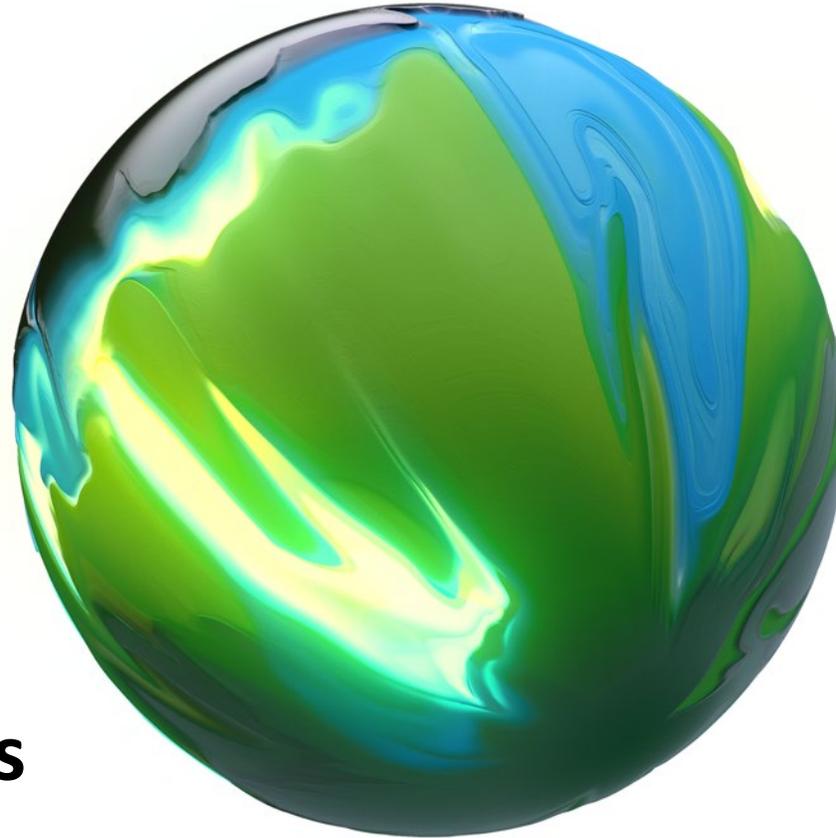


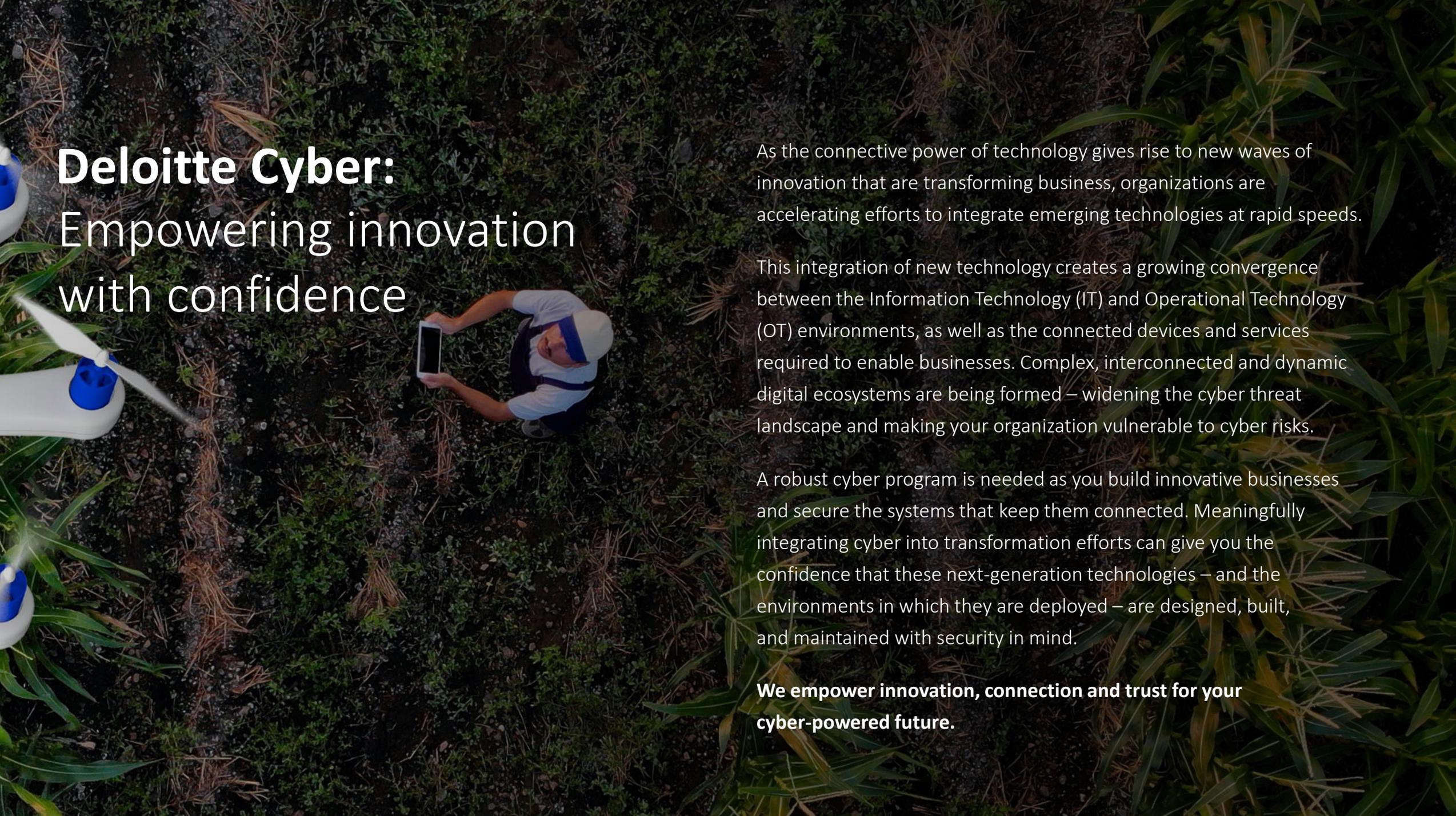
**Deloitte.**



**Emerging Technologies  
Services:** Empowering  
innovation with confidence

Deloitte Cyber | Empowering your people for the future



An aerial photograph of a person wearing a white shirt, a white cap with a blue stripe, and dark overalls, standing in a field of green grass and weeds. The person is holding a tablet computer with both hands. To the left of the person, a white drone with blue accents is in flight, its propellers blurred. The background is a dense field of green vegetation.

# Deloitte Cyber: Empowering innovation with confidence

As the connective power of technology gives rise to new waves of innovation that are transforming business, organizations are accelerating efforts to integrate emerging technologies at rapid speeds.

This integration of new technology creates a growing convergence between the Information Technology (IT) and Operational Technology (OT) environments, as well as the connected devices and services required to enable businesses. Complex, interconnected and dynamic digital ecosystems are being formed – widening the cyber threat landscape and making your organization vulnerable to cyber risks.

A robust cyber program is needed as you build innovative businesses and secure the systems that keep them connected. Meaningfully integrating cyber into transformation efforts can give you the confidence that these next-generation technologies – and the environments in which they are deployed – are designed, built, and maintained with security in mind.

**We empower innovation, connection and trust for your cyber-powered future.**

# A convergence of technology

---

To take full advantage of all digital transformation offers as advanced systems merge, it's vital to stay in control of cybersecurity risks both within the operations environment and across connected products and services.

## **Improve resilience**

and drive value by enabling digitalization while remaining in control of cyber risks.

## **Manage and protect systems**

that are costly, complex and time consuming to update or replace.

## **Enable secure innovation**

and create a unique market position with products differentiated by their security.

## **Empower end-user experience**

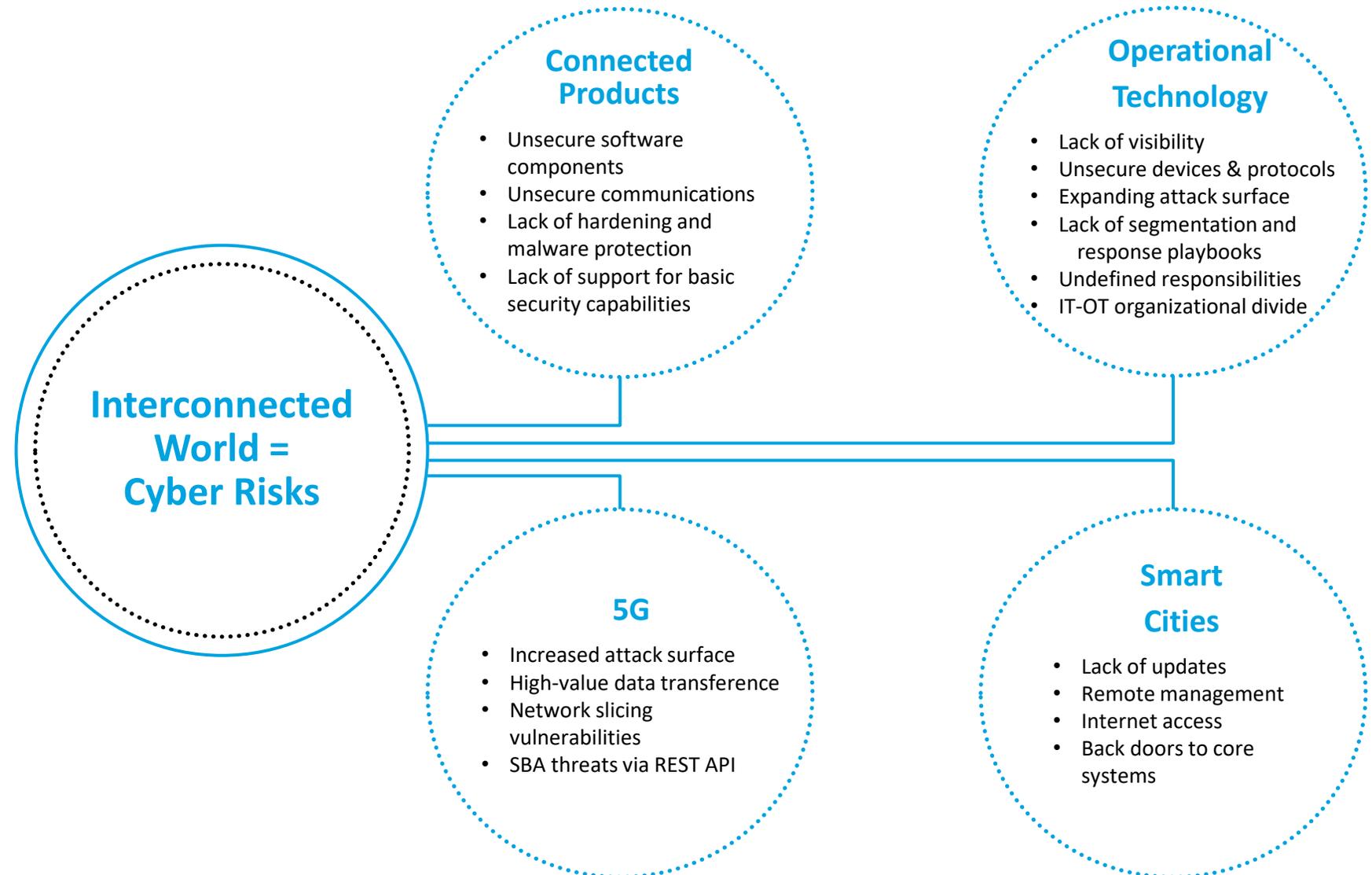
through enhanced security and interconnectedness across all touchpoints.



# The interconnected world and emerging cyber risks

**When everything is connected, your exposure to inherent operational risk magnifies.**

We can help you integrate the security you need to take full advantage of the new opportunities resulting from connectivity.



# We heard you when you asked...

Taking full advantage of all that digital transformation has to offer requires an effective cyber solution for integrating emerging technologies. Deloitte Cyber helps you safely navigate the changing landscape.

“

How can we ensure the security of **new innovation** in order to get to market more effectively and efficiently?

“

Is there a roadmap to design (or acquire) **secure products** and then manage them?

“

What services span **governance, design and development, and deployment** requirements?

“

How do we effectively manage the convergence of **IT and OT environments**?

“

How can we **control operational risk** as we expand connectivity?

“

What's the best way to **build a collaborative approach** to managing our ecosystem?

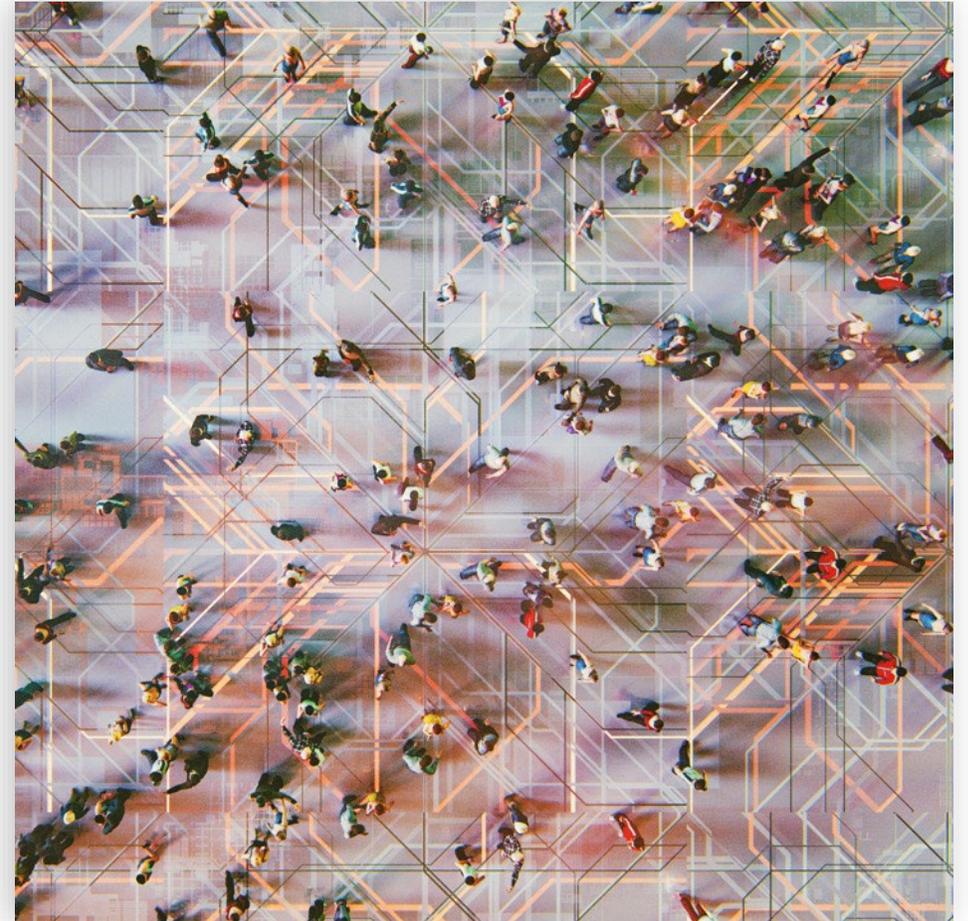
# Advise. Implement. Operate.

**Increasingly, value is driven by enabling digitization. We provide capabilities designed to effectively integrate cyber into new and emerging technologies.**

As you move forward, it's vital to improve resilience so you can mitigate cyber risks. Not only will we implement solutions to help you manage and protect your operations environment but also the connected services and devices that power your business. With proactive and visible cybersecurity throughout your OT, IT and IoT ecosystems, you can confidently face market challenges.

Once you're enabled to securely innovate, we can operate a range of cyber services, freeing you to leverage interconnectedness to further differentiate and create unique end-user experiences. These efforts enable greater speed-to-market, improving the success of investments in new products and services that are flexible and scalable.

Finally, we ensure your executive management has the visibility and tools needed to manage risk in a newly converged world while remaining compliant in evolving regulatory regimes.



# Emerging technologies power mission-critical processes

**We work with major cybersecurity manufacturers from OT and IoT monitoring to industrial, IIoT and IoT technology, as well as specific protection and access management.**

## Industrial Internet of Things (IIoT) and 5G

IIoT technologies applied to industrial environments, such as temperature monitoring sensors sending data to analytics solutions in the cloud. These are increasingly found in operational sites leveraging Industry 4.0 concepts. IIoT connectivity is increasingly enabled by faster and more efficient protocols such as 5G.

## Information Technology

Computers, devices and networks supporting business processes such as customer relationship management and production planning.

## Operational Technology (OT)

The ecosystem of technical systems and devices that support, monitor and manage physical operations such as an oil refinery process.

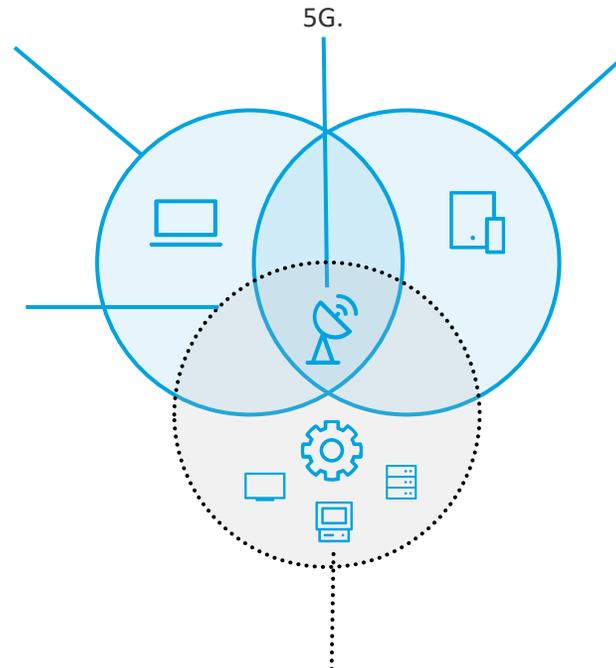
This also includes IT-like systems such as computer workstations.

## Internet of Things (IoT)

Connected objects and devices that communicate over networks to exchange data or take action, such as connected vehicles and smart medical devices.

## Industrial Control Systems (ICS)

Specialized systems that automate and control industrial processes. These are the bulk of what is found in an OT environment. ICS include components such as DCS, SCADA, and PLCs.



# We listened to your needs

**Deloitte's Cyber Emerging Technologies services help you find, manage, and mitigate security risks in connected systems and operations anywhere it's needed.**

## **Latest industry standards aligned to your business**

We apply the latest industry standards and build flexible security solutions that respect both the nature of your company and relevant industry standards.

## **Business-focused approach**

Our solutions protect your most valuable assets and processes against related threats and vulnerabilities. By focusing on what keeps you in business and working with your operations teams to establish and document the critical business processes, we help you remain in control.



# We listened to your needs



## **In-depth industry knowledge**

For almost a decade, we've been performing security assessments in emerging technology environments, accumulating industry-focused knowledge and skills. We're always improving and expanding our knowledge of industry-specific standards such as the ISA/IEC 62443 series and ISO/SAE DIS 21434. To help you stay up-to-date, we regularly organize knowledge-sharing events and benchmark industries.

## **Multi-disciplinary teams**

The greatest challenge to security is not technology but people. To ensure board-level sponsorship, our end-to-end multi-disciplinary teams are anchored in the most relevant parts of your business, including engineering, cyber, project management, finance, human capital, technology consulting and strategy.

Our services help you effectively embed cyber into new technologies, giving you confidence that your connected products, services, operating technologies and innovative efforts are properly secured.

**Wherever your organization is on its journey, Deloitte Cyber can help.**

# Emerging Technologies Services and Solutions

- CONNECTED PRODUCTS
- OPERATIONAL TECHNOLOGY
- 5G
- SMART CITIES
- INNOVATION AND CYBERSECURITY LAB
- SMART FACTORY EXPERIENCE CENTERS
- ALLIANCE PARTNER TECHNOLOGIES

## CONNECTED PRODUCTS

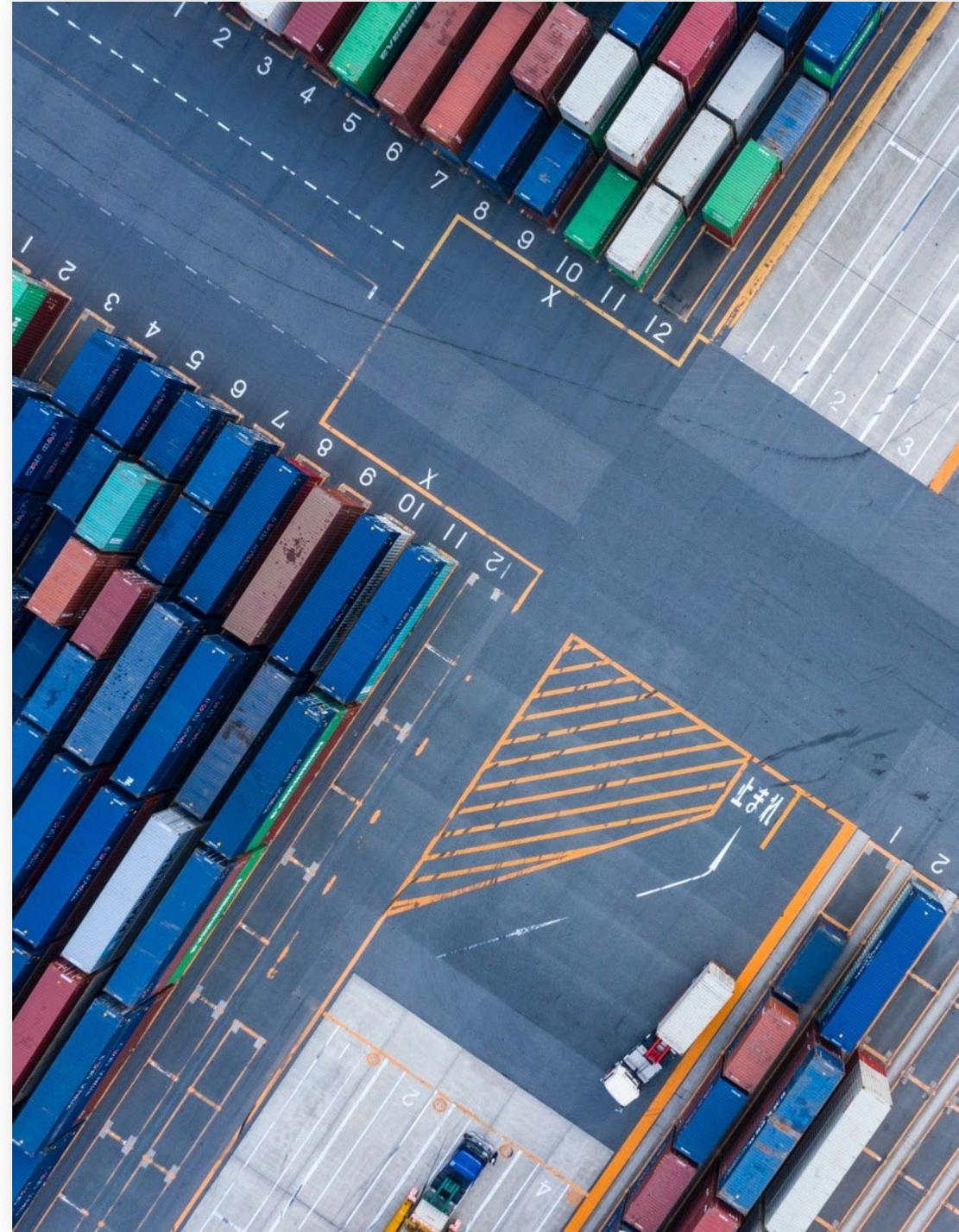
As connected products like medical devices, connected vehicles, and smart industrial products become increasingly woven into our communication fabric, particularly over open networks such as 5G, it's critical to establish and maintain trust and ensure cyber security across the entire eco system.

We can help you build a cybersecurity monitoring and response system for your extended ecosystem through an efficient threat intelligence and risk management, even at vehicle/ device level. To ensure business continuity, we provide 24x7 incident management and response services across the globe.

---

**To be faster, cleaner and more efficient in the future, ensure you are secure and private by design.**

- Product Cyber Security Strategy
- Threat Analysis and Risk Assessment (TARA)
- Threat Intel and Product Risk Management
- IoT/ IloT Product security testing
- Cyber Security Management System
- Cyber Security Monitoring of the product
- Secure and Privacy by Design
- Secure Development Product Lifecycle
- Vulnerability Management
- Supplier Security Management
- Digital Twin and Asset Management
- Incident Management and Response





## OPERATIONAL TECHNOLOGY

“No-collar” robotic workers and intelligent sensors are populating smart factories and supply chains.

With IT and OT blending together, securing industrial networks has become more challenging and presents greater risks.

We can assess your level of IT and OT convergence then provide effective strategies and solutions to minimize your vulnerabilities, giving you greater visibility across your networks to monitor threats.

---

**Confidently deploy the next generation of industrial technology while remaining operational and compliant.**

- Edge computing
  - Cloud & big data
  - Cognitive analytics
- Main priority: availability
- Obsolete technologies
- Automated systems
- Well known vulnerabilities
- Lack of updates
- Vulnerabilities by design
- Understanding 4.0 processes
- Evaluating technologies
- Integrating the best solutions
- Cross IT-OT service

Our unique Network Engineering and Cybersecurity offerings provide sophisticated technical expertise with strategic business consulting skills. Combined with our set of tools and accelerators in 5G, we can help you reach your goals faster.

We've defined an agile approach to assess telcos' and enterprises' readiness towards a fully secure 5G network, on standalone and non-standalone architectures. By assessing your 5G strategy we can create a set of recommendations to increase your Cyber Security maturity.

Each technology and service domain opens the door to additional security threats as well as privacy issues, meaning security should be considered a key design component from the start.

Our framework supports assessments based on industry reference practices, standards and guidelines like EU Toolbox, 3GPP TS, ISO 27005 or NIST Cybersecurity Practice Guide for 5G.

**We can help you design and protect your 5G network on every network domain (from RAN to CORE):**

- Up-to-date governance models for telcos and enterprises (e.g.: private networks) to mitigate the risks associated with the new technology stack
- Assure that the new Service-Based Architectures embed and automatically enforce secure relevant 5G components
- Technologies to mitigate referred risks: Dynamic data protection/encryption; SOAR; micro segmentation; cloud workload protection; API Protection; among others



Cyber is the backbone of modern cities, connecting energy, transport, amenities, public services and people. This growing automation and digitization is testing the resilience of interconnected and integrated infrastructure.

The complexity of interdependencies and interconnections as well as the large volumes of data exchanged in the ecosystems of smart cities require an integrated and programmatic approach. Deloitte's comprehensive cyber risk framework provides cities with integrated program governance, operational components, and technology enablers to incorporate in their planning, construction, and operations phases.

**Our services can guide you however you contribute to the development of human, social and physical capital in cities.**

- Cyber Risk Program Road Map and Design
- Cyber Governance, Risk, and Compliance Management
- Data Security and Privacy
- Digital Identity
- Security Architecture
- Threat Intelligence and SOC
- Data Recovery and Cyber Resiliency
- Connected Ecosystem Cybersecurity and Privacy Risks Assessment

## INNOVATION AND CYBERSECURITY LAB

We help you infuse cyber at the point of innovation to build smarter, faster, more connected futures.

The OT/IloT Cybersecurity labs at our new US and EMEA Cybersphere Centers let OT practitioners use and test monitoring tools and innovate on the latest connected device security.

You can leverage our labs to develop new service portfolios for emerging technologies, including areas of OT/IloT requiring specialized tools and hardware. And, you can evaluate technologies, architectures and methodologies to judge their effectiveness and security before deploying them.

Together, we can codesign innovative solutions and develop use cases for them. Then bring them to market through our ecosystem of leading vendors in OT and IOT monitoring, industrial and IoT technology, specific protection technology and access management.

### We can help you innovate across an array of emerging technologies:

- Building automation
- Connected vehicles
- Connected medical devices
- Critical infrastructure
- Energy
- Industrial manufacturing
- Smart factories
- Smart cities





## SMART FACTORY EXPERIENCE CENTERS

Encounter leading Industry 4.0 capabilities on a global scale at our innovative centers around the world.

### **Wichita, Kansas, USA**

With an industrial-grade smart production line in a smart building on a smart grid, our factory enables the creation of unique, novel, immersive client experiences.

### **Sheffield, UK**

Together, Deloitte and the University of Sheffield Advanced Manufacturing Research Centre (AMRC) are helping manufacturers embrace industry 4.0, transforming how they design, build and operate their physical products.

### **Düsseldorf, Germany**

This cutting-edge workshop demonstrates uses for Industry 4.0 across manufacturing, sourcing and procurement, supply chain management, product development and quality management.

### **Delhi, India**

Deloitte has partnered with the Indian Institute of Technology Delhi (IITD) and the Automation Industry Association to set up a fully integrated Smart Manufacturing and Learning Facility for discrete and hybrid manufacturing segments such as Automotive, Consumer Durables and Processed Foods, etc.

---

### **EMEA Cybersphere Center, Madrid, Spain**

We have built a laboratory that creates realistic scenarios to test security solutions and industrial protocols. This equips our professionals with specific knowledge for OT and IoT environments. One of the results from this broad collection of scenarios is our Smart Stadium.

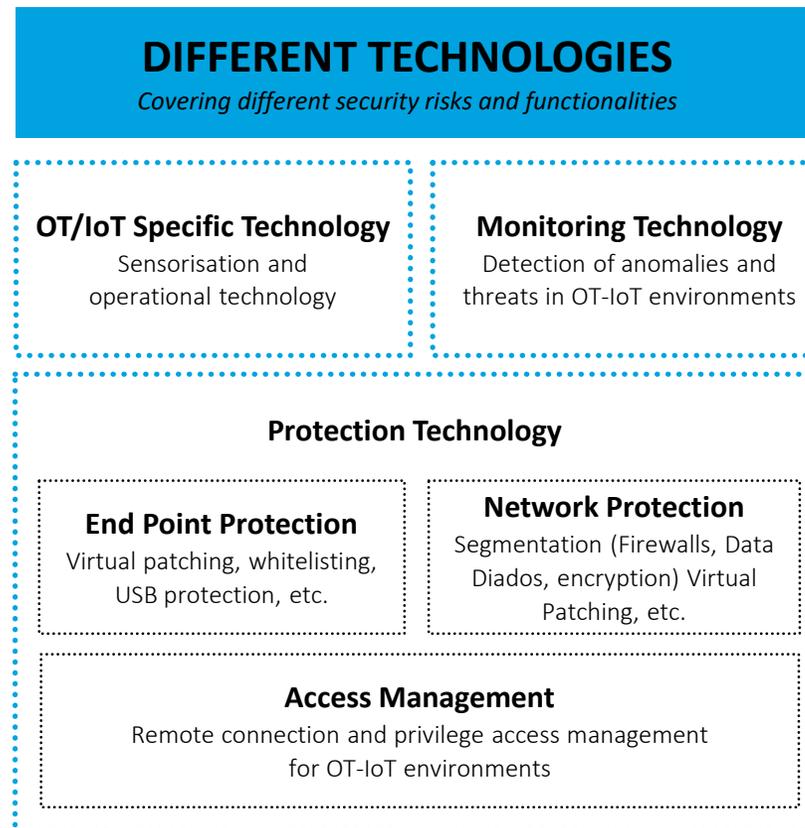
### **US Cybersphere, Rosslyn, Virginia**

This state-of-the-art collaboration space lets you explore your most pressing cyber challenges. You can test the security of tomorrow's IoT innovations and other technological advances. It's also a destination for workshops and simulations to help you navigate the cyber landscape of the future.

# TECHNOLOGY ALLIANCE PARTNERS

The emerging environment is complex, composed of interconnected technologies presenting challenges that haven't been addressed until now.

Often these technologies require specific knowledge to run yet create overlapping layers of responsibility regarding risk. Understanding and managing threats necessitates working strategically with an array of partners from infrastructure suppliers to IoT producers and OT security providers, as well as vendors focused on specific verticals such as threat monitoring for connected vehicles. Our relationships with leading technology vendors facilitate a holistic approach across the full spectrum of security activities including sensing and monitoring, network and endpoint protection, access management, deployment, and training. We are technology agnostic in our advice, but able to implement solutions for all technologies. We also offer off-the-shelf solutions tailored to your industry and business lines.



# Global service, delivered locally

Cyber connects everyone in your organization, wherever they are located. Around the world, we can help you shape smarter processes and platforms with greater insight, agility and resilience to threats.

Our global network gives us the depth and breadth of experience in dealing with many of the world's toughest cyber issues while tailoring our offering to meet your regional needs.

Deloitte's Operate services support the business need for hosted and managed security solutions across the spectrum of enterprise-wide Cyber capabilities. The strategy is built around a global network of five Regional Delivery Centers in collaboration with 30+ local Cyber Centers. This network allows us to be a global partner, maintaining a local approach in order to tailor our offering to the needs of the client in each country.

**By seeing that cyber works effectively for each person we help you grow a culture of safety and trust, so your entire business can move forward with confidence.**



**This network allows us to be a global partner for our clients, maintaining a local approach in order to tailor our offering to the needs of the client in each country.**

## Africa

- Casablanca
- Johannesburg
- Lagos

## Asia Pacific

- Bangalore
- Hong Kong
- Hyderabad
- Kuala Lumpur
- New Delhi
- Singapore
- Sydney
- Tokyo

## Europe

- Amsterdam
- Barcelona
- Brussels
- Budapest
- Copenhagen
- Frankfurt
- Leipzig
- Lisbon
- London
- Madrid
- Milan
- Paris
- Rome
- The Hague

## Middle East

- Dubai
- Istanbul
- Tel Aviv

## North America

- Calgary
- Mexico City
- Montreal
- Rosslyn
- Toronto
- Vancouver

## South America

- Buenos Aires
- Santiago
- São Paulo

# A recognized leader in Cybersecurity



Ranked **#1 globally in Security Consulting**,  
10 consecutive years based on revenue by Gartner

Source: Gartner, Market Share Analysis: Security Consulting Services Worldwide, 2020, Elizabeth Kim, April 2021



Named a **global leader in Cybersecurity Consulting Services**  
for the 5th consecutive wave by Forrester

Source: Forrester's Wave™: Global Cybersecurity Consulting Providers, Q2 2019



Named a **leader in Cybersecurity Incident Response Services**  
based on strategy and current offering by Forrester

Source: The Forrester Wave™: Cybersecurity Incident Response Services, Q1 2019.  
Reproduced under license.



Deloitte named a **global leader in Worldwide Managed Security Services by IDC**

Source: IDC MarketScape: Worldwide Managed Security Services 2020 Vendor Assessment (doc# US46235320, September 2020).



Named a **global leader in Cybersecurity Consulting**  
by ALM for 6th consecutive year



Named a **leader in IoT Consultancies in Asia Pacific** by Forrester

Source: The Forrester Wave™: IoT Consultancies in Asia Pacific, Q2 2020.

# Deloitte Cyber Emerging Technologies Leaders



**Dana Spataru** | **Global Emerging Technologies Leader**

+31882888882

[dspataru@deloitte.nl](mailto:dspataru@deloitte.nl)



**Ingo Dassow** | **Global Connected Products Leader**

+49 30 25468 451

[idassow@deloitte.de](mailto:idassow@deloitte.de)



**Ramsey Hajj** | **Global Operational Technology Leader**

+1 561 809 2314

[rhajj@deloitte.com](mailto:rhajj@deloitte.com)



**Piyush Pandey** | **Global Smart Cities Leader**

+1 717 541 3148

[pipandey@deloitte.com](mailto:pipandey@deloitte.com)



**Frederico Macias** | **Global 5G Leader**

+351966850347

[fremacias@deloitte.pt](mailto:fremacias@deloitte.pt)

[www.deloitte.com/cyber](http://www.deloitte.com/cyber)



Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms, and their related entities (collectively, the “Deloitte organization”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see [www.deloitte.com/about](http://www.deloitte.com/about) to learn more.

Deloitte is a leading global provider of audit and assurance, consulting, financial advisory, risk advisory, tax and related services. Our global network of member firms and related entities in more than 150 countries and territories (collectively, the “Deloitte organization”) serves four out of five Fortune Global 500® companies. Learn how Deloitte’s approximately 330,000 people make an impact that matters at [www.deloitte.com](http://www.deloitte.com).

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms or their related entities (collectively, the “Deloitte organization”) is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No representations, warranties or undertakings (express or implied) are given as to the accuracy or completeness of the information in this communication, and none of DTTL, its member firms, related entities, employees or agents shall be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this communication. DTTL and each of its member firms, and their related entities, are legally separate and independent entities.