

IT-OT CONVERGENCE: A GROWING OPPORTUNITY FOR SYSTEM INTEGRATORS

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IT-OT Convergence: A Growing Opportunity for System Integrators

IT/OT Convergence: At the Crossroads between IT and OT

Historically, operational technology (OT, or industrial automation and control systems) and information technology (IT, or enterprise digital networks) were two separate worlds with almost no contact points. With the rise of the Internet of Things (IoT), however, sensors, instruments, and devices have started to become "smart," communicate with each other, and directly interact with enterprise IT systems and end users via the internet. (Note: OT covers the hardware, software, and services dedicated to control and act on physical processes. IT covers the hardware, software, and services dedicated to information processing.)

This integration between the physical and virtual worlds is dramatically improving companies' operational efficiency, decision-making ability, and supply chain integration. In addition, it's also paving the way for the creation of new business models, creating a wealth of opportunities for system integrators. With global spending on OT services growing at a 9% CAGR between 2019 and 2024 and expected to reach \$115 billion in 2024 (*IDC Worldwide Product Engineering and Operational Technology Services Forecast, 2020–2024*, IDC #US46638620, July 2020), IT/OT convergence should be central to the strategy of any system integrator navigating today's marketplace.

AT A GLANCE

KEY TAKEAWAYS

- » IT/OT convergence is improving companies' internal efficiency and enabling new business models.
- » Despite the economic recession due to COVID-19, OT services spending is expected to steadily grow over the next few years.
- » IT/OT convergence is expected to play a key role in helping companies to make a quick return to economic growth.
- » Companies' internal organization is adapting: the roles of the CIO and the COO are becoming more strategic and the IT and OT areas are gradually merging into one single digital operations team.
- » System integrators aiming to exploit the IT/OT opportunity need to decide where to play in the IT/OT domain, exploit the power of use cases, strengthen their business competencies, and keep an eye on the security challenge.

IT/OT Value Chain Components

Depending on their strategic positioning, system integrators should consider the following components of the IT/OT value chain:

- **Product design and life cycle:** design, engineering, and management of the product throughout its whole life cycle leveraging product life-cycle management (PLM) systems
- **Plant control and running:** development and implementation of the control systems of a plant (e.g., PLCs, SCADA, DCS)
- **Asset performance data processing and transfer:** retrieval of data from SCADA and DCS and translation into a common language for analysis in the cloud using industrial gateways, edge devices, and IoT platforms
- **Data analysis and insights extrapolation:** elaboration of data from IoT platforms to control, predict, and manage the behavior of the plant

- **Security:** maintenance of the safety and reliability of legacy systems, management of the number of industrial protocols (often unknown to IT), secure processing of data at the edge, and help with the overall lack of visibility across the infrastructure

Benefits of IT/OT Convergence

The key benefit of IT/OT convergence is being able to bridge the gap between a company's operations and the market, making the organization more flexible, collaborative, and responsive to change. While operational and business functions conducted in silos, with different infrastructure and technologies, result in poor communication and sometimes divergent objectives, seamless collaboration between IT and OT domains significantly decreases cycle times, improving process reliability and reducing costs and overall time to market of products and services.

IT/OT convergence is bridging the gap between a company's operations and the market, making the organization more flexible, collaborative, and responsive to change.

However, the impact is not only at an operational and tactical level — it's also strategic. Smoother internal operations enhance quantity, quality, and timing of information available for decision making and enables collaboration between buyers and customers in more agile and trusted ecosystems. IT/OT mutual support also enables new business models that are becoming very important in traditionally OT-intensive industries. For instance:

- **Manufacturing:** Remote and real-time asset performance monitoring and management enable after-sale maintenance services with either reduced or no onsite presence.
- **Energy:** Utilities are monitoring and analyzing overall energy consumption and providing customers with insights on how to reduce their own energy use.
- **Retail:** Sensors are tracking the remaining shelf life of perishable products in shops, notifying the warehouse when supplies need to be replenished, and offering promotions to customers in the store.
- **Transportation:** Routes are optimized based on traffic and environmental factors (weather, road conditions, etc.) for premium high-speed product deliveries.

IT/OT Convergence as a Barrier against COVID-19

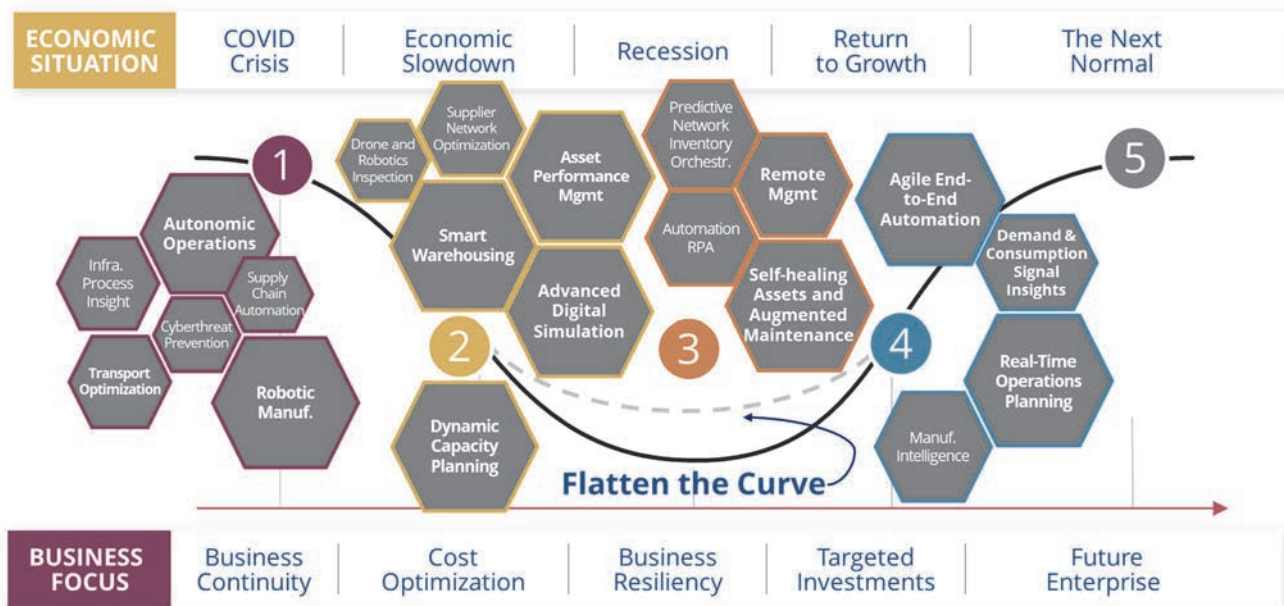
Despite the general economic downturn in worldwide technology markets due to COVID-19, IDC predicts that global OT services spending will grow at a 9% CAGR between 2019 and 2024 — reaching \$115 billion by 2024, up from \$75 billion in 2019 (*IDC Worldwide Product Engineering and Operational Technology Services Forecast, 2020–2024*, IDC #US46638620, July 2020).

This is a clear signal of how IT/OT convergence is expected to play a key role in making companies resilient, helping them to flatten their own recessionary curve and make a quick return to economic growth.

IDC predicts that global operational technology services spending will increase from \$75 billion in 2019 to \$115 billion in 2024.

Figure 1 shows how the journey toward the next normal will be enabled by some key IT/OT use cases, ranging from supply chain optimization to productivity, from assets and facilities management to infrastructure efficiency. System integrators should bear these use cases in mind when they build and communicate their value proposition to end-user companies.

FIGURE 1
IT/OT Use Cases Supporting Companies in the Transition Toward the Next Normal



Note: IDC defines use cases as discretely funded efforts that support a business objective. Use cases can be thought of as specific projects that employ line-of-business and IT/OT resources, including hardware, software, and IT/OT services.

Source: IDC, 2020

IT/OT Convergence and the CxOs of the Future

IT/OT convergence is blurring the boundaries between traditional IT and OT functions, and is revolutionizing the internal organization of end-user companies:

- Technology is becoming more and more strategic at an enterprise level, with the **CIO** (for IT) and the **COO** (for OT) closely interacting with the rest of the C-suite to drive innovation across the company.
- A new set of **skills** are needed for mature IT and OT teams, with a mix of both hard (technical) and soft (vision and culture) skills.
- IT and OT teams are increasingly collaborating with each other and are gradually merging into one single **digital operations** team.

(Note: CxO roles and titles such as CIOs and COOs can vary by industry and company, and those mentioned here are only indicative. For further details, please refer to the IDC blogpost *The Role of CxOs in the Digital Dream Team for Successful IT-OT Convergence*.)

These trends are changing the role, needs, and expectations of the typical clients of system integrators within end-user companies. In this context, system integrators should adapt to be able to interact with these new stakeholders and even play a proactive role supporting the creation, training, and development of these interdisciplinary professional figures and teams.

How System Integrators Can Exploit the IT/OT Convergence Opportunity

IT/OT convergence is disrupting the operating and business models of end-user companies. System integrators should position themselves as the privileged partners to support these companies throughout this transformation. IDC offers the following recommendations for system integrators looking to make the most of the IT/OT convergence opportunity:

- **Decide where to play:** The number of companies worldwide able to provide comprehensive IT/OT integration services is increasing. Given that it is hard to cover the full IT/OT spectrum, system integrators should decide which components of the value chain to focus on.
- **Exploit the power of use cases:** IT/OT convergence will be fundamental for end-user companies as they tackle the global economic recession due to COVID-19, and use cases will be the enablers toward the next normal. Be ready to build your own value proposition on the key use cases and properly communicate this to customers.
- **Strengthen your business competencies:** IT/OT convergence is changing end-user companies' organization and needs. Aim to become not only a short-term technical partner but also a long-term strategic partner able to support nascent digital operations teams across industries in their IT/OT convergence journey.
- **Don't forget the security challenge:** Integrating IT and OT can increase organizations' vulnerability, but implementing the right security-related policies and tools can help reduce this risk. Always make sure you can guarantee customers' high-level security standards and that you can address any IT/OT security threats quickly.

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