How to reap the benefits of cloud in the manufacturing sector

When it comes to implementing new technologies, the manufacturing sector is faced with unique challenges that are often difficult to overcome. Cloud technology, for example, offers clear advantages to the sector, but organizations often question how they can successfully implement this technology while avoiding the potential pitfalls in front of them.

Key contributor: Stevin Hermans, Associate Director Cloud Solutions, Cognizant

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What challenges are organizations facing?

When it comes to modernizing their existing technology, organizations in the manufacturing sector face three main business challenges that are unique to their sector.

Firstly, unlike other sectors, there is a high percentage of blue-collar employees in the manufacturing sector. From their positions on the shop floor and in warehouse, these employees tend to perceive change differently to white-collar employees. Practically speaking, this means that the manufacturing sector needs to adopt different change management processes that focus more on health, safety, and productivity to achieve a successful outcome.

Secondly, the cost of the goods produced by the manufacturing sector is under extreme pressure. This has a knock-on effect, putting pressure on their supply chain for direct and indirect sources of raw materials, as well as their procurement planning including their distribution and inventory strategies. Any technology modernization strategy needs to take this into consideration.

Lastly, as a result of organizations growing inorganically by merging with or acquiring rivals, they frequently have a large variety of legacy applications and systems, often running in silos at different local locations and rarely fully supported. However, these legacy applications remain popular on the shop floor, making it difficult for management to modernize by implementing a new, standard way of working supported by new IT infrastructure that would promote economies of scale across the organization and introduce the benefits of standardization and best practices.

"Manufacturing organizations are increasingly open to the opportunities offered by cloud."

Jeremy Vanhoegaerden
Client Partner Manufacturing
Belgium, Cognizant

What cloud offers organizations

While these challenges make it difficult to migrate to the cloud, manufacturing organizations are increasingly becoming more open to the opportunities cloud offers thanks to the advances in cloud technology over the past few years.

Latency, in particular, is an important consideration. Legacy applications running on local servers are very sensitive to lags in latency due to manufacturing plants operating under continuous production and requiring real-time integration with all connected applications. The advances in cloud have reduced latency to ultra-low levels, delivering the performance organizations require to ensure that their investment is optimized.

Furthermore, the introduction of cloud can help simplify the organization's IT landscape by standardizing technical infrastructure, along with the connected support and training requirements. Cloud's built-in security features can help protect the organization from cyber security threats and attacks.

Cloud can also be used as a trigger for implementing other change management programs and creating a vision of the future. As part of the move to cloud, management needs to prepare a business case, which often highlights the potential benefits of cloud as well as suggest other ways to modernize the organization's IT infrastructure to help give a competitive advantage in the market.

Manufacturing organizations can also use the flexible nature and elasticity of cloud technology to scale based on real-time demand and only pay for the resources that are being used. This enables organizations to have a closer overview of their technology costs and avoid large upfront investments in on-premises infrastructure or data centers, without compromising on security.

However, it is important that organizations realize that cloud implementation should be carefully planned and introduced. Your organization's existing application landscape should be carefully analyzed to determine your best cloud solution with the right combination of flexibility, architectural design, security, server sizing, and more.

"Organizations are finding new ways to utilize cloud to benefit their operations."

Jeroen Caré
SBU leader Manufacturing, Logistics, Energy & Utilities Netherlands, Cognizant

"Traditionally, the manufacturing industry was slow to adopt cloud because of security and availability concerns for MOM applications. However, the advancement of cloud technology eliminates these concerns, helping organizations to accelerate their legacy modernization journey and adopt data driven AI and ML solutions to maximize business outcomes."

Suman Kumar Sengupta
Sr. Director and Manufacturing Industries Leader, Netherlands, Cognizant

What's next for cloud?

As cloud technology becomes more advanced, organizations are finding new ways to utilize cloud to benefit their operations. But what does the future hold for cloud? Here are some of the trends around cloud technology for the manufacturing sector.

Instead of private clouds, organizations are likely to turn increasingly to a hybrid or multi-cloud approach that incorporates both private and public clouds in different locations such as hyper scale data centers. Additionally, this approach can include edge computing to further reduce latency for sensitive real-time solutions.

The data generated by the different applications on the cloud can be analyzed using analytics to generate new insights into best practices, potential improvements, and opportunities for the future as well as helping to support management decision making.

Cloud technologies enable the increasing use of digital twins to support the rise of smart manufacturing. As this becomes more common, it will help organizations to identify potential issues before they occur to optimize production output while lowering unit costs.

Another trend is the rise of cloud ecosystems that incorporate different hyper-scalers that provide industry-specific solutions as and when required, optimizing the expertise the organization has access to while minimizing costs.

Looking to the future with cloud

Cloud technology offers organizations many benefits, from ultra-low latency delivery of services to simplifying their IT infrastructure. However, successful implementation relies on detailed analysis of the current situation and careful planning of the migration and rollout.

Taking these first or next steps can be challenging. The experienced experts from Cognizant can help you with a clear methodology and framework for introducing, adopting, managing, and using cloud based on your unique situation.

Is your organization ready to fully benefit from cloud?

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Why Cognizant?

You need a partner with deep understanding of the application landscape and how it has evolved over the years. One who is at the leading edge of automated deployment models with the experience of people-led change. One with the wisdom to understand how you got to where you are today, and the vision to take you into the future.

Cognizant has the broadest knowledge and experience with applications across a wide range of technologies, platforms, and languages and has been helping IT and business leaders drive results at speed and scale for over 25 years. We have been recognized as a leader in Application Transformation, Application Modernization, Next-gen ADM and Automation by reputed research and advisory firms. Our vibrant partner ecosystem with leading technology vendors helps drive innovation. Wherever you are in your application modernization journey, and whatever your end goals are, Cognizant can help.

To learn more, contact **modernization@cognizant.com**

Netherlands Headquarters

Cognizant Amsterdam
Digital Studio
Paul van Vlissingenstraat 10,
1096 BK Amsterdam
Tel: +31 (20) 595 05 50

Belgian Headquarters

Cognizant Brussels: Tour & Taxis
Havenlaan 86C, Box 408
1000 Brussels
Tel: +32 2 792 44 67