

The Road to Digital Transformation: Enabling OT-IT Convergence

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Situation Overview

Cybersecurity is one of the major issues affecting many companies

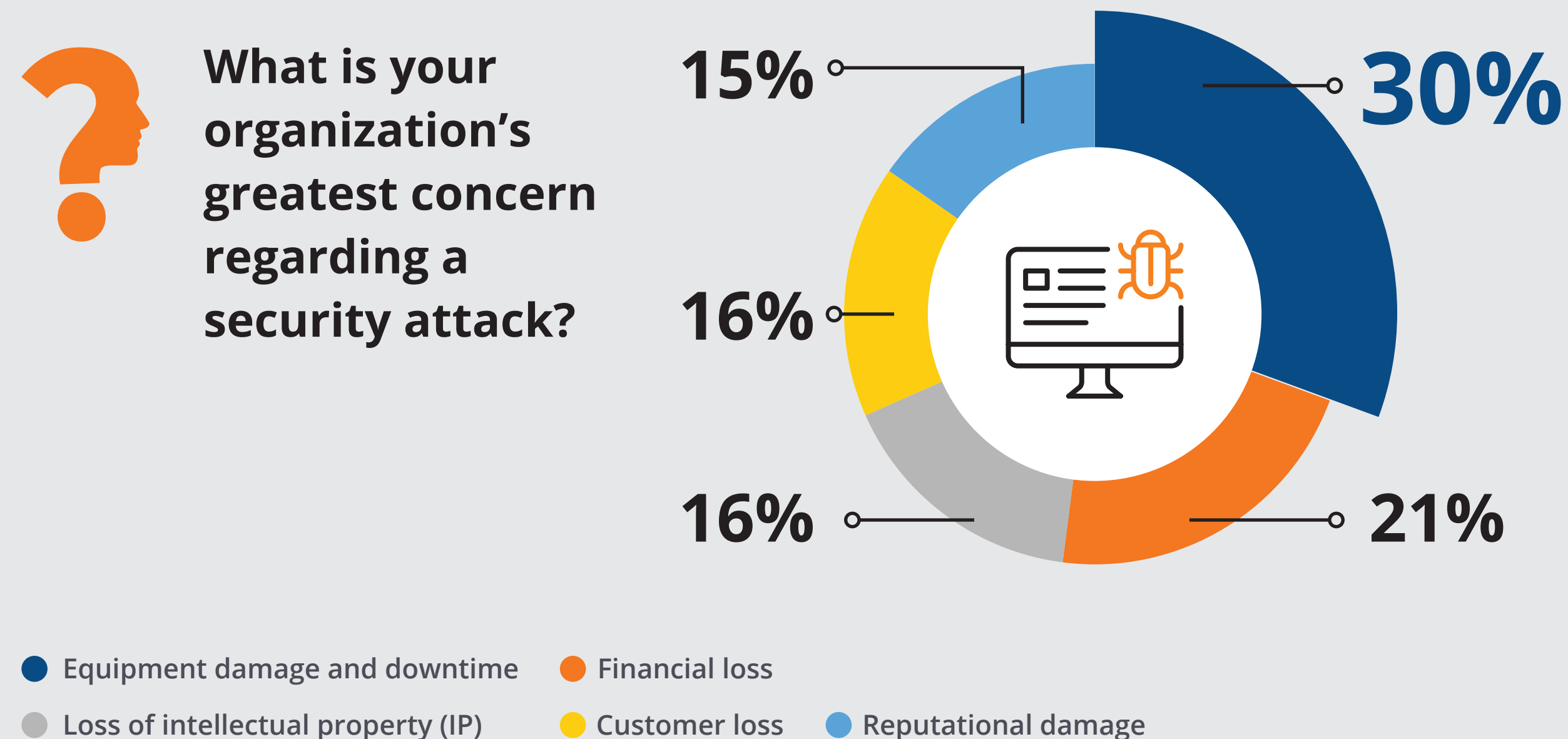
- Not only because cybersecurity threats greatly affect operations and put employees, society, and environment at risk
- But also because, though we can see a huge performance divide between digital and non-digital companies, the fear of security threats is preventing companies from exploiting their digital potential

To resolve these issues, cybersecurity must be put front and center in strategic decisions, as it is the essential enabler of digital transformation

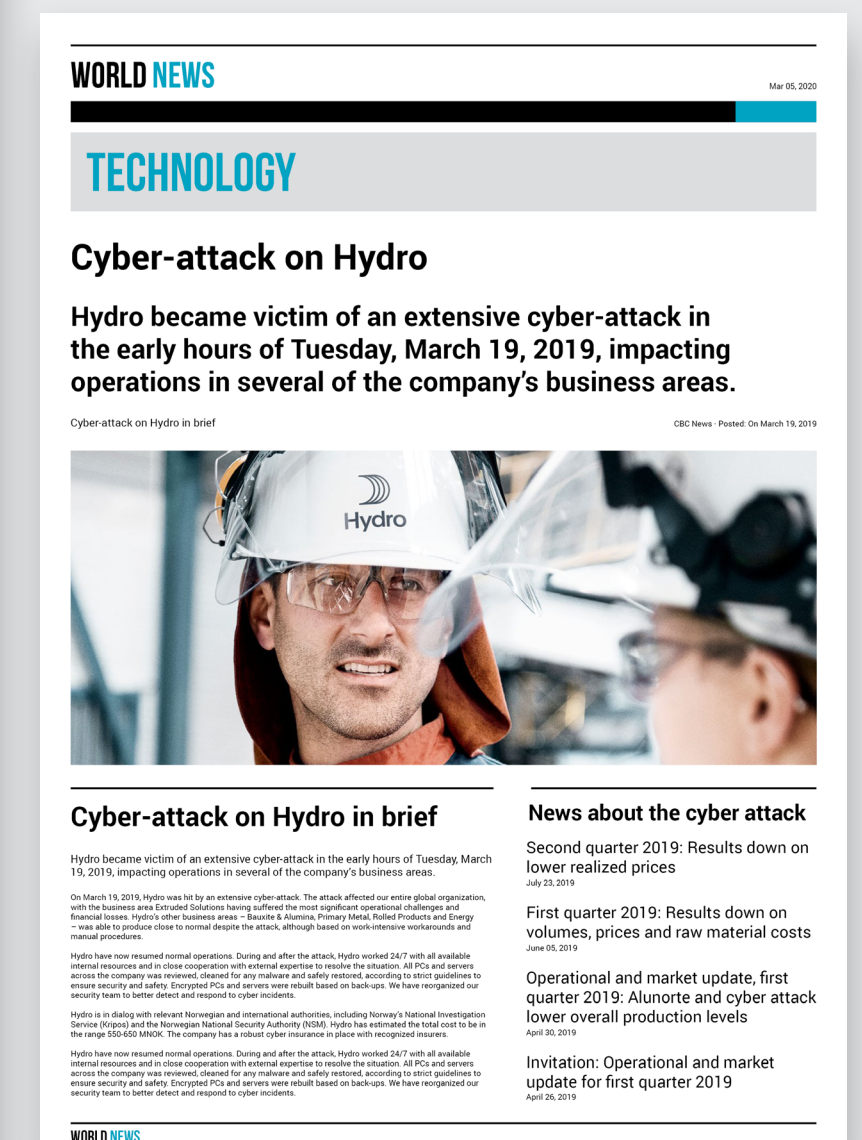
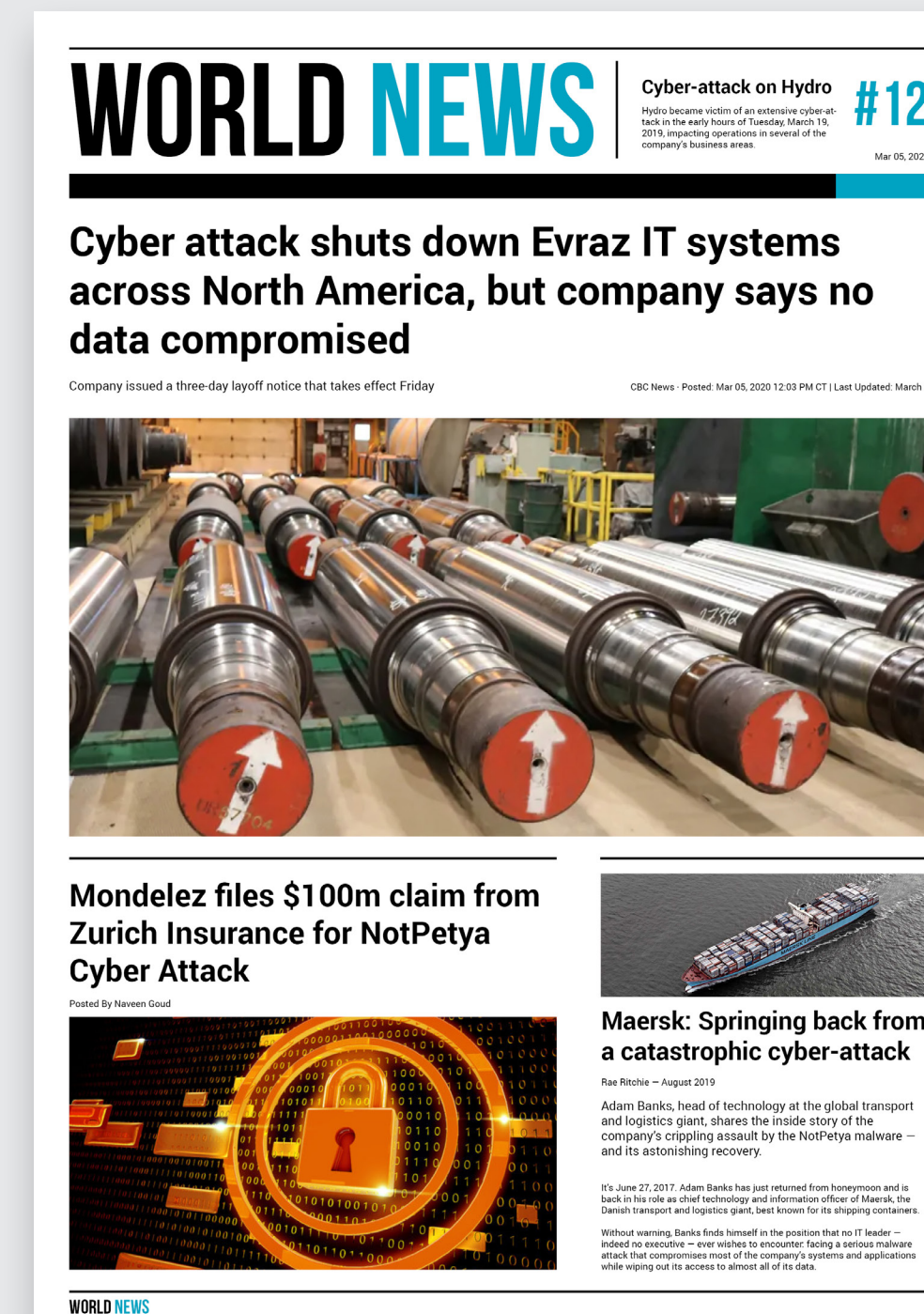


Cybersecurity has a direct business impact, and the perceived risk is high. So why do security issues continue to populate the front pages, and what can be done?

The continued onslaught of ransomware has increased awareness of the disruptive nature of cyberattacks in IT and OT environments. We cannot ignore the risks of increased connectivity in OT environments, as the cost of production downtime and recovery caused by security incidents is steep. Due to the nature of OT operations, cyberattacks also create a risk of harm to the population and potential environmental disaster.



Source: European Security Strategy Survey, Manufacturing sample, N = 67



Executive Summary

The Essential Convergence of IT and OT Domains

- The proliferation of natively-connected machines and IoT is creating unprecedented data proliferation and threats
- Securely connecting data across IT and OT domains is essential for information continuity to enable many business processes
- IT and OT integration has to be more than a “truce” between departments, but rather a converged and secure digital environment

The Journey Towards IT/OT Convergence is Not Always Straightforward

- Companies recognize that IT/OT integration is central to enabling new capabilities that lead to improved business targets, such as performance, reduced costs, and customer service
- There is no “one-size fits all” when it comes to integration models
- The complexities of IT/OT integration are difficult to tackle, and companies are still far away from real-time integration

Make Security Your Cornerstone, Not Your Stumbling Block

- Security is the key barrier; many companies are afraid to move forward with their integration
- External providers can provide significant support in this journey
- To win the digital game, cybersecurity must become the enabler of digital investment

Make Security Your Cornerstone, Not Your Stumbling Block

The Essential Convergence of IT and OT Domains

We have never had so much data. Operational equipment instrumentation has increased over the past few years, and plants are also getting connected. In other words, the success of future operating models is dependent on data management

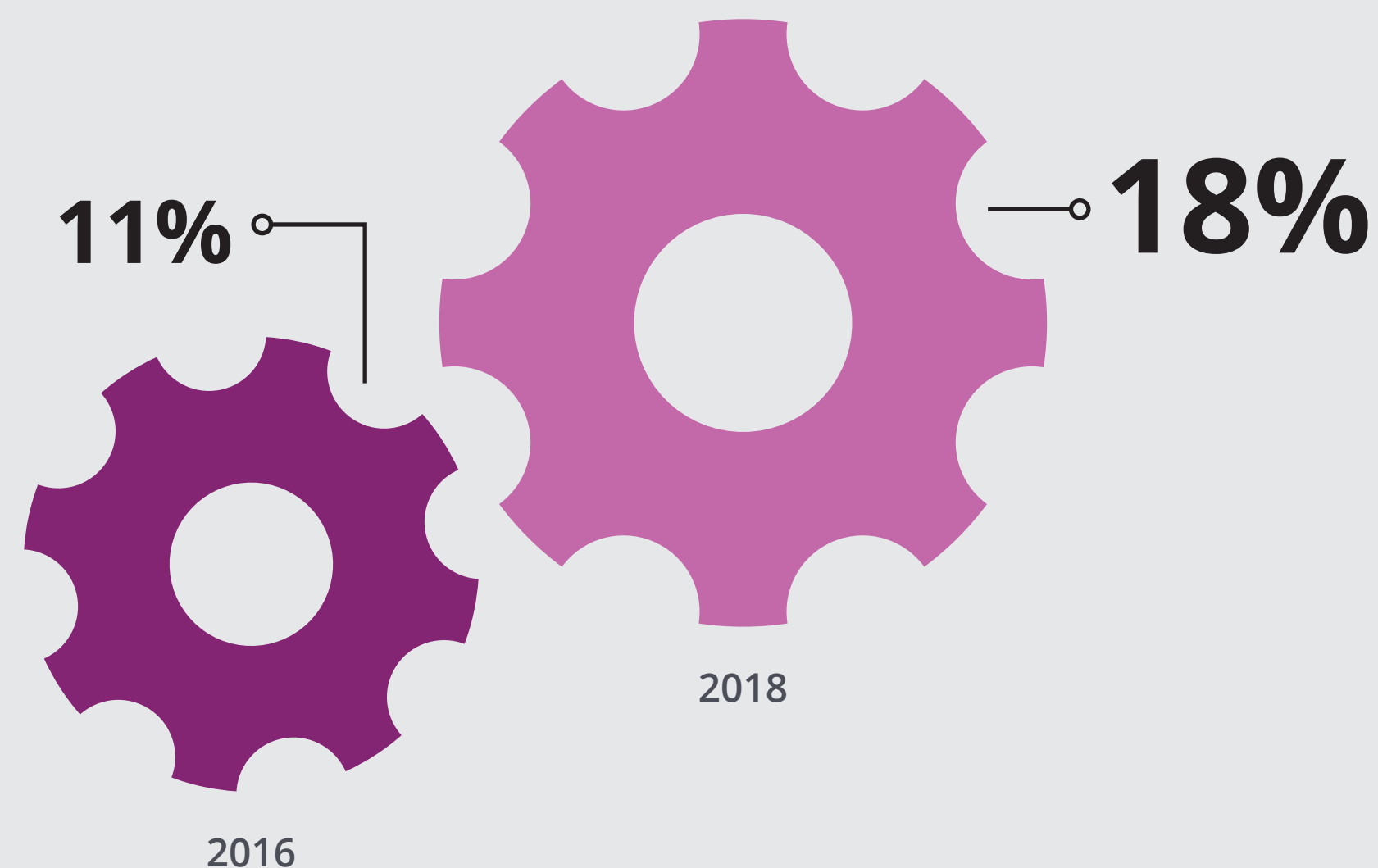
The proliferation of natively connected machines and IoT is creating an unprecedented data EXPLOSION in the OT space.

As connectivity is now pervasive, companies cannot pretend their plants and assets are separated from their IT systems.

This also MULTIPLIES the attack surface and leaves critical operational processes exposed to unprecedented threats.



Companies with over 75% of operational equipment that has been instrumented, is on the rise



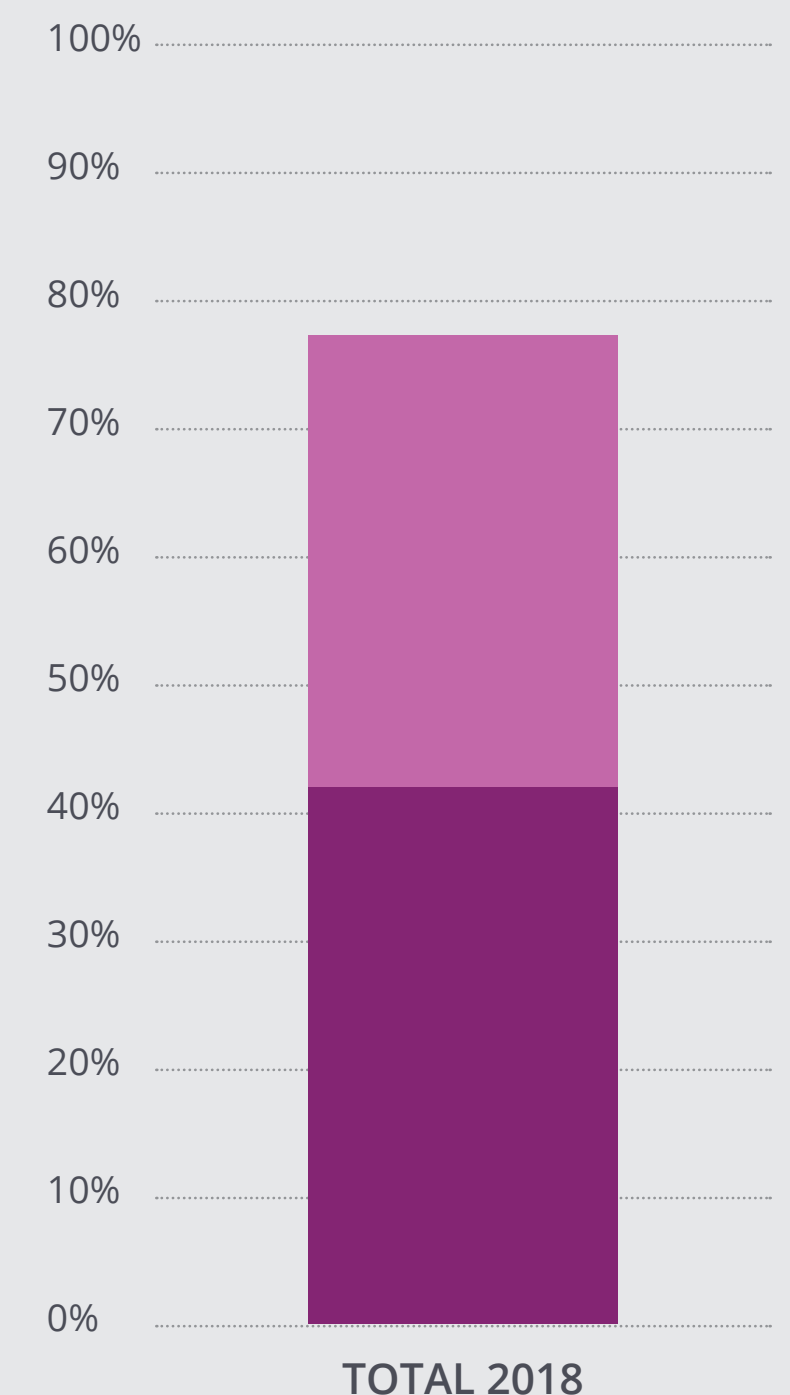
In all your plants, what percentage of instrumented operational equipment is connected in the following ways?



Connected via a wireless network

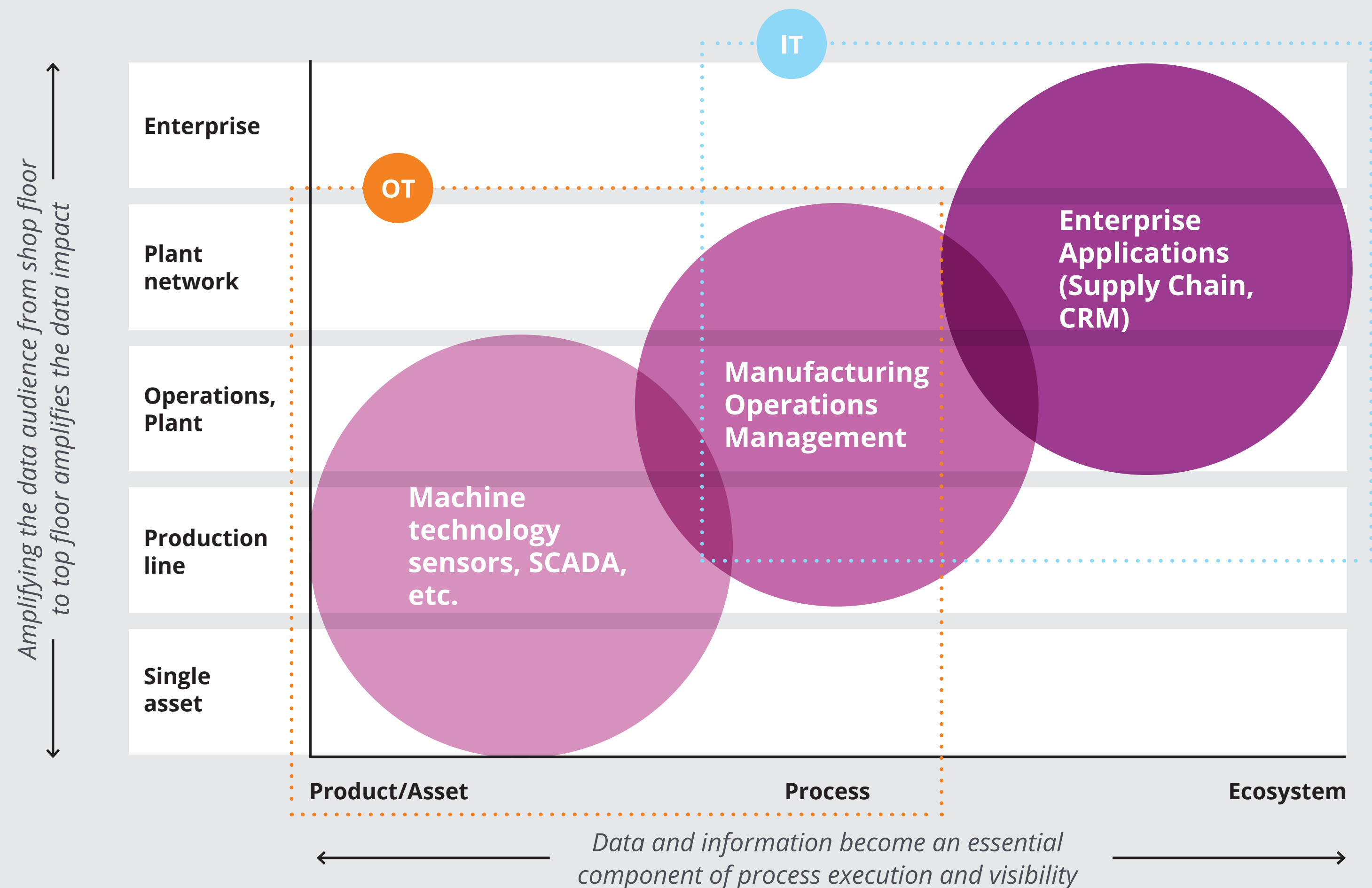


Connected via a wired network



Source: IDC WW IT and OT Convergence Survey 2018, Manufacturing, N = 326

Connecting Data Across IT and OT Domains is Essential for Information Continuity to Enable Many Business Processes

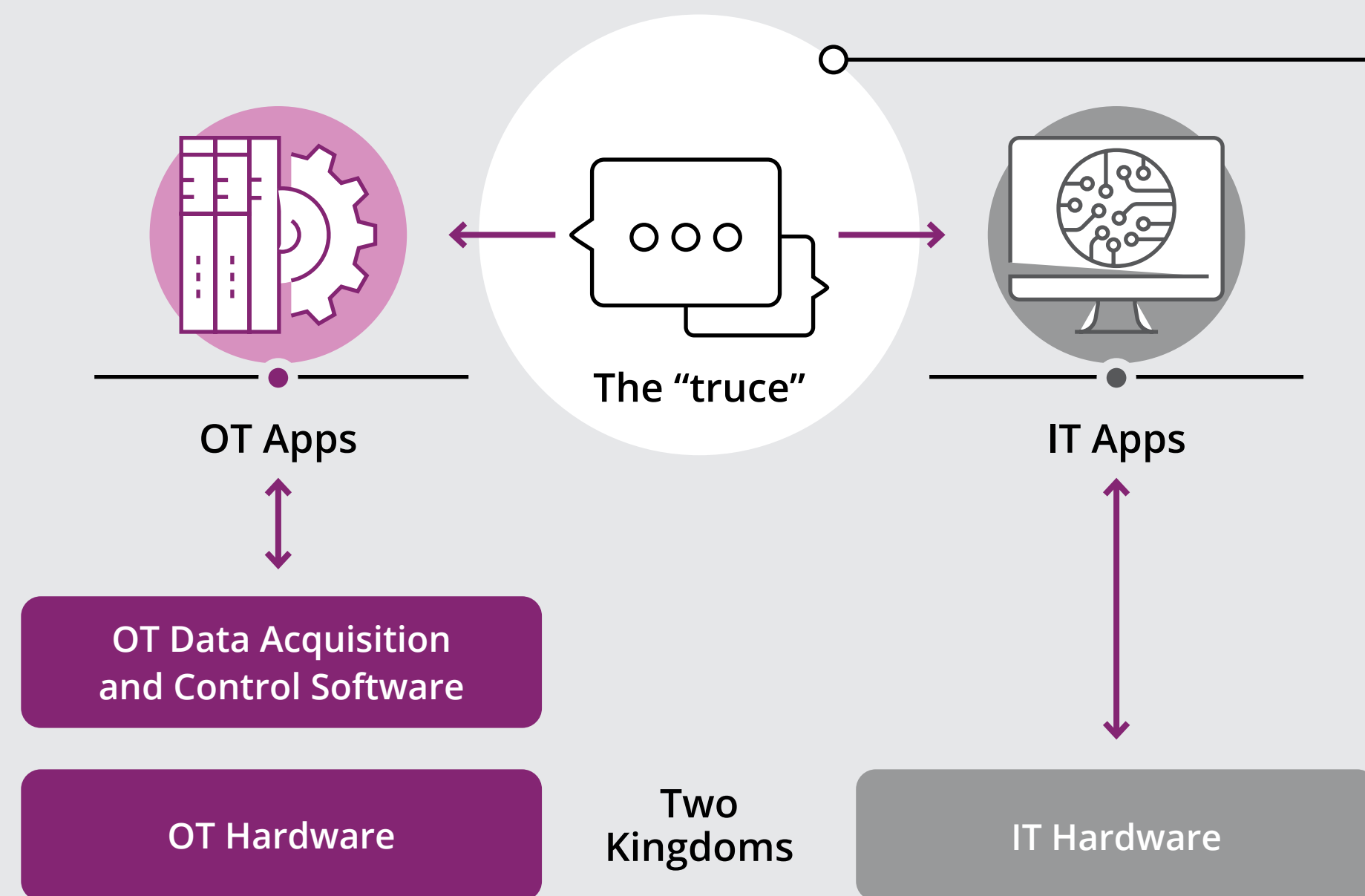


An organization becomes operationally intelligent when all activities are digitized to significantly enhance business outcomes. This should happen at the process level and in the way manufacturers operate with the ecosystem of suppliers, partners, and customers. For this to happen, companies must enable data and information sharing between IT and OT.

This has multiple organizational implications, one of the most important being the need for mandatory collaboration between different job roles, from C-level to operational leaders, to handle security by sharing practices and information.

Historically, IT and OT have been completely isolated kingdoms. IT/OT convergence goes beyond simple connectivity — it's about creating an intelligent, designed, interconnected ecosystem

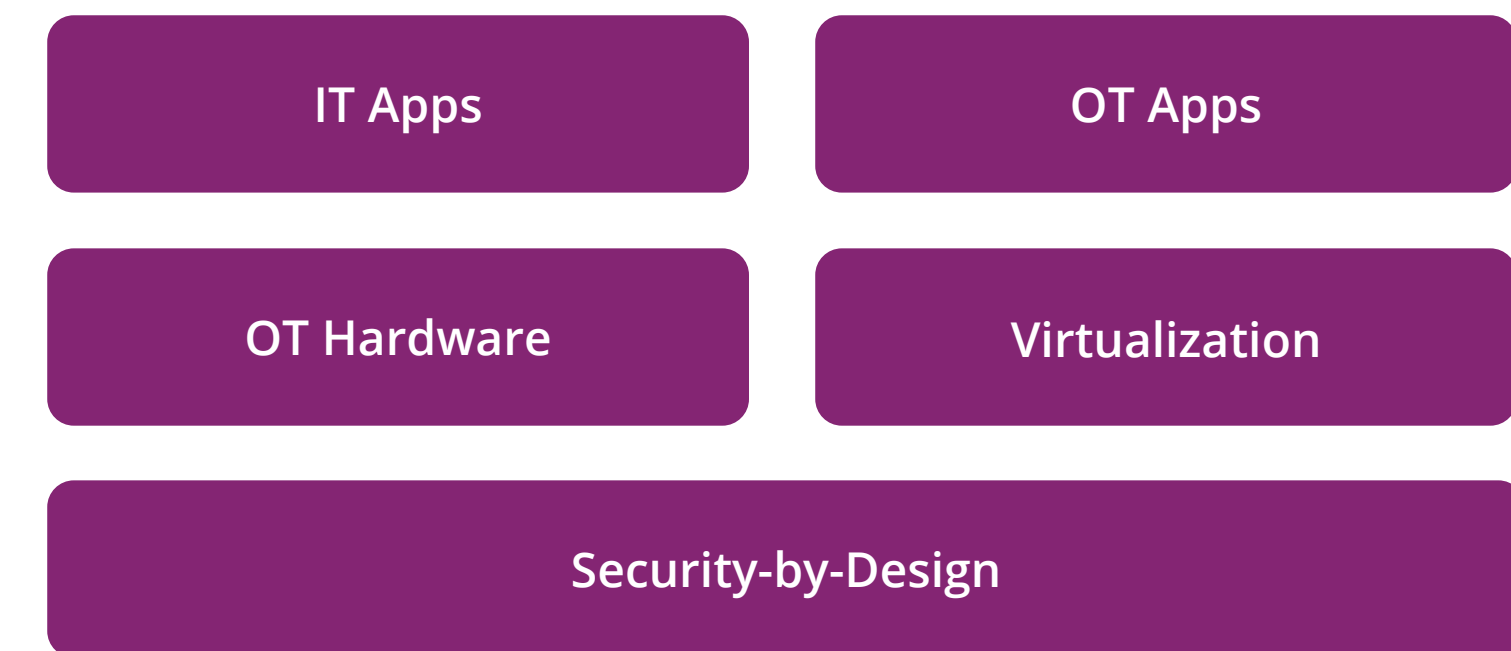
Simply “connecting” the IT-OT realms



A truly converged digital environment

One single environment, enabled by security-by-design

COMBINED BUSINESS INTELLIGENCE AND INFORMATION SHARING



IT and OT integration must be more than a “truce” between departments; it should be a converged digital environment, enabled by security-by-design. Security can be the driver towards truly actionable convergence and enable value-generating approaches

FROM Connectivity

TO Interconnectivity

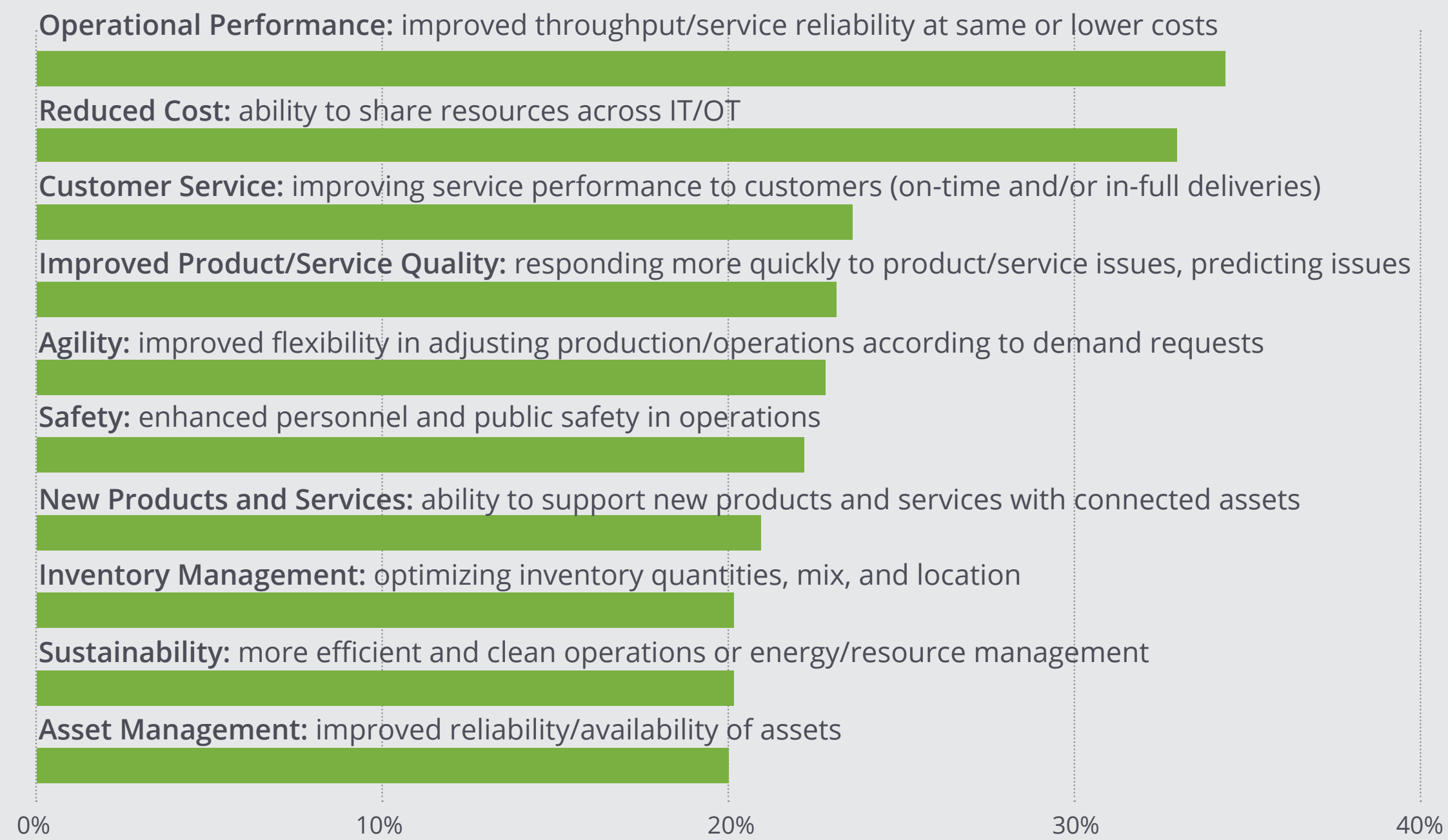


The Journey Towards IT/OT Convergence is Not Always Straightforward

IT/OT integration goes well beyond simple asset management, and is central to enabling new capabilities, leading to business targets such as improved performance, reduced costs, and better customer service



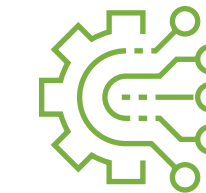
Please select the most relevant motivations for your company's investment in IT/OT integration



Source: IDC WW - IT and OT Convergence Survey 2018, Manufacturing, N = 326

This is particularly relevant now. IDC predicts that the impact of IT/OT convergence will be significant in a multitude of areas.

ASSET TRANSFORMATION



To reduce critical equipment failure, by 2024, 40% of manufacturers will use field asset IoT data to intelligently diagnose issues and resolve autonomously, improving planned downtime¹

INTELLIGENT EDGE — ENTERPRISE



By 2023, over 50% of new enterprise IT infrastructure will be deployed at the edge rather than corporate datacenters, up from less than 10% today; by 2024, the number of apps at the edge will increase 800%²

OPERATIONAL EXCELLENCE



By 2021, 80% of all industrial companies will have merged operational data streams with enterprise data streams to support broader and more rapid operational innovation³

CULTURAL CONVERGENCE



By 2024, as companies shift to more distributed decision making, 50% of industrial organizations will have flatter organization structures, more cross-functional collaboration, and fewer middle managers³

¹ IDC FutureScape: Worldwide Manufacturing 2020 Predictions

² IDC FutureScape: Worldwide IT Industry 2020 Predictions

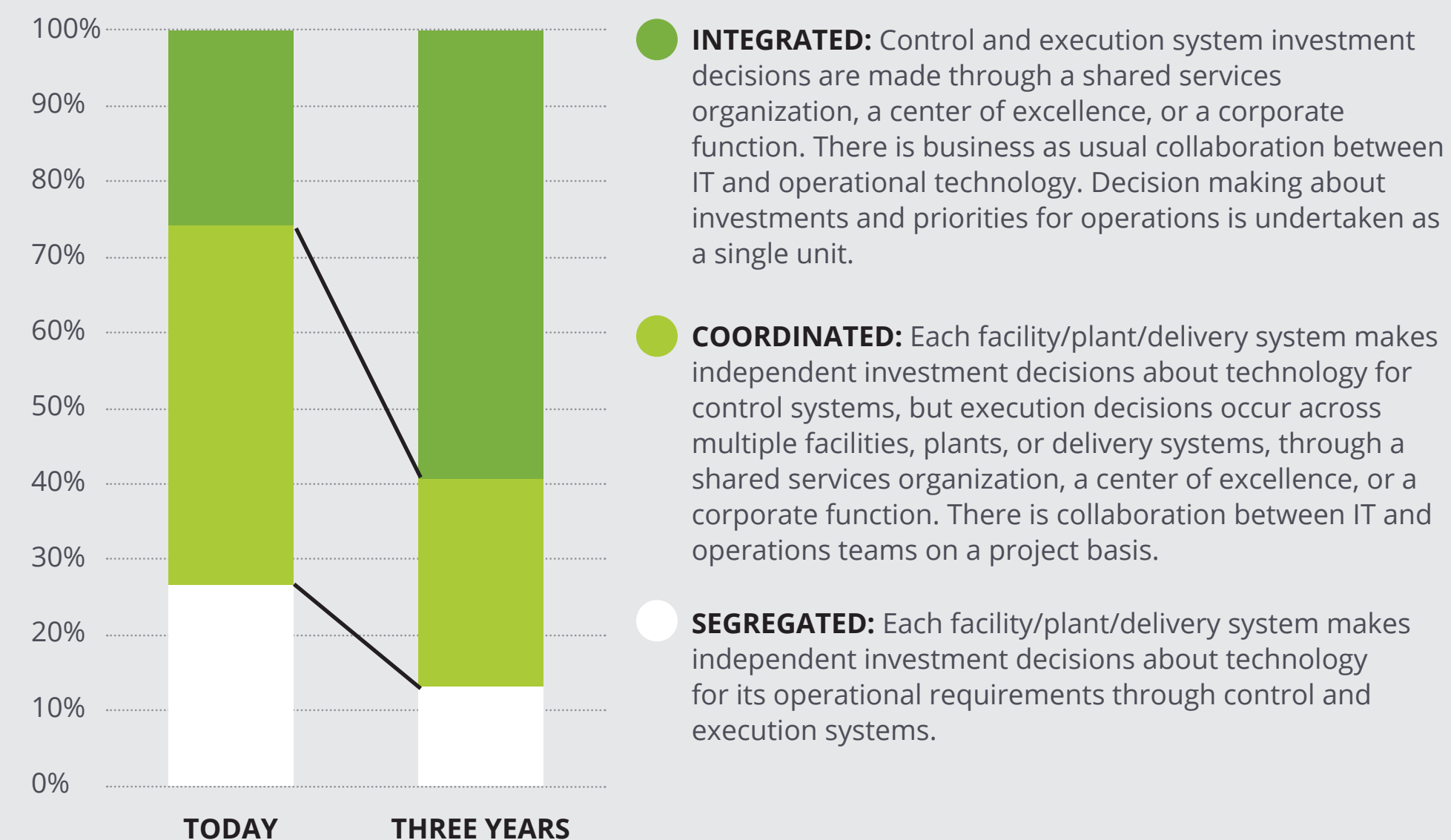
³ IDC FutureScape: Worldwide IT/OT Convergence 2020 Predictions

IT/OT integration is a priority for most manufacturers, and integrated organizational structures are on the rise. But there is no “one-size fits all” integration model

Integrated governance structures on the rise



Which of these governance models most closely matches the structure you have in place in your organization today and in three years?



Source: IDC WW IT and OT Convergence Survey 2018, Manufacturing, N = 326

Organizations are increasingly connecting data from OT environments to data analytics repositories, and CIOs are beginning to make addressing OT security risks a boardroom imperative to maintain the integrity of data and avoid a cyberattack due to that connectivity. But the options companies are choosing to coordinate these initiatives are still quite varied.



Which statement best describes your organizational structure for IT and OT?



Despite all these efforts, integration happens more often through a batch or mixed approach, and companies are still far away from real-time integration, which is the true way to enable seamless data handling between IT and OT domains



Source: IDC WW IT and OT Convergence Survey 2018, Manufacturing, N = 326

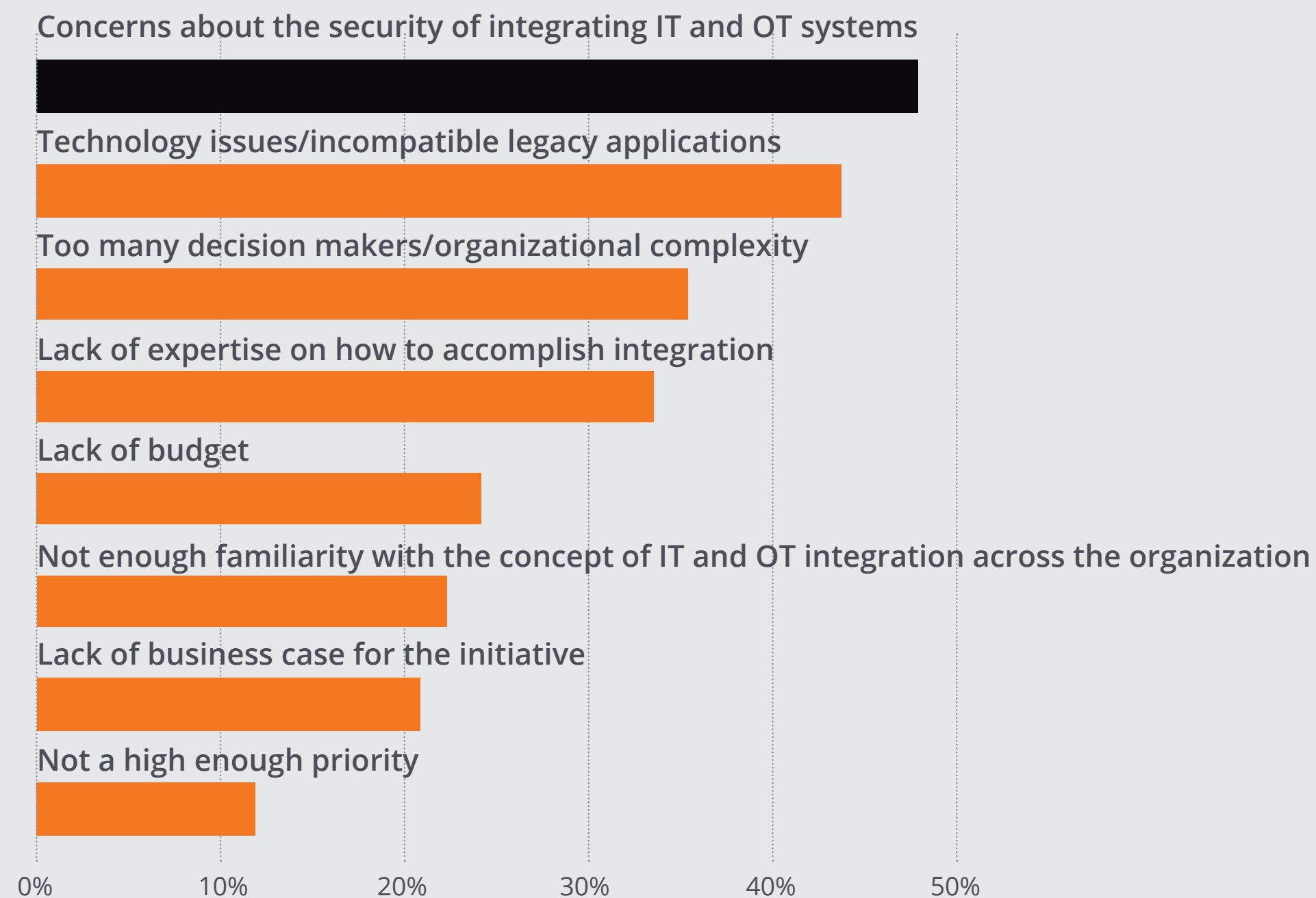


Make Security Your Cornerstone, Not Your Stumbling Block

Security is the key barrier, and many companies are afraid to move forward with their integration, but removing the security barrier can boost all digital programs



What are the top 3 barriers to IT/OT integration in your organization?



Security is the main stumbling block to integration. Are manufacturers just overwhelmed by the complexity of the task? Besides security, technology and organizational complexity are also key barriers, showing strong demand for simplification. A lack of business case is decreasing as a barrier, as IT/OT integration makes more business sense than ever.

ONLY

26%

of European organizations manage physical and data security as an integrated system. Integrating IT and OT can increase an organization's vulnerability, but adopting appropriate security-related policies can help reduce the risk. This is an area where tight alignment and collaboration between IT and OT executives can deliver positive results. Security must be a core element of any IT/OT convergence initiative.



Advancements in operational technology visibility tools will propel 66% of global industrial firms to adopt an IT-OT integrated approach to security monitoring by 2024.

Source: IDC FutureScape: Worldwide Security 2020 Predictions

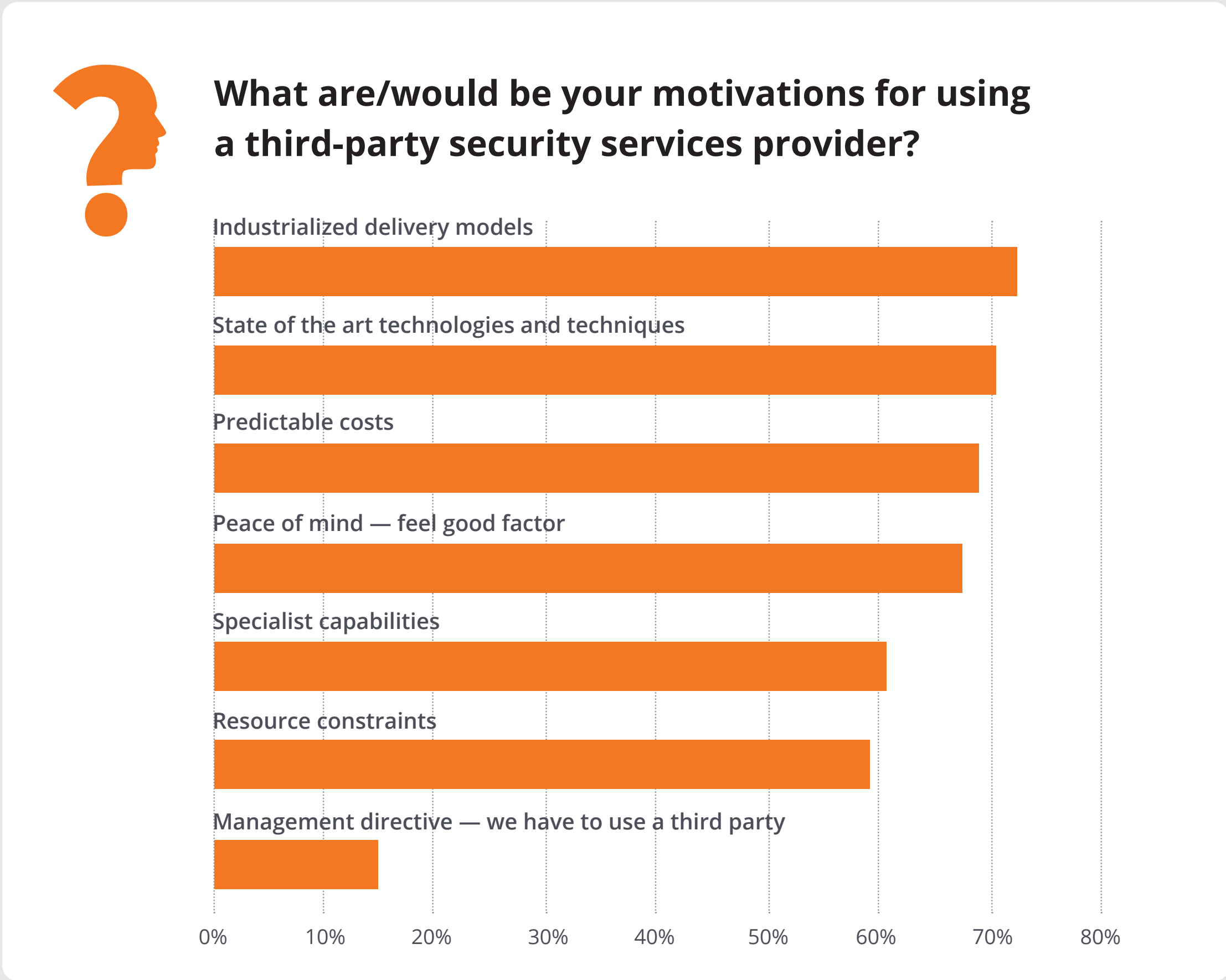


Source: IDC WW - IT and OT Convergence Survey 2018, Manufacturing, N = 326

External Providers Can Give Significant Support in This Journey

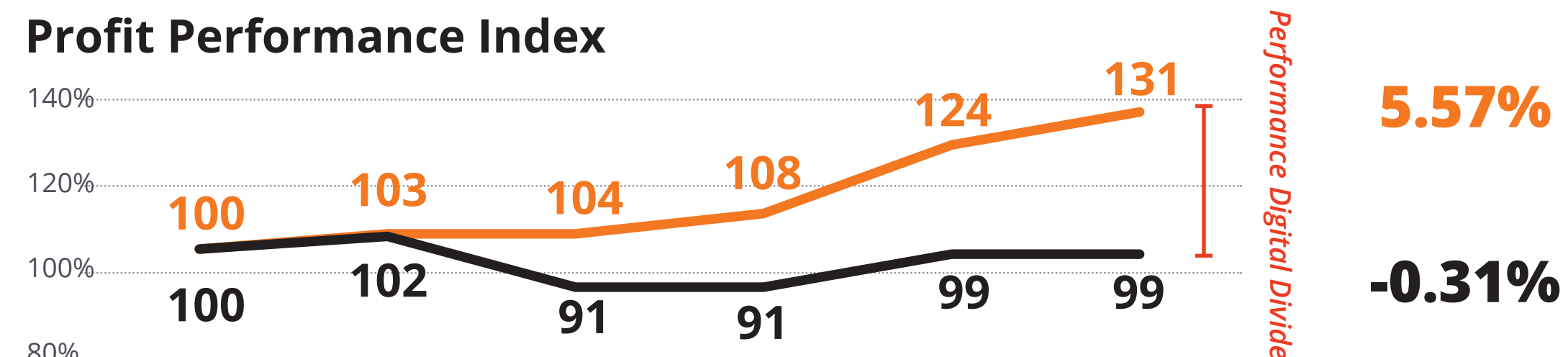
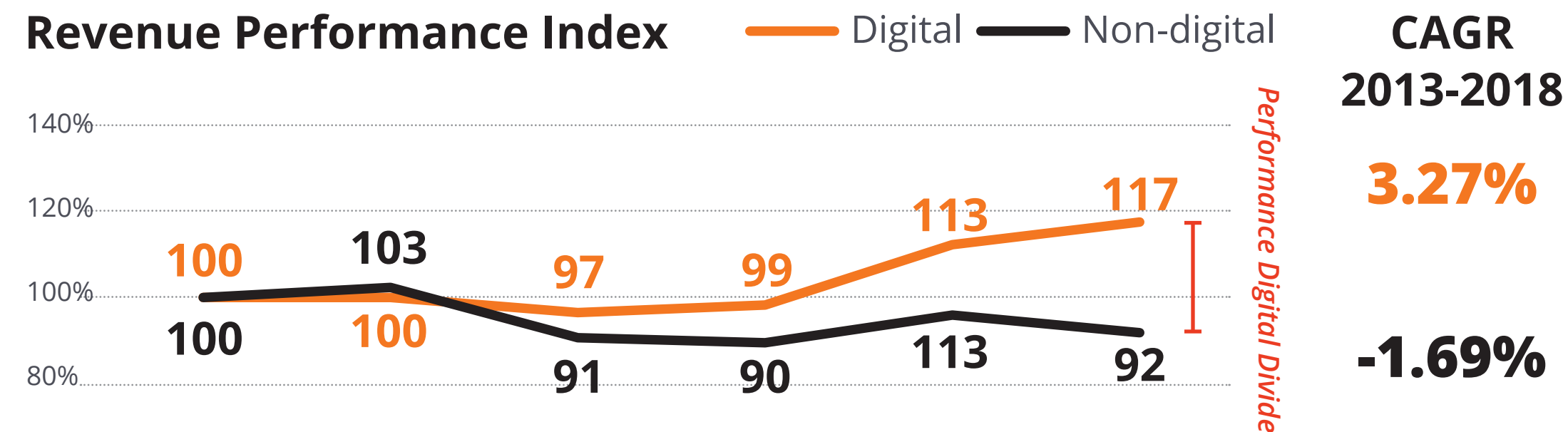
Despite cybersecurity being a massive hurdle for IT/OT integration and operational success, companies struggle to handle this issue internally, as dedicated budgets are scarce and people are too busy looking after day-to-day business

Therefore, third-party solution providers can support companies in their journey as they bring with them proven industry-specific delivery models and technologies



Source: IDC EMEA, IT Security Survey, Orange Business Services, February 2019, N = 61

To Win the Digital Game, Cybersecurity Must Become the Enabler of Digital Investments



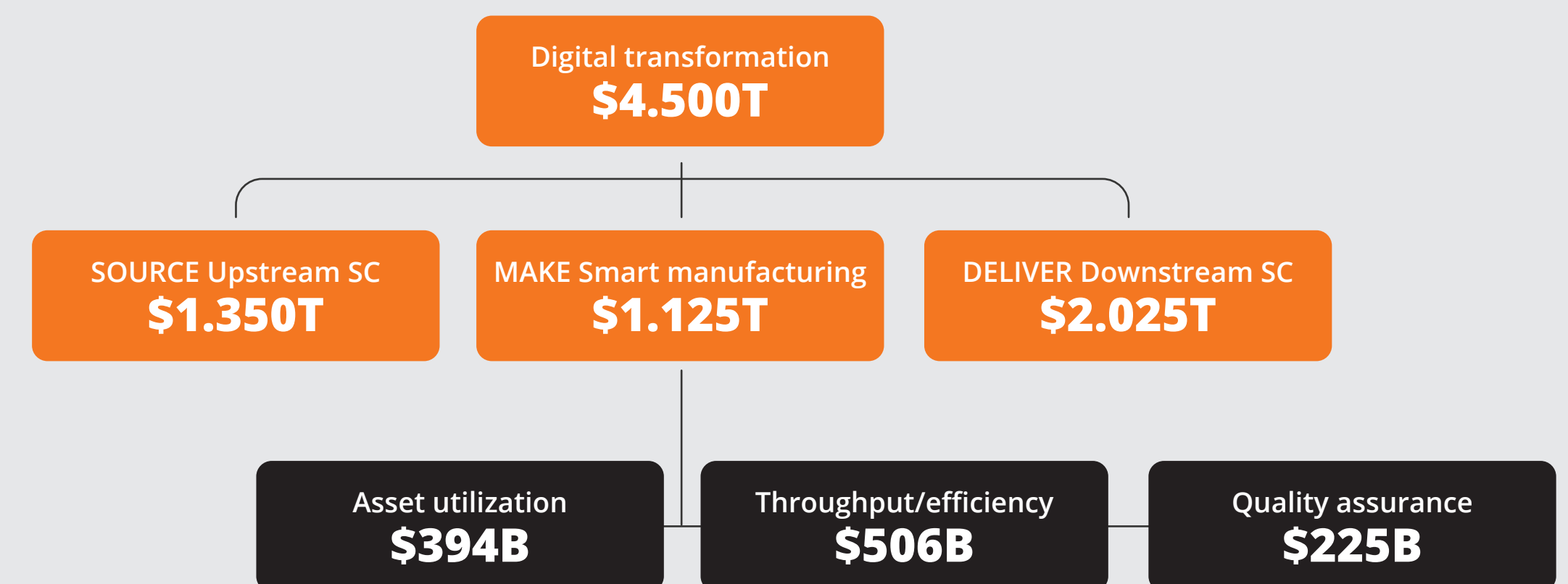
The Manufacturing Insights Global Performance Index (GPI) tracks growth metrics from 800+ publicly traded global firms in the manufacturing and retail industries. The GPI tracks general trends in manufacturing and retail subindustries based on the performance of a sample of companies from those subindustries, and historical data in the index may be adjusted between quarters based on the addition or subtraction of companies in the index or company restatements of historical filings. Estimates by Reuters.

Source: IDC WW IT and OT Convergence Survey 2018, Manufacturing, N = 326

In revenue and profit performance, IDC Global Performance Index Analysis highlights a massive divide between digital and non-digital companies. Digital investments are paying off, hence the cost of doing nothing is huge. This is what an integrated security approach can do for any business.

Digital Transformation Economic Impact (2018–2023)

Across the whole of manufacturing, the economic opportunity for digitally transforming core processes (source, make, deliver) is enormous. A significant contribution to these benefits will come from improvement in operational process.



Digital transformation is not easy, as it is composed of many dimensions. Only with a powerful operating model enabled by information sharing and organizational alignment can manufacturers deliver a successful customer experience. Bringing security to the center can help to deliver digital initiatives

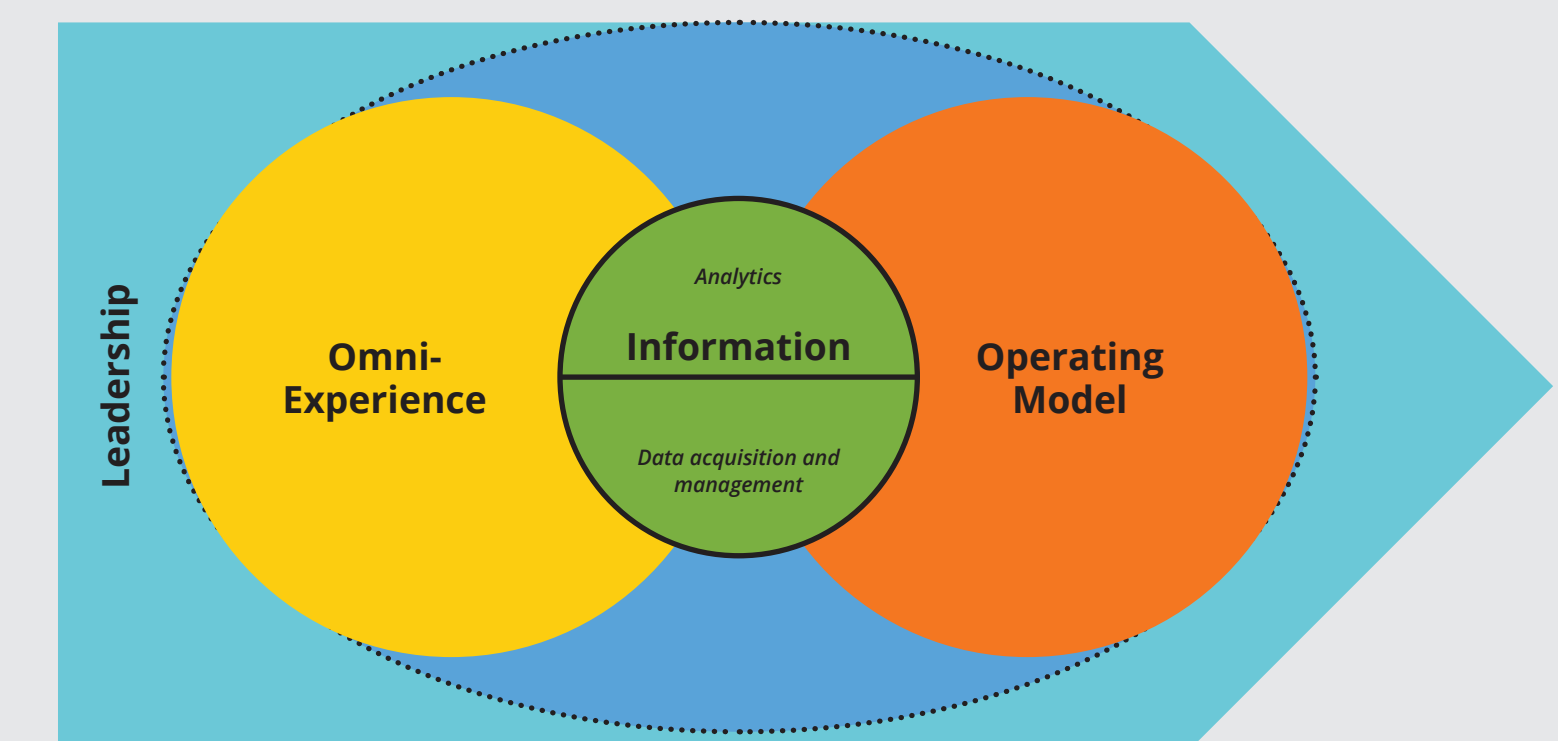
The key DX TRANSFORMATION Dimensions



How should these five dimensions be integrated? Companies have to establish a clear vision that informs the whole digital journey (Leadership). People and information management is the glue that keeps customer-facing initiatives and internal process execution operating in synergy.

In particular, operations uniquely enhance the experience provided by the whole organization to their end clients.

Only with a powerful operating model enabled by information sharing and organizational alignment can manufacturers deliver the successful customer experience that is required to thrive in this day and age.



Essential Guidance

Despite the convergence initiatives in place, OT will remain very different to IT, and IT security teams will not be able to replace OT people and take over operations, but there is a very important need to create the right collaboration between teams to ensure the full success of any project.



Put the right person in the right place —

Information security needs to be addressed by a C-level executive whose job is to focus on strategy and governance. This guarantees the alignment of security strategies. A security strategy, encompassing alignment with an organization’s business goals and strategic direction is an imperative, without which organizational security is at risk.



Adopt OT-specific security initiatives —

It is now essential that manufacturing chief information security officers extend their company’s security strategy to encompass an assessment of the security status and threats of any operational environment. This means continued technical audits and monitoring of what is happening, the use of non-intrusive security assessment and monitoring tools, adequate time management facilities, robust preparation and resolution training before any incident can occur, and hardware, network, and software backups at every critical point.



Don’t save too much on security —

This is not the time to reduce the budget for IT security and compliance. It may take some time, and it may not be easy to initiate at first, but this is the only way that companies can minimize plant floor security threats and cope with this new wave of manufacturing risk. But using security threats and system vulnerabilities as an excuse for delaying operational transformation processes will just make it harder to reap the benefits of digital transformation.

Careful security management, including security-by-design, can be an enabler to make it possible to reach the true digital potential.

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AI and data experts



2,200

Cloud experts



3,000

Multinational customers

Financial services
Transport and logistics
Natural resources
Healthcare
Smart cities
Industry

2,100

Cyberdefense experts

Orange
Cyberdefense

A global presence for local services



Our teams are located in over
100
countries

ready to deploy and supervise
your networks and digital
solutions on a daily basis



70
datacenters

10
CyberSoc

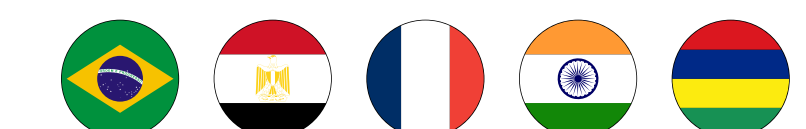
that bring together
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