop?



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Starten met OT Cyber Security

IEC 62443



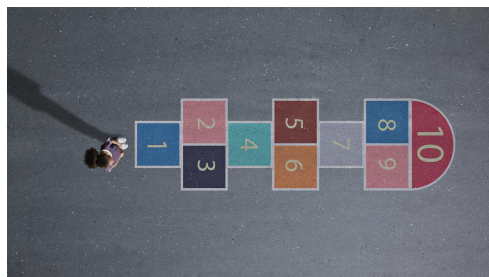
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Basisstappen Cyber Security volgens de IEC 62443



Basisstappen Industrieel Platform Cyber Security

1. Asset Register
2. Datastromen
3. Risico Inventarisatie
4. Back-up management
5. Patch management
6. Netwerksegmentering, zones en conduits
7. Monitoren van netwerkverkeer



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Systematische aanpak
Life Cycle Management



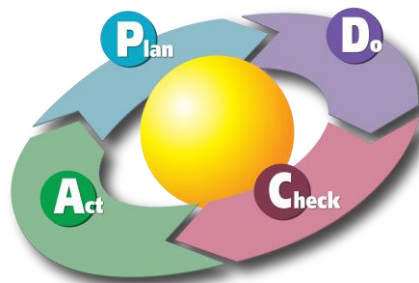
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Systematische aanpak Life Cycle Management



Stappenplan Life Cycle Management

1. Inventariseren huidige status
2. Richten waar je naar toe wilt
3. Inrichten door opstellen Life Cycle Plan
4. Verrichten door uitvoeren Life Cycle Plan



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Stappen IEC 62443 binnen Life Cycle Management

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LCM Stap 1: Inventariseren huidige status



- └─ Uitvoeren van een Life Cycle Scan
 - └─ Asset register
 - └─ Datastromen
- └─ Asset status
 - └─ Patch level
 - └─ Configuratie
 - └─ Kwetsbaarheden



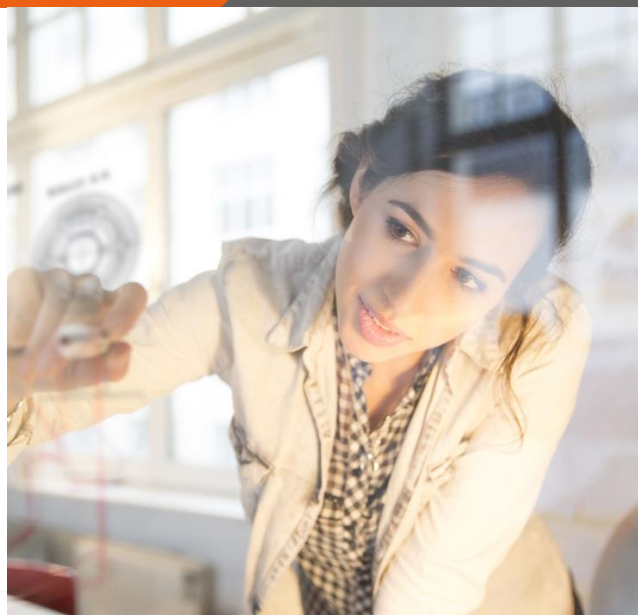
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LCM Stap 1: Inventariseren huidige status - Praktisch



- └─ Assessment van actueel ontwerp
- └─ Maak gebruik van Network Security Monitoring
 - └─ Netwerk gekoppelde assets
 - └─ Datastromen
- └─ Fysieke inventarisatie
 - └─ Laatste "gaten" dichten



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LCM Stap 2: Richten waar je naar toe wilt



- ▮ Wat zijn de **risico's**
 - ▮ Investering proportioneel aan het risico
- ▮ Zijn er nieuwe **ontwikkelingen**
 - ▮ Dreigingen
 - ▮ Kwetsbaarheden
 - ▮ Wet- en Regelgeving – **NIS2.0**
 - ▮ Technologie
- ▮ Fase van de **Life Cycle** OT apparatuur
 - ▮ Onderhoudbaarheid
 - ▮ Staan er renovaties of vervangingen gepland



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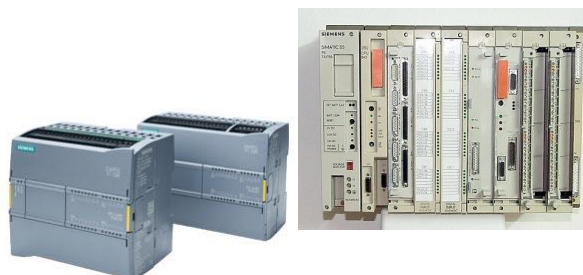
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LCM Stap 2: Richten waar je naar toe wilt - Praktisch



- ▮ Wat zijn de **risico's**
 - ▮ High-level risk assessment
 - ▮ Bepalen van initieel **Security Level Target**
- ▮ Dreigingen en kwetsbaarheden
 - ▮ Vulnerability assessment
 - ▮ Marktonderzoek
- ▮ Fase van de **Life Cycle** OT apparatuur
 - ▮ Asset register als basis
 - ▮ Verificatie met leveranciers

RISK REPORT					
Risk Matrix		Likelihood			
		Rare	Unlikely	Possible	Likely
Consequences	Count of Risk	Column Labels			
	Row Labels	1	2	3	4
Catastrophic	5				
Major	4				
Moderate	3				
Minor	2				
Negligible	1				



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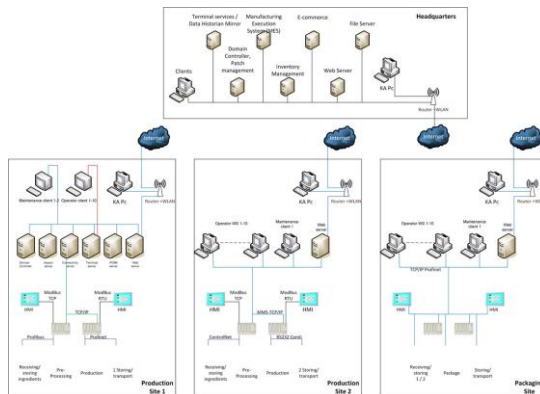
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LCM Step 3 : Inrichten door opstellen Life Cycle plan



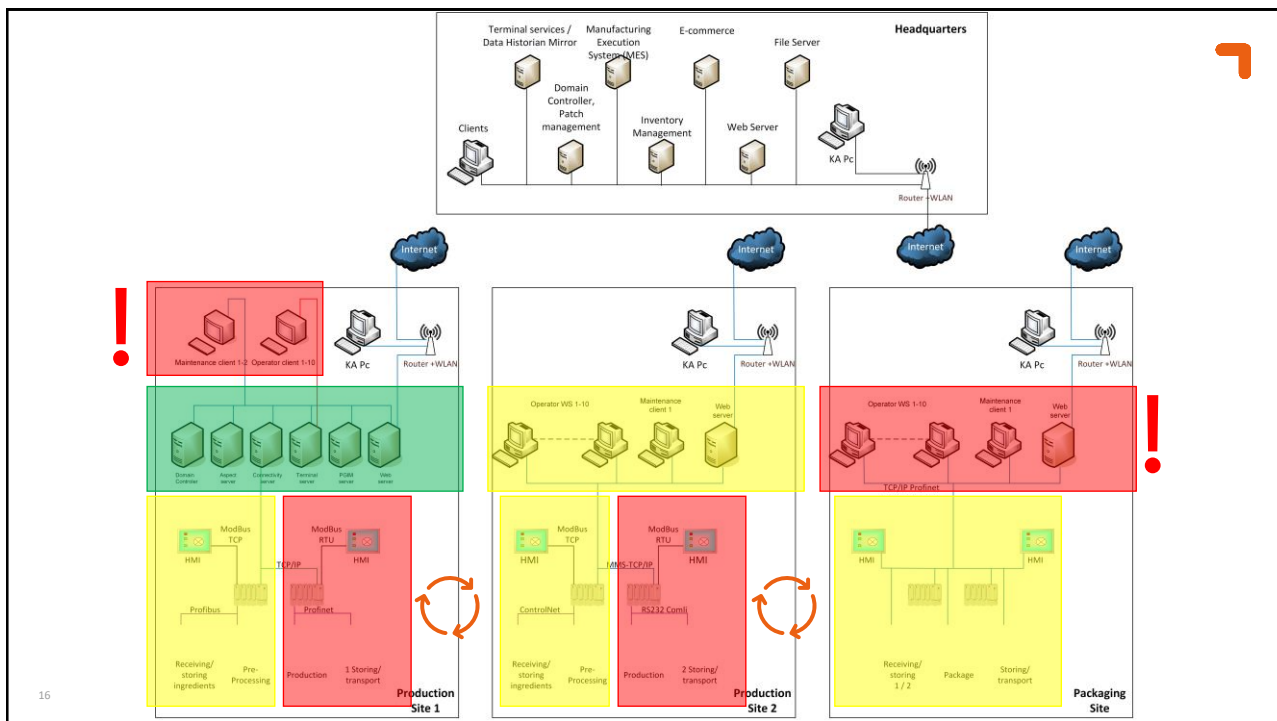
- **Systeemontwerp → Zone & Conduit model**
 - Logisch ontwerp
 - Fysiek ontwerp
- Verrichten detailed risk assessment
 - **Security Level Target per zone**
- Business continuity
- Back-up management
- Patch management



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LCM Stap 4: Verrichten door uitvoeren Life Cycle plan



- Toepassen van systeemontwerp uit **LCM Stap 3**
- Doorvoeren van security maatregelen
 - Toetsen implementatie
- Start van **Security Life Cycle** proces
- **Change Management** proces inrichten
- Network Security **Monitoring**
 - Inzicht houden



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Vervolgen van het **cyber security**
Life Cycle proces

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Life Cycle Proces Cyber Security



- ▮ Up-to-date houden asset status
 - ▮ Inclusief back-ups
- ▮ Monitoren OT netwerk
 - ▮ Dreigingen
 - ▮ Kwetsbaarheden
 - ▮ Risico's
- ▮ Managen
 - ▮ Patches
 - ▮ Veranderingen/uitbreidingen
 - ▮ Leveranciersketen
 - ▮ Disaster recovery planning



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Life Cycle Proces – Risico management



- ▮ Periodiek uitvoeren van risk assessments op niet-gemitigeerde Zones
 - ▮ Restrisiko vs acceptabel risico
 - ▮ Investering plannen of bespoedigen
- ▮ Periodieke controle
 - ▮ Dreigingen
 - ▮ Verandering wet- en regelgeving
 - ▮ Organisatie
 - ▮ Technische veranderingen
- ▮ Periodiek herhalen van High-level risk assessment



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Samenvatting



- 🔧 Begin met inzicht van de actuele situatie
- 🔧 Kies een risico gebaseerde aanpak
 - 🔧 Investering proportioneel aan het risico
- 🔧 Van project naar **proces**
- 🔧 Life Cycle Management
 - 🔧 Spreiden van investering en risico
- 🔧 Niet alleen focus op cyber security
 - 🔧 Basis voor Business Continuity Management



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Vragen???

Bedankt

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Making the world
a little **smarter**

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| Our **ambition**

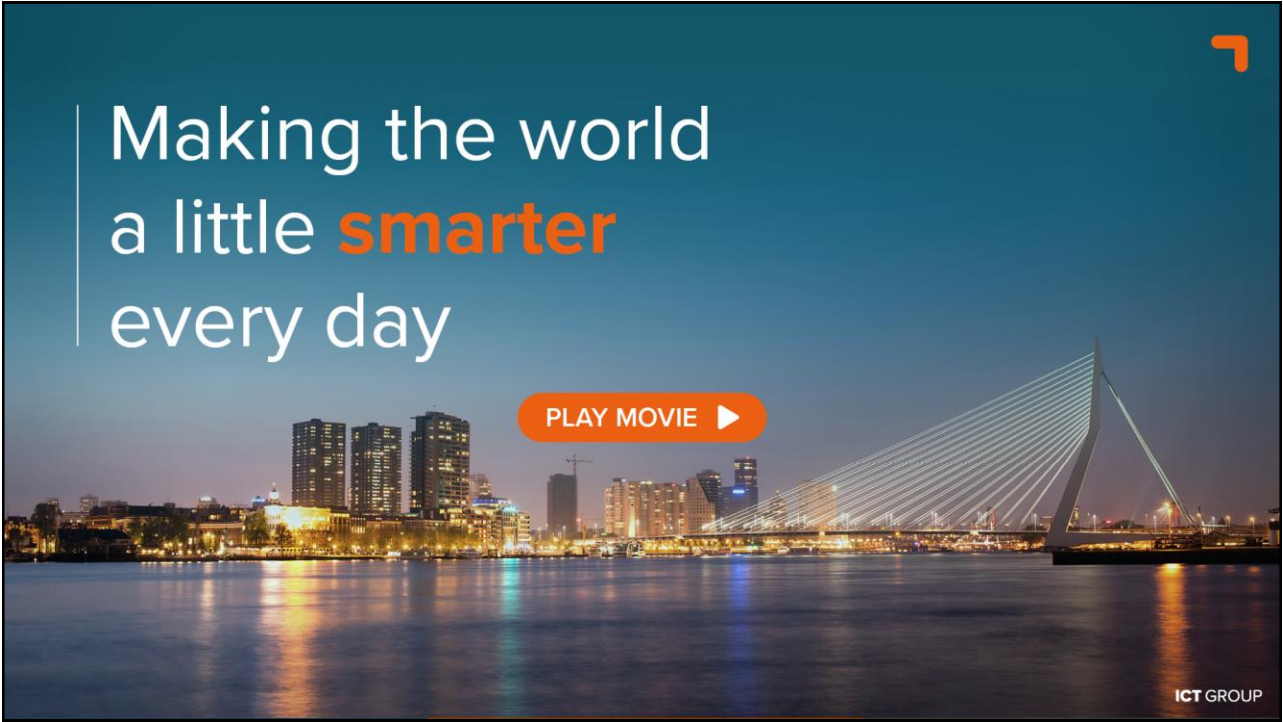
The world around us is **changing fast** and digital transformation significantly impacts the way we live and do business. It offers huge potential to make the world **smarter** while contributing to a more **sustainable future**.

As a leading European industrial technology solutions provider ICT Group is committed to playing its part.



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

PLAY MOVIE ▶

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ICT Group Locations

- 13 offices in the **Netherlands**
 - Barendrecht, Eindhoven, Breda, Deventer, Bergen op Zoom, Groningen, Maastricht, Nieuwegein, Houten, Dreumel
- 5 offices in **Bulgaria**
 - Sofia, Plovdiv, Burgas and Varna
- 1 office in **France** - Versailles
- 1 Office in **Germany** - Ismaning
- 2 offices in **Portugal** - Lisbon and Porto
- 2 offices in **Sweden** – Malmö and Lund



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Proud of what we achieved

- 215** million euros revenue in 2022
- Founded **1978**
- 6** countries: Benelux, Bulgaria, France, Germany, Sweden and Portugal.
- 2000** employees all over Europe
- Digital transformer of the year **2022 / 2023**
- Great Place To Work.**



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Our Group Values

We are leading experts

With our sustainable innovative vision, domain knowledge and drive for technological solutions, we create impact and deliver the best quality and results.

It is our challenge to link people, technologies and ideas

We collaborate with our customers, partners, suppliers and colleagues, with respect, transparency and responsibility in an open setting and with a no-nonsense mentality. Our people make the difference in delivering value to our customers.

We are passionately involved

We are passionately involved and strive for the best and most sustainable solutions for our customers and their markets.



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Our services

As a leading European industrial technology solutions provider our 2,000 dedicated technical professionals offer our clients project-based and managed services as well as consultancy, training, software development and recruitment & staffing.



Recruitment & Staffing



Project-based Solutions



Consultancy



Managed Services



Nearshoring



Training

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Our divisions

Our specialist knowledge in a variety of industries enables us to realise innovative solutions by connecting people, technologies and ideas. As a leading industrial technology solutions provider, ICT Group has a wide range of expertise and experience in four focus areas: R&D Engineering, Industrial Automation, Infra & Mobility and Healthcare.



R&D Engineering



Industrial Automation



Infra & Mobility



Healthcare



Industrial Automation Solutions

ICT Group contributes to the creation of intelligent manufacturing technology solutions, supporting the digital transformation and ongoing industrial robotisation. This allows for a more efficient use of natural resources, resulting in a reduction in waste and an increase in the sustainable and economic use of natural resources. We specialize in the following markets:

- 📍 Food, Chemicals & Pharma
- 📍 Logistics
- 📍 Managed Services
- 📍 Data Intelligence
- 📍 Oil & Gas
- 📍 Heavy Lifting





Infra & Mobility Solutions

ICT Group is an important contributor to the development of smarter cities. Improving the quality and performance of urban services is a necessity because of ongoing urbanisation and goes hand in hand with reducing resources and costs. ICT's solutions enable cities to deal with the complexity of population growth. Cities face increasing challenges in the field of water, energy, mobility, waste and the environment. We specialize in the following markets:

- ▶ Water & Road Infra
- ▶ Energy
- ▶ Rail
- ▶ Urban Mobility
- ▶ Life Cycle Management

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Industrial Automation Solutions

Food, Chemicals & Pharma

ICT Group offers smart solutions for flexible, reliable and efficient production processes covering the link to ERP and the implementation of the Manufacturing Execution System (MES) up to and including direct control at process level (PLC/Scada/DCS). In addition, we offer optimal control on result by modelling processes using Model Predictive Control.

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Infra & Mobility Solutions

Water & Road Infra

ICT Group offers smart IT solutions to optimize operation, security and monitoring of technical installations, ensuring the future and safety of water and civil infrastructures. As a system integrator, ICT Group ensures that all installations and systems offer maximum safety, availability, sustainability and reliability.


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Industrial Automation Solutions

Oil & Gas

ICT Group is a project-oriented system integrator in the field of industrial automation with broad expertise in various sectors such as petrochemicals. We specialize in production- and process automation activities and deploy the latest generations of PLC's, robots, servo motors, SCADA-software, DCS and Embedded software.

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Industrial Automation Solutions

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Heavy Lifting

In every major industrial sector heavy lifting plays an important part. It needs to take place safely and involves sector-specific engineering experience. To provide safety to company assets and business operations, we integrate organizational and technical measurements in the business processes.

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Industrial Automation Solutions

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Logistics

As an implementator and integrator of IT Solutions, ICT Group ensures that your logistics IT systems work together smoothly with other internal and external systems. We provide smart IT solutions with a focus on warehouse management, control of equipment in planning & execution and optimizations (for instance with dashboards) in the primary process of a supply chain.

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Infra & Mobility Solutions

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Rail

ICT Group develops (custom) IT solutions for rail in the areas of traffic management, infrastructure monitoring and travel information. As a specialist in heavy rail, ICT Group uses its knowledge and experience for the full software lifecycle, from innovation and advice to software development, integration, testing and management & maintenance.

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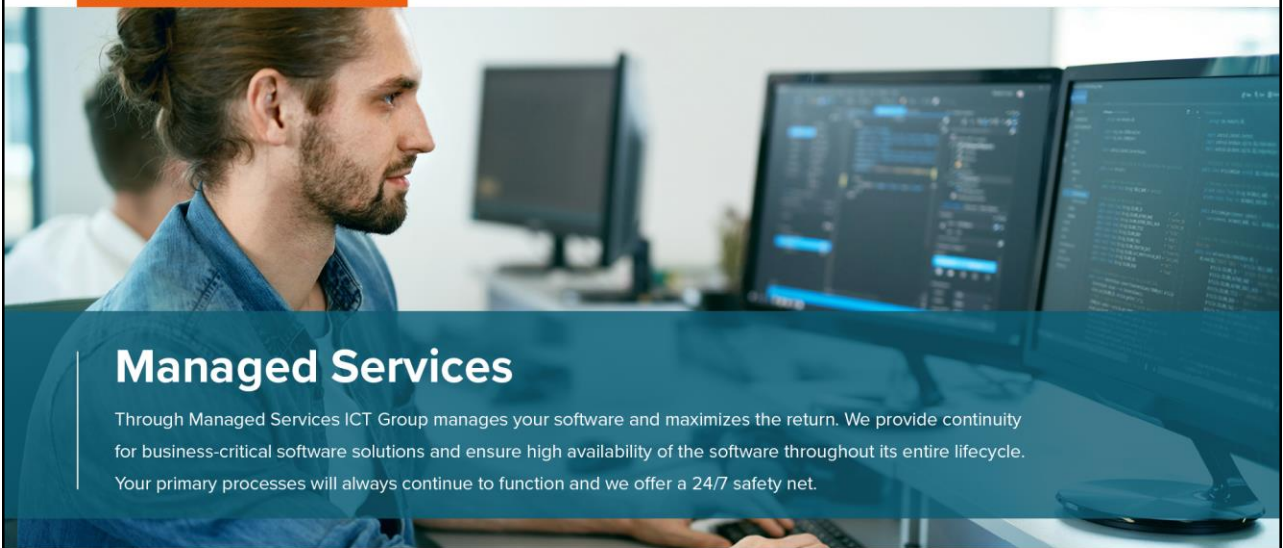
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Energy

With our proven IT solutions, ICT Group creates flexible energy systems and ensures that the underlying network is up to standard. At the same time, we work on energy services for the energy transition, new energy projects and a future-proof energy supply.

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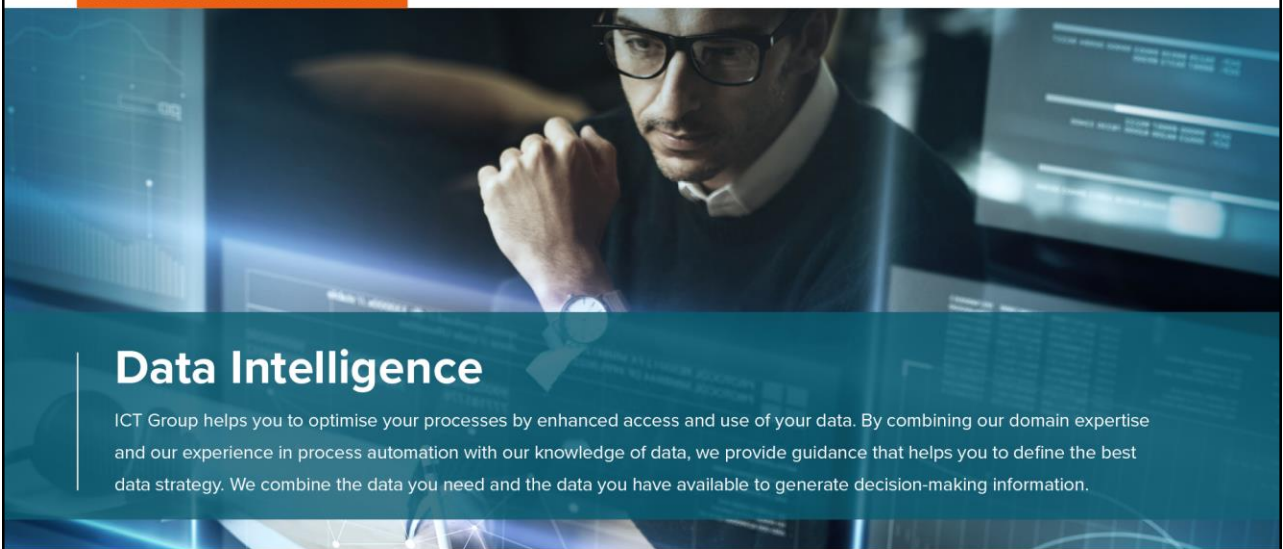
Industrial Automation Solutions

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Managed Services

Through Managed Services ICT Group manages your software and maximizes the return. We provide continuity for business-critical software solutions and ensure high availability of the software throughout its entire lifecycle. Your primary processes will always continue to function and we offer a 24/7 safety net.

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Industrial Automation Solutions

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Data Intelligence

ICT Group helps you to optimise your processes by enhanced access and use of your data. By combining our domain expertise and our experience in process automation with our knowledge of data, we provide guidance that helps you to define the best data strategy. We combine the data you need and the data you have available to generate decision-making information.

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Infra & Mobility Solutions

Life Cycle Management

As a consultancy and engineering firm, Innocy, an ICT Group company, covers the entire life cycle of infrastructure. We understand that customers want a single partner from start to finish, rather than multiple suppliers for each part of the process. ICT Group covers the entire life cycle of infrastructure and supports you during your entire journey of complex infrastructure projects.

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Infra & Mobility Solutions

Urban Mobility

With our InTraffic brand, we develop (custom) IT solutions for mobility in the areas of traffic management, infrastructure monitoring and travel information. As a specialist in public transport, InTraffic uses its knowledge and experience for the full software lifecycle, from innovation and advice to software development, integration, testing and management & maintenance.

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R&D Engineering Solutions

ICT Group provides embedded software solutions to help our customers bring their new machine, robot or car to the market. Our experienced and highly trained professionals have extensive domain knowledge. We specialize in the following markets:

- Automotive
- High Tech
- Machine and Device Engineering

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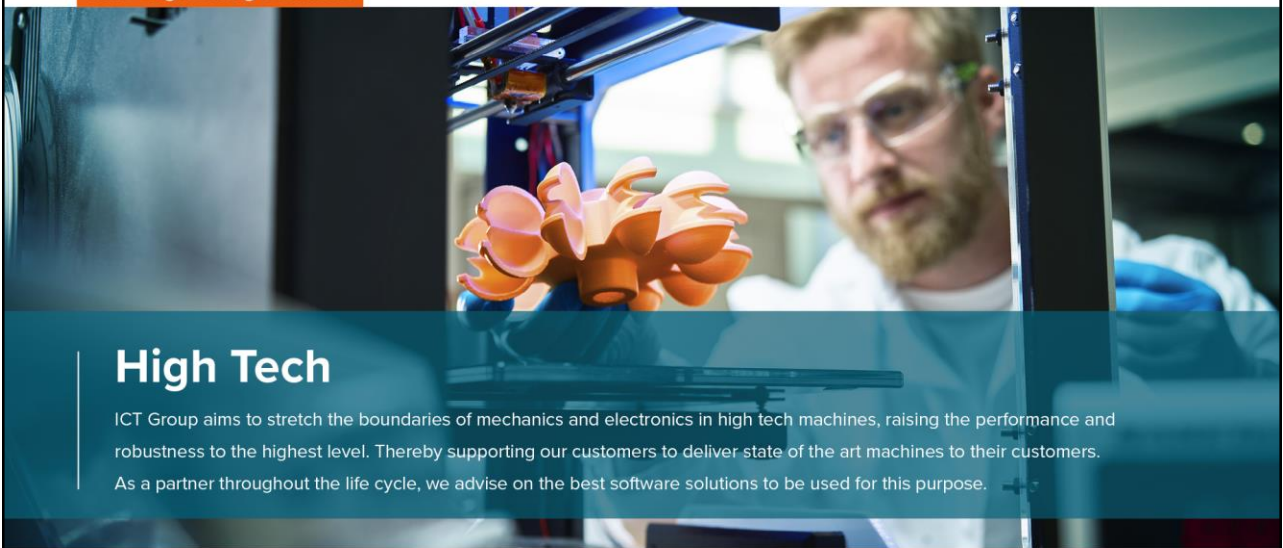


R&D Engineering Solutions

Machine & Device Engineering

ICT Group is a trusted advisor for innovative end-to-end solutions for machine and equipment engineering within the smart industry domain such as healthcare, energy, material handling and agriculture. ICT supports R&D departments in every stage of their product development. Thanks to our smart solutions, the machines and equipment from our customers are connected, safe and are always compliant with the latest standards.

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R&D Engineering Solutions

High Tech

ICT Group aims to stretch the boundaries of mechanics and electronics in high tech machines, raising the performance and robustness to the highest level. Thereby supporting our customers to deliver state of the art machines to their customers. As a partner throughout the life cycle, we advise on the best software solutions to be used for this purpose.