**Case study:**

**Digital transformation through**

**IT/OT convergence**

**Abstract**

For decades, information technology (IT) and operational technology (OT) systems have co-existed in process industry enterprises, often with very little crossover or cooperation between them. Traditionally, OT has kept the plant running with proprietary, mission critical systems designed to meet key requirements for availability and uptime. Meanwhile, IT managed business applications from the front office and is traditionally responsible for computers and networks on an enterprise-wide basis.

In the process industry, IT/OT convergence offers the novel use of digital technology to accelerate business strategy as it connected to the digital transformation of an enterprise. A large portion of this digital transformation is in manufacturing. Digital transformation applied to production and manufacturing and it offers out-of-the-box integrated solutions for plant automation, asset management, and value chain optimization.

Today’s industrial companies need to change how they interact with, react to and provide services for their customers if they hope to obtain desired levels of value from the next wave of digitisation. At the same time, the pandemic crisis leaves these companies with no choice but to accelerate their digital transformation, and to do so in a smart and guided way.

We hope that this abstract helps to think critically about the role that IT/OT convergence can play in fully digitising any company and the impacts it will have on its day-to-day business, ranging from strategy to execution.

**Introduction**

**What is Digital Transformation?**

Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how you operate and deliver value to customers. It's also a cultural change that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure.

A business may take on digital transformation for several reasons. But by far, the most likely reason is that they have to: It's a survival issue. In the wake of the pandemic, an organization's ability to adapt quickly to supply chain disruptions, time to market pressures, and rapidly changing customer expectations has become critical

**What is IT/OT convergence?**

IT/OT convergence is the integration of [information technology](https://www.techtarget.com/searchdatacenter/definition/IT) (IT) systems with [operational technology](https://www.techtarget.com/whatis/definition/operational-technology) (OT) systems. IT systems are used for data-centric computing; OT systems monitor events, processes and devices, and make adjustments in enterprise and industrial operations.

Modern organizations grapple with two worlds. There is the traditional physical world composed of machines, electromechanical devices, manufacturing systems and other industrial equipment. Then there is the more recent digital world using servers, storage, networking and other devices used to run applications and process data.

**Benefits of IT/OT convergence**

* Alignment: IT and OT teams can increasingly work with common standards, procedures, tools, and platforms.
* Integration: The integration of IT and OT functions into a common organisation supporting both domains.
* Purported Benefits: Given that Technology and Platform convergence is undeniable and has been underway since the late 1990s, the purported benefits of IT OT convergence relate to alignment and integration and include:
* Optimized Business Processes: This was listed as a benefit in the note but not really described. I have assumed that this is related to the use of shared standards and platforms.
* Enhanced Information for Better Decisions: This was not described in the note, but it is assumed the authors intention was that with IT and OT systems running on common platforms and managed by common teams that more and better-quality data would be made available from OT systems for corporate decision making.
* Reduced Costs: The use of a shared set of standards and platforms reduces cost for the company and also the Shared standards results in lower cost for systems integration.

**Why it is successful?**

The Key success factors for the success of digital transformation through IT/OT convergence.

* Embrace transition to a secure, platform-oriented landscape: Whereas the current technology landscape is often fragmented, companies need to transition towards a platform-oriented landscape. By doing so, companies can leverage their platforms to enable use cases that have the same value generation, data needs, knowledge needs, and support and demand needs.
* Set up of the data centre of excellence for optimum value: Building analytics capabilities are of key importance for optimising your production performance, reliability and reporting. A data centre of excellence will be the organisation that educates, trains and brings more innovative ways of working to your business, manufacturing sites and functional groups. It will also drive more data science innovation within use cases by sharing best practices and new methods of analysis and automation.

**Conclusion**

Effective strategic planning and business process analysis ensures the success of your digital transformation project. Therefore, the use of IT/OT convergence is a proven methodology that can be used in digitalising the certain aspects of the industry. Digital Transformation is a journey, not a destination. Executing on a well-developed strategy like IT/OT convergence provides the successful foundation for the industry’s digital transformation program.

When it comes to IT/OT convergence, 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.