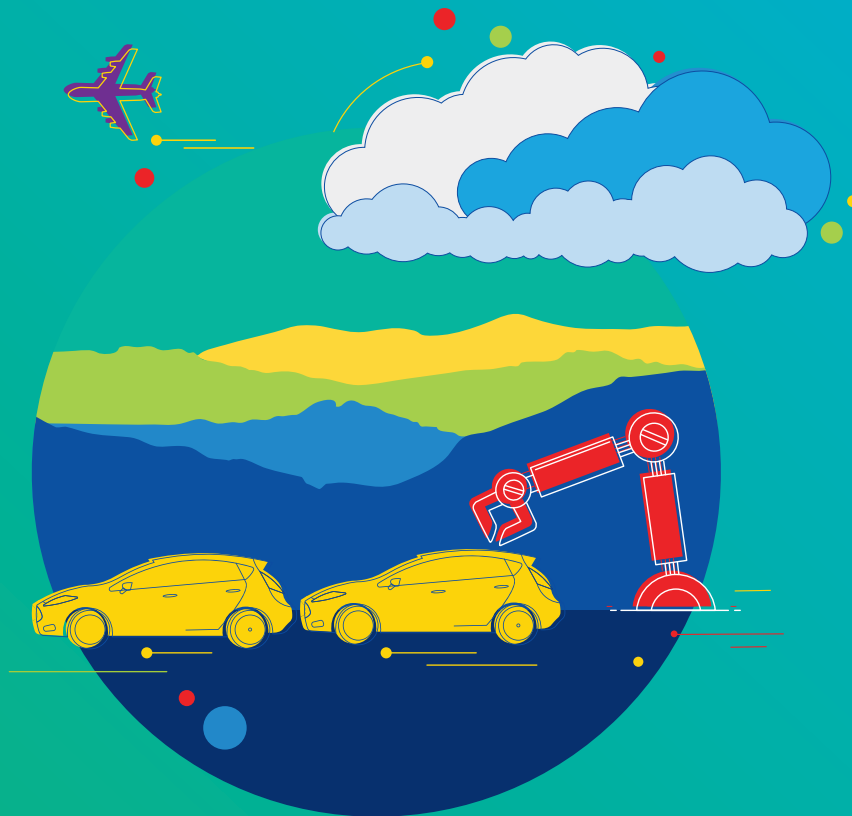




# Catapult Your Business with **Cloud**

#MoveManufacturingForward





**The cloud essentials  
to drive modern  
manufacturing**

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**Foreword**  
By Milan Rao

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**Cloud: The core of modern manufacturing**  
From supply chain and product design, to production and distribution, cloud is everywhere.

**03** P.10

**Driving the future enterprise**  
What does the future of manufacturing look like and how to get there?

**04** P.15

**Embarking on the cloud journey**  
Build a proactive strategy to accelerate value creation in this cloud-powered era of manufacturing.

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**Powering your business, the cloud way**  
Define your migration delivery plan to effectively leverage the power of cloud.

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**Integrate to be future ready**  
Efficiently integrate and operate cloud to drive the change you envision for your organization.

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**Are you ready to take the leap?**  
Assess where you are – understanding your technology landscape, readiness for change, and what it will take to become cloud focused.

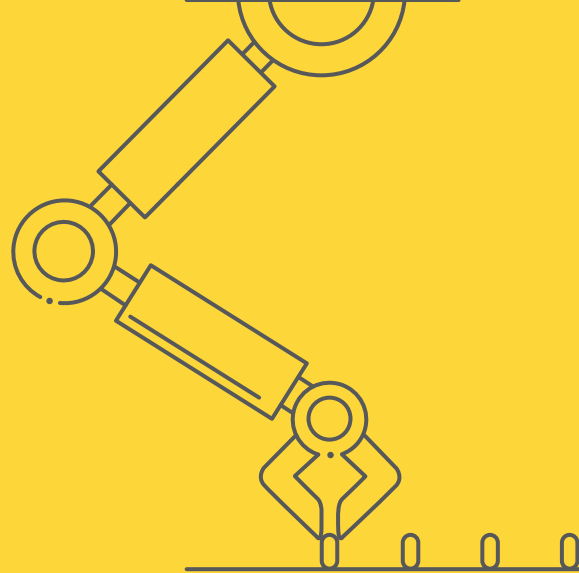
## Foreword



**Milan Rao**

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President – Marketing, Innovation & Technology,  
and Global Head - Manufacturing & Communications Business, Wipro



Over the course of the past several decades, the manufacturing industry has evolved to strike the right balance between innovation and efficiency. With this ongoing feat, the boundaries between industries have gotten obscure. With the industry forerunners embracing digital technologies to accelerate their business, it is worthwhile to take a look at how companies are making this journey to redefine market dynamics.

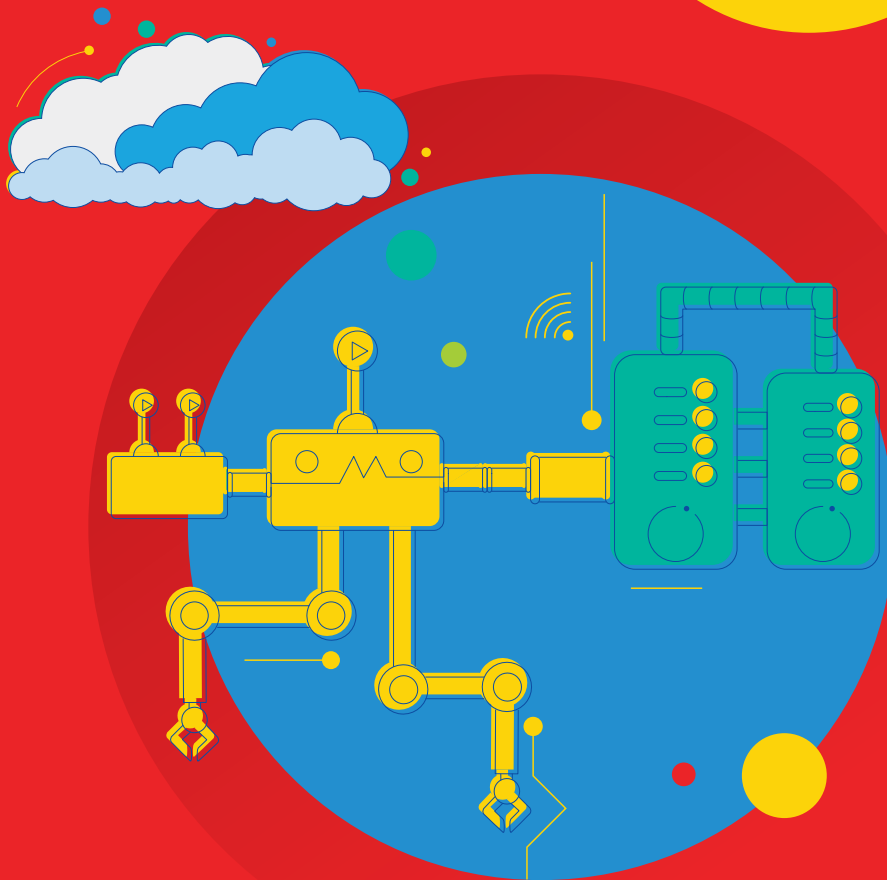
**Companies today are at the threshold of defining the future of work in manufacturing. And how cloud forms the backbone of a digital enterprise is more important than ever before.**

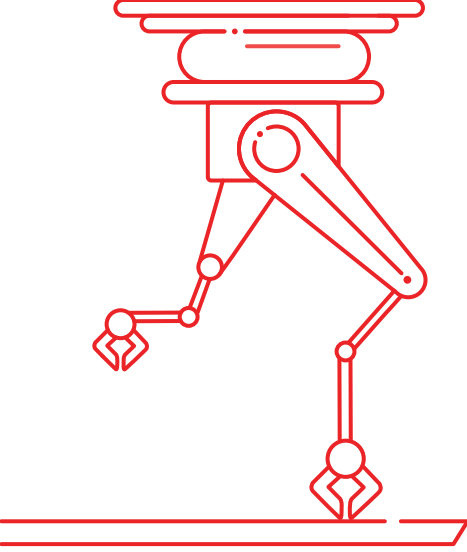
What we are witnessing today definitely stands a league apart from all the major changes I have witnessed over the past 20 years.

Enabled by cloud, manufacturing is headed toward a tectonic shift. Disrupters that hold potential to redefine industries are starting to surface. How we approach these disruptions now will shape up our businesses for decades to come.

This playbook calls out the indicators that are driving the modern manufacturing revolution. It will help anyone interested in understanding why cloud is imperative for acting on these opportunities. If you care about building an agile, connected and collaborative foundation for manufacturing and if you are passionate about moving manufacturing forward, this book is for you.

**Cloud:  
The core of  
modern  
manufacturing**





“

Cloud is the glue that holds supply chain, design, production and distribution together in modern times.

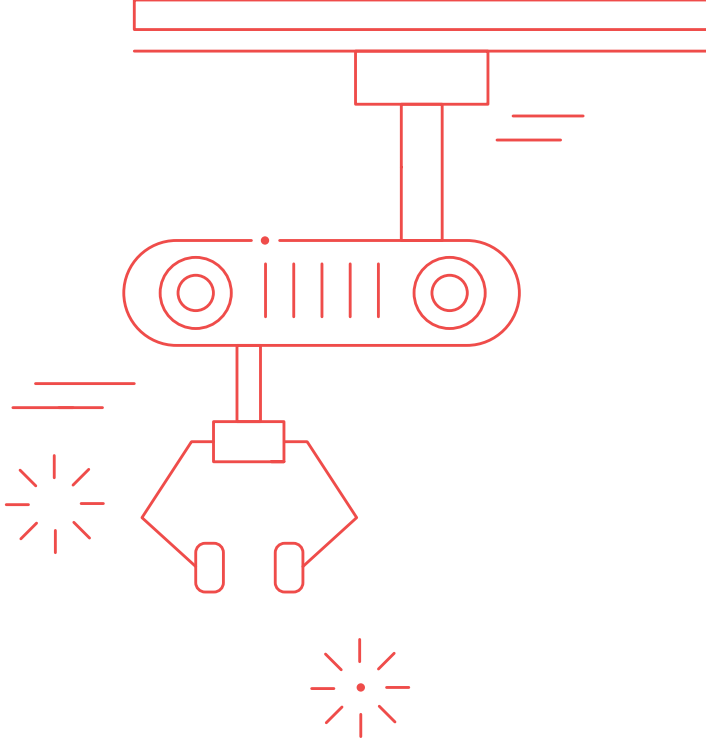
Whether cloud is the right move or not is not the question today.

Instead, what we must ask ourselves is this: Are we using cloud to its fullest potential?

”

**Vinay Firake**

Senior Vice President & Head - Manufacturing (Europe), Wipro



Many of us are familiar with Fred Flintstone's car. Devoid of something as simple as power steering – or for that matter a floor – it can be built using just wood, stone, and a piece of cloth. It even lacks an engine and cannot be categorized as an automobile. Still, it is one of the first things that comes to mind when asked about the history of cars (the vehicle invented by Carl Benz is maybe a close second!)

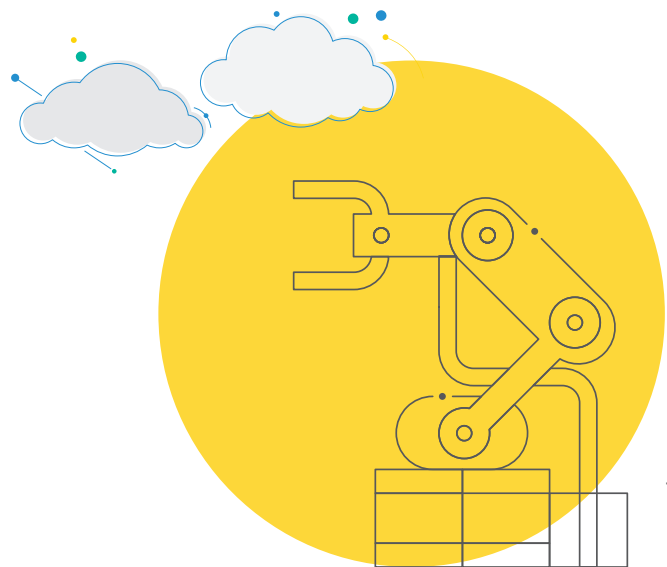
While one is fictional and the other is real, they do have one thing in common. Both Flintstone's and Benz's vehicle can be manufactured with easily available, locally sourced materials.

## Fast forward to 2020

It can take as many as 30,000 parts to make a modern car<sup>1</sup>. These parts are rarely available in one geographic location – or with one supplier. Sourcing them from different vendors, located across different cities or countries, requires an unprecedented level of coordination. But you probably already know that. (After all, Toyota put it all up on a website meant for children.)

And this story is not limited to the automobile industry either. The same thing is applicable for most industrial, process, and hi-tech manufacturers as well. Driven by a connected

world economy and increasingly changing customer expectations, manufacturers have been forced to look beyond the parameters of quality and efficiency. They are looking for ways to enable agility, speed, and hyper customization.

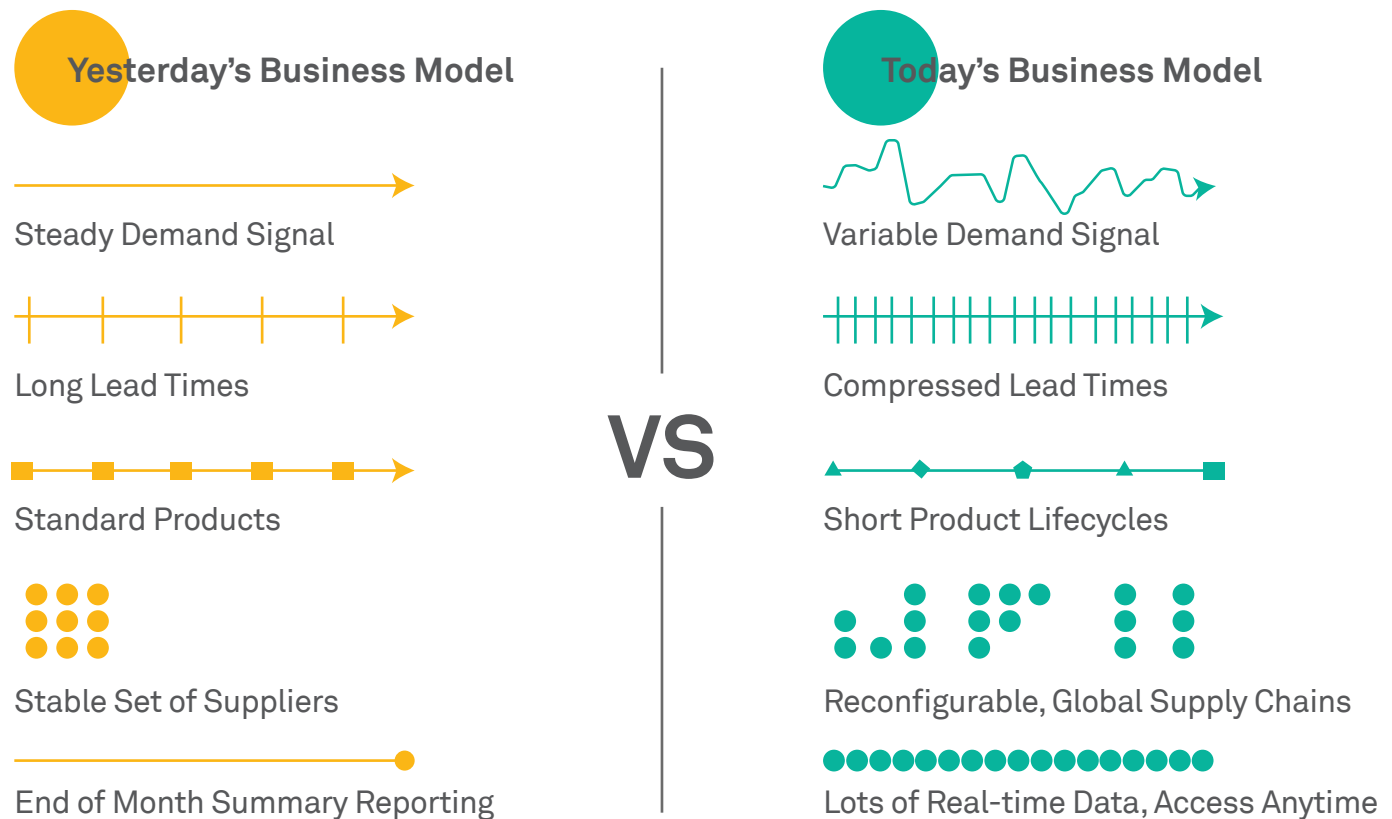


1. <https://www.toyota.co.jp/en/kids/faq/d/01/04/>



# Manufacturing supply chain is becoming ever more global and distributed

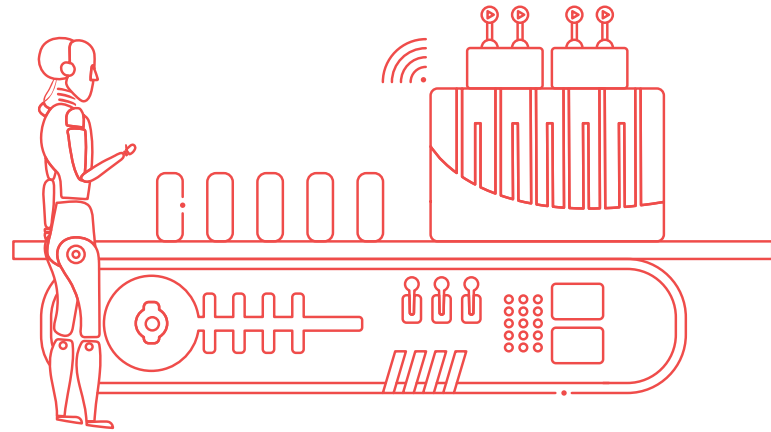
- World economy is more connected, and customer tastes have become increasingly fickle.
- Demand is more variable, thus forcing shorter product cycles.
- New entrants are changing the status quo with disruptive products and business models.
- Global incidents such as the COVID-19 Pandemic and Protest at Hong Kong are transforming the existing business models.



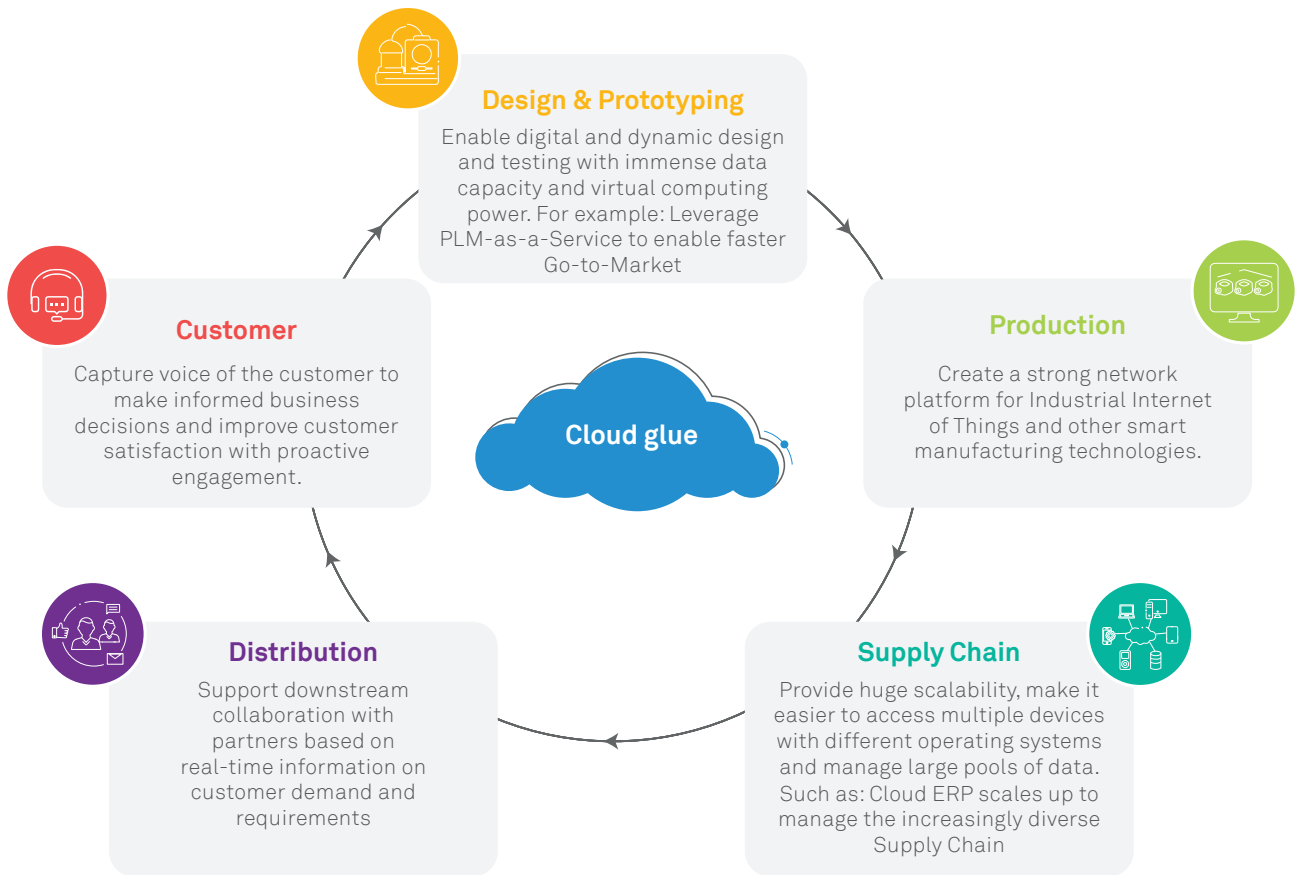
How can manufacturing organizations adapt to these changing requirements?  
And what can you, as a manufacturing leader, do to drive that change?

**Let's find out!**

# Cloud can inherently transform the manufacturing value chain



While external factors continue to challenge manufacturing, it is time to look inward. It is time to let go of the legacy processes that cripple innovation and explore new possibilities with cloud.



As cloud awareness reaches the next zenith, so will the rate of adoption across industrial, process, and hi-tech manufacturing. But, adopting cloud is just the start. True opportunity lies in identifying the right

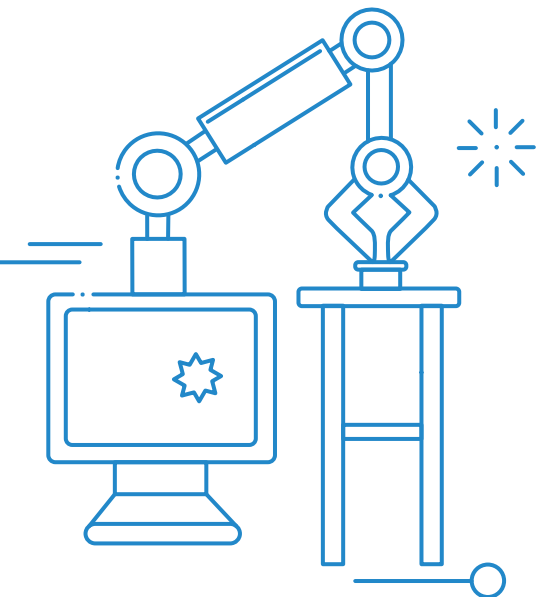
strategy, implementing the optimum solution, and fostering an innovation culture to continuously unlock new value with cloud.

**Driving the  
future  
enterprise**



“ 2021 will be the Year of Multi-Cloud as global COVID-19 pandemic reaffirms the critical need for business agility. ”

IDC<sup>2</sup>



2. <https://www.idc.com/getdoc.jsp?containerId=prMETA46165020>

# Companies with no cloud or some cloud will become an exception in the near future

According to Gartner's 2018 hype cycle, cloud computing has reached the slope of enlightenment. What does it mean? It means that the playing field is no longer dominated by early adopters and risk takers. Use cases and benefits of this technology are now widely understood.

In terms of solving real business challenges and driving productivity for manufacturers, we are witnessing the rise of two clearly distinct categories of applications.

## Enterprise level

### Operations

**Enabling new ways of managing enterprise operations**

- Resource planning
- Data analysis
- Work force training
- People management

### Supply Chain Integration

**Elevating digital interactions above proprietary data centers**

- Integration with broader industrial supply chains

### Global Integrations

**Helping in seamless integration of new acquisitions and expansion into new markets**

- Eliminate data silos
- Centralize information management

## Product level

### New Product Development

**Engaging customers at the front end of innovation to reduce product failure**

- Cloud-based crowdsourcing
- Virtual reality
- Product virtualization
- Computer-Aided Design (CAD)

### New Production Systems

**Blending product design and fabrication seamlessly with digital tools**

- Connected machines and enterprise data systems

### New Consumption Patterns

**Making it possible for products to be remotely updated, maintained, or even sold as services**

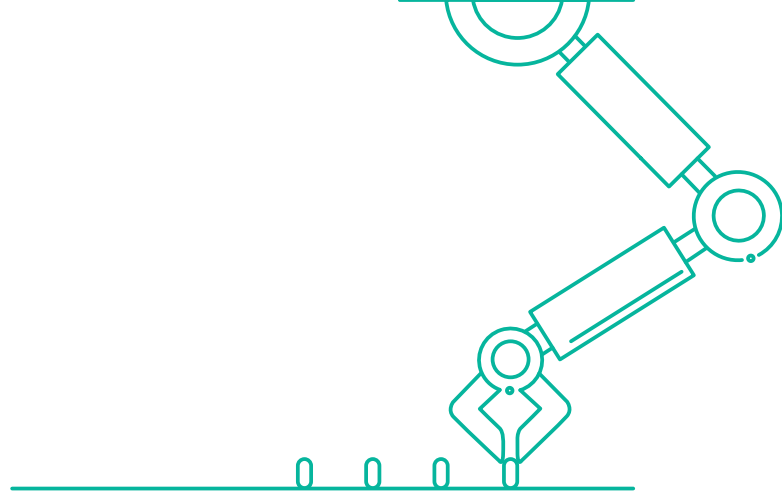
- IIoT, AI and ML
- Advanced analytics tools

# Cloud as an enabler for manufacturing transformation in the age of Industry 4.0

Manufacturers are not just siloed entities restricted to serving a region. To remain competitive globally, manufacturing organizations are ideating new organizational and process-level transformations with a focus on collaboration along the entire value chain. Cloud encompasses a plethora of technologies such as IoT/IIoT, Blockchain, AI & ML, Augmented and Virtual Reality, and Cyber Physical systems. With such technologies, manufacturing organizations are monitoring and managing end-to-end processes on cloud.

Proliferation of “X2X Connectivity” and “cloud and emerging technologies” has given rise to applications such as:

- Digital Manufacturing – Empowering organizations to virtualize production resources and configure production plans in real time.

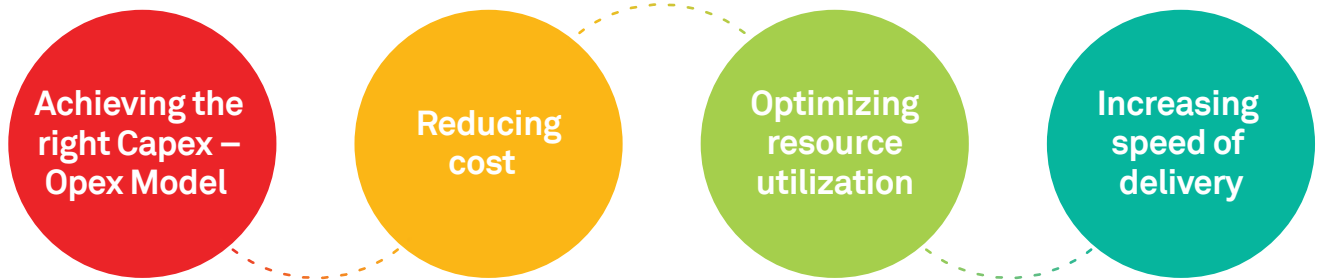


- Digital PLM – Assisting manufacturers to plan, define, and test prototypes to co-create products with users faster than ever.
- IT/OT Convergence – Helping enterprises to derive integrated insights to achieve operational efficiency and competitive advantage.
- Digital Supply Chain – Enabling organizations to simulate complex demand and supply models.
- Connected Worker – Equipping workforces to be more productive and safer.
- Connected Products – Improving customers’ experience and reducing time to market by closing the feedback loop from aftermarket to R&D.

## Unlocking the power of Cloud in connected plants

The next-generation Manufacturing Plants are connected and require real-time orchestration of production, considering the actual availability of a multitude of resources. Growing data streams and the adoption of data processing technologies have become inevitable. The insights generated from such a vast ocean of data has helped in improving the material flow and reducing the downtime of plant equipment. Cloud is a pivotal factor for enterprises to embark on their digital transformational journey. With cloud, enterprises can now radically reimagine their digital initiatives with more flexibility, because cloud gives power to respond to market dynamics faster or control costs by optimizing processes and much more.

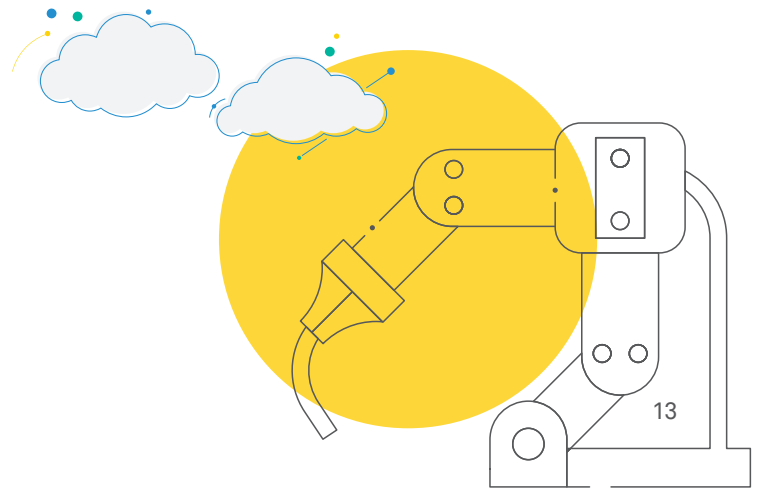
For decades, the cloud narrative for manufacturing has focused on a few limited business objectives.



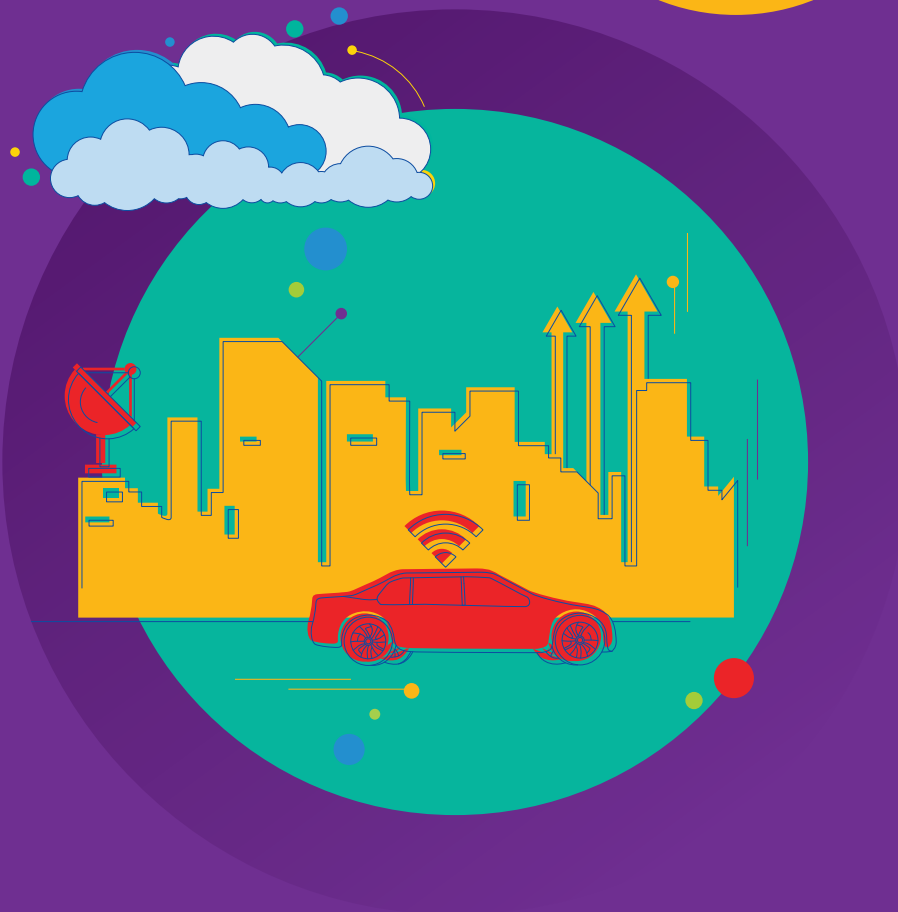
While these objectives remain critical for success, what manufacturers can do with cloud goes way beyond this. From transforming operations to creating product that disrupt common

perceptions, it is all possible with cloud. However, one must first understand which opportunities are right for their organization. Start by asking the following questions:

- Are we facing recurrent issues triggered by system failures, data inconsistencies, or organizational silos? Do we need to strengthen our core?
- Is our business growing at a pace faster than what our manufacturing units can handle?
- Can our security systems protect our proprietary technology from all types of threats - external as well as internal?
- How often do we assess the relevance of our products against the latest market trends and customer expectations?
- Where do we stand in terms of readiness for change?



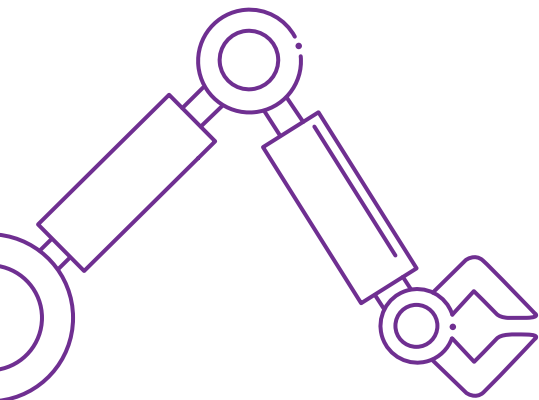
# Embarking on the cloud journey





“ More than one-third of manufacturing CIOs say growth is the top priority for their organizations. ”

**Gartner<sup>3</sup>**



3. <https://www.gartner.com/smarterwithgartner/drive-innovation-in-manufacturing/>

# So, you've decided that cloud is the way forward for your organization. But that's just the start.

Now you must decide:

- How will your cloud strategy align with the present enterprise and the future foundation?
- What should you expect from the overall engagement?

## In short, you must define your cloud strategy.

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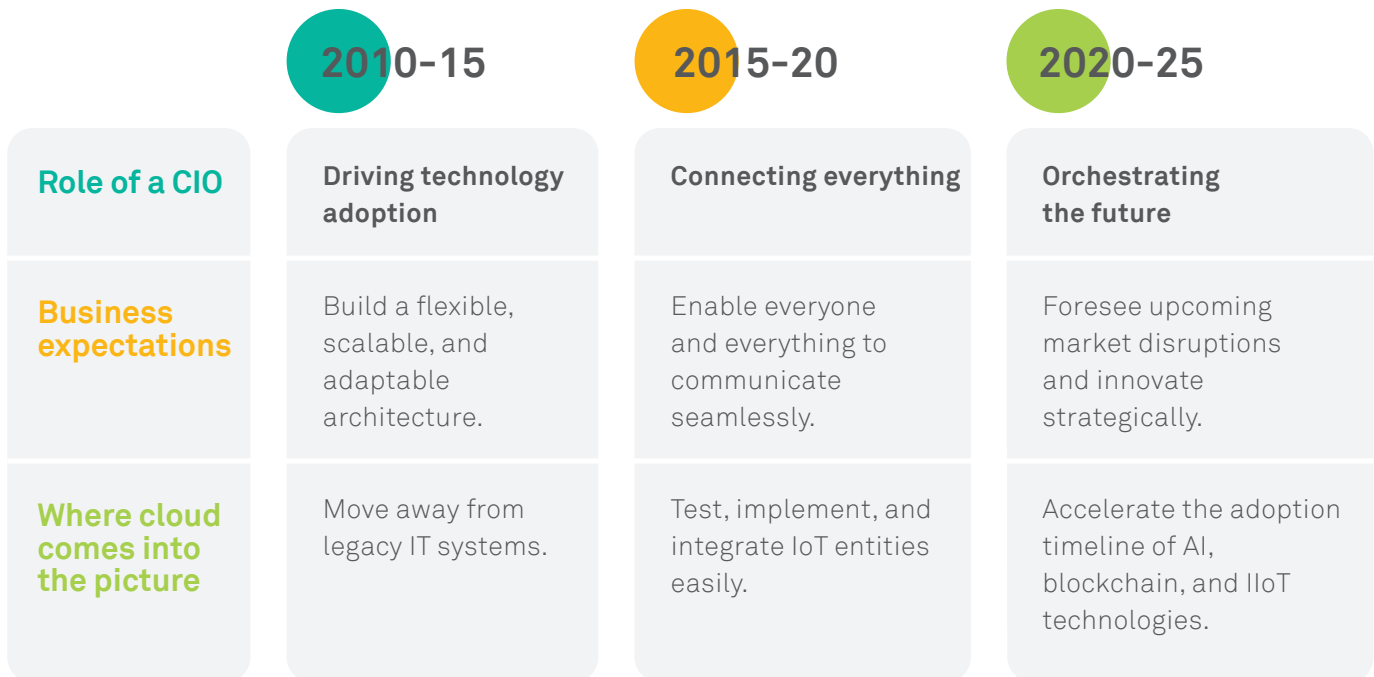
### What does it mean for CIOs?

The secret to achieving success is still the same. Understand demand dynamics. Identify what your customers value the most. Create a product that meets these specifications. Do it at scale and in a cost-effective way.

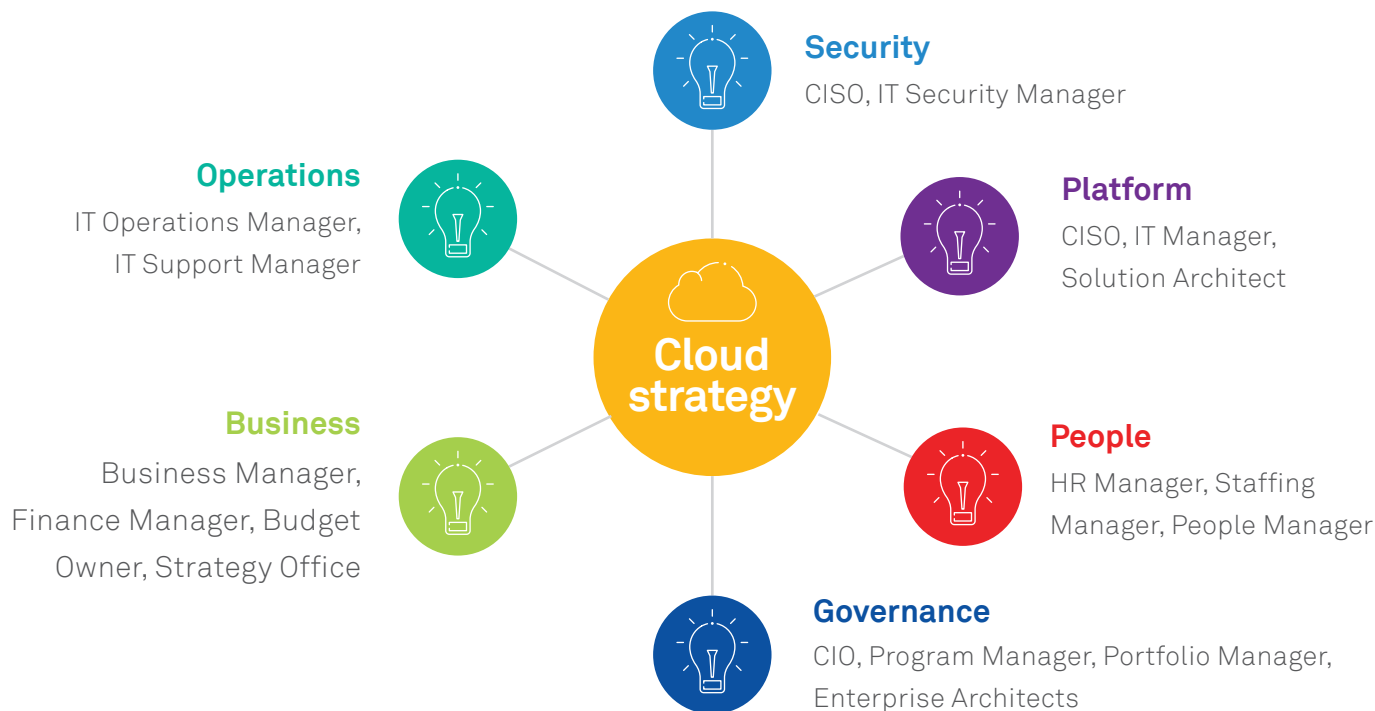
A CIO's role in manufacturing is, and has always been, to enable this success. Whether that involves aligning technology to business

processes or transforming the IT landscape, at its core, the goal is to create an ecosystem where growth becomes possible.

What we are witnessing today is that the scale at which a CIO can drive success is becoming more and more complex and elaborate. In the cloud-based era, CIOs have more power than ever before to set the future course for their organizations.



## Start by identifying the right stakeholders for your cloud strategy



## Establish your strategic outline

Adopt an outside-in approach when defining your cloud strategy, so that the end-user always remains in focus. Also, it is important to adopt a dynamic strategy to adapt easily with the evolving technology landscape.

### Envision

Define and elaborate finer elements of your future state aligned to business vision.

### Analyze

Assess your current maturity versus future state to understand the technical gaps and risks.

### Align Organization culture

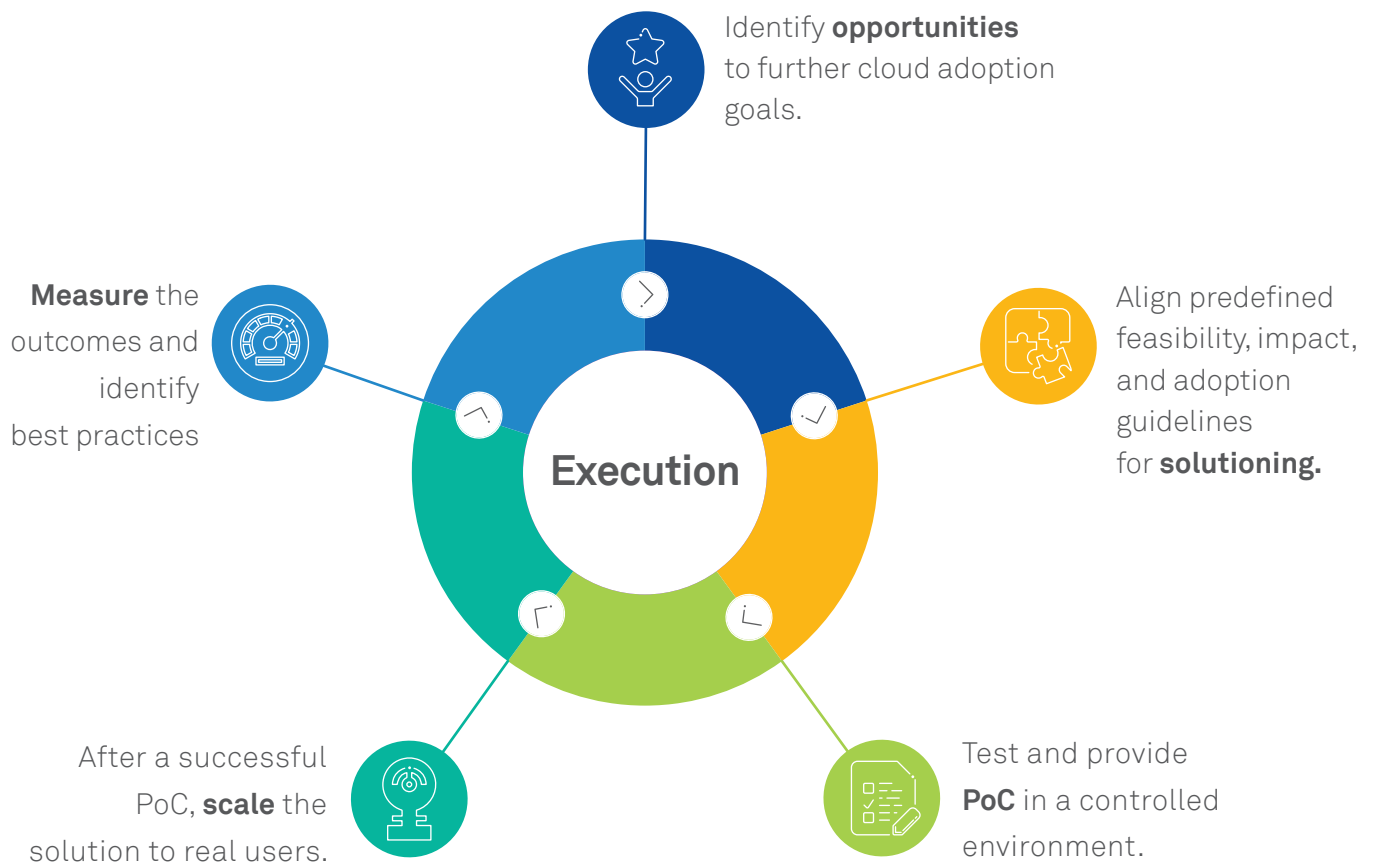
Assess cultural attitude towards organizational change to make your cloud journey successful.

### Execution

Execute initiatives in tandem - starting from identifying opportunities, testing PoC, scaling and finally measuring their outcomes.

### Embrace feedback

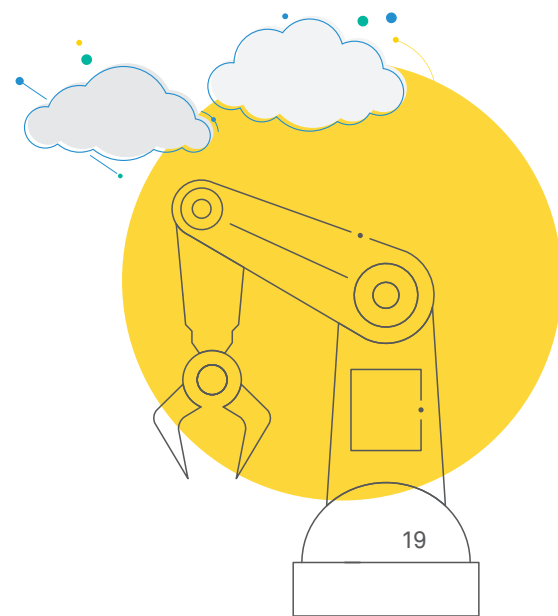
Revisit strategy again from “envision” stage, after every execution loop and before initiation of new initiatives.



## Creating a foundation to develop the right strategy is as critical as the strategy itself

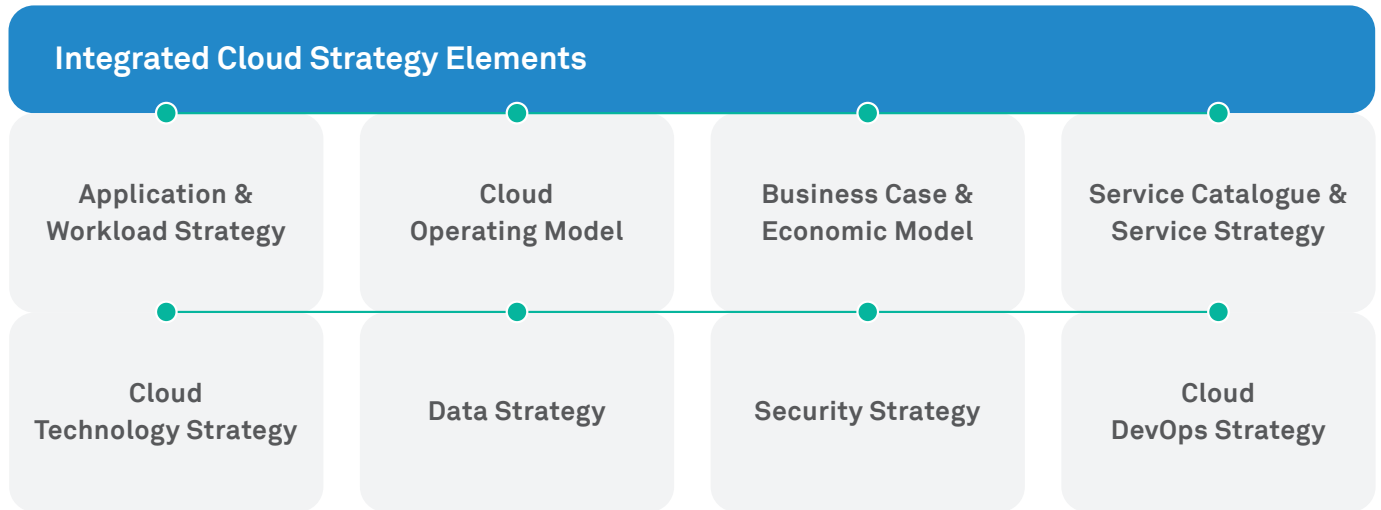
The first step to any cloud adoption strategy is the 'Cloud Intent Report.' Created in collaboration with your internal stakeholders, the report clearly outlines these questions:

- **Why do you want to move to the cloud?  
What are your short and long-term intents?**
- **How can a cloud-first approach help you achieve your organizational vision?**
- **What will be the key principles that underline your cloud strategy?**



During the process of building an integrated cloud delivery model, Wipro develops an IT impact analysis and delivers Organizational Change Management (OCM) recommendations, all while establishing your

cloud policies, business triggers, and KPIs. These tools help you understand the scope of transformation and offer a framework for performance monitoring.



## The majority of our customers adopting cloud-native services in their cloud journey are taking one of three paths

- Adoption of existing apps on cloud-native platforms
- Incremental adoption of existing apps to Microservices
- Building cloud-native from scratch

Regardless of the path they take, a set of accelerators designed to help in automated code transformation – with blueprints, code analysis, and code-generation tools – has been a game changer for all of our customers. ”

### Sivakumar Natarajan

Global Practice Head, Digital Practice in the Manufacturing Business Unit, Wipro

Re-engineering your manufacturing core involves continued innovation and optimization to ensure a well-honed competitive edge. With Wipro, this process involves two approaches - cloud-native infrastructure and emerging technologies.

## What is cloud native?

**Cloud native** is an approach that builds software applications as Microservices and runs them on a containerized and dynamically orchestrated platform to utilize the advantages of the cloud computing model.

**With cloud native applications, you can drive more:**

- **Scalability**

Easily handle continuously varying business requirements, in addition to a pay-as-you-go model, resulting in saving thousands of dollar every year.

- **Resilience**

Independent microservices ensure systems stay online regardless of the failure of any particular component.

- **Flexibility**

Build applications that can run on a public or private cloud without any modifications (plug-and-play).

- **Automation**

Enable automatic provisioning and releasing of resources based on requirements.

## Understand these cloud terms before you engage with a CSP

- **Containerization**

The idea behind containerization is to package a software in such a way that it contains everything the software needs to run. This includes the executable program as well as system tools, libraries, and settings. Containers run on top of a "container platform," like Docker, which is installed on an operating system.

- **Orchestration**

Orchestration solutions like Kubernetes, Docker Swarm, Apache Mesos and Amazon's ECS help resolve the issues associated with running multiple application nodes. Some of these issues include: system monitoring, triggering start or shutdown of a container, ensuring configuration parameters are in place, etc.

- **Microservices**

Cloud native applications are built as a system of microservices. Each microservice offers at least one function with appropriately defined APIs (interfaces) and boundaries. Each service runs a unique process and usually manages its own database. Multiple microservices collectively offer overall functionality of a system.

## Driving greater optimization and innovation with emerging technologies.

Wipro's cloud-native services ease manufacturers through the cloud journey, regardless of their adoption methodology. We accomplish this with a set of accelerators that use blueprints, code analysis, and code generation tools to automate code transformation. Similarly, our cloud-native Launch Pad

is integrated with ITSM, DevOps, and compliance best practices, and it offers on-demand prototyping, cost management, and reporting services to fuel your innovation initiatives.

### Other strategic innovation services include:

#### ● Topcoder

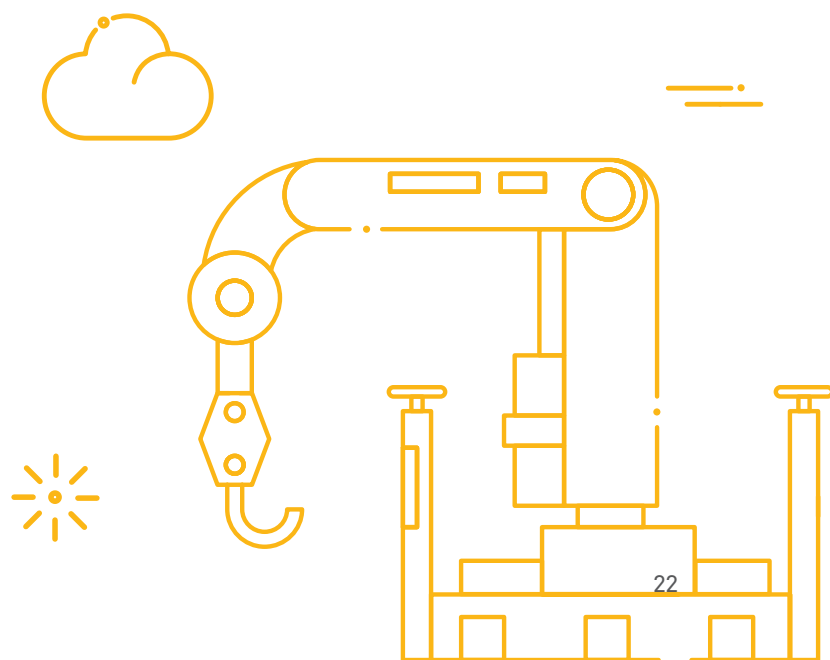
##### **A global platform designed to crowdsource innovation in IT**

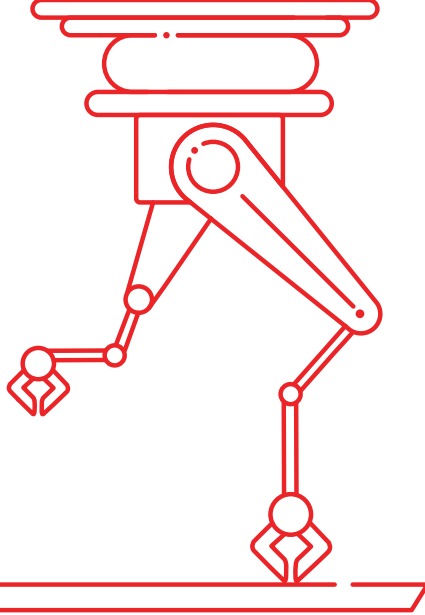
The Topcoder Marketplace gives our customers on-demand access to people and skills required to stay ahead. More than one million app designers, developers and data scientists from 190+ countries around the world compete over an automated platform to produce the best creative, code, algorithms and solutions for our customers to evaluate. Talent can self-select work that most interests them and learn new skills. This model fosters a closer relationship between technologists and companies, enabling greater transparency, increased collaboration, and better outcomes.

#### ● Designit

##### **A strategic process, technology, application and platform design wing**

They offer services around product design, service design, and experience design and consulting in business design, with an emphasis on mobile and digital media. Designit's employees work in cross-disciplinary teams, involving clients and end-users in the design process. They work in various sectors, including healthcare, finance, IT, telecommunications, automotive and consumer goods.





Manufacturers that consistently stay ahead of the curve, do so by continually leveraging new technologies in innovative ways. Let Wipro be your innovation partner and deploy our mastery of emerging technology to build a future-proof manufacturing enterprise.

### The Wipro Innovation Core

Edge Analytics

Digital Twin

Augmented/Virtual/  
Mixed Reality

High Performance  
Computing

Blockchain

CDN

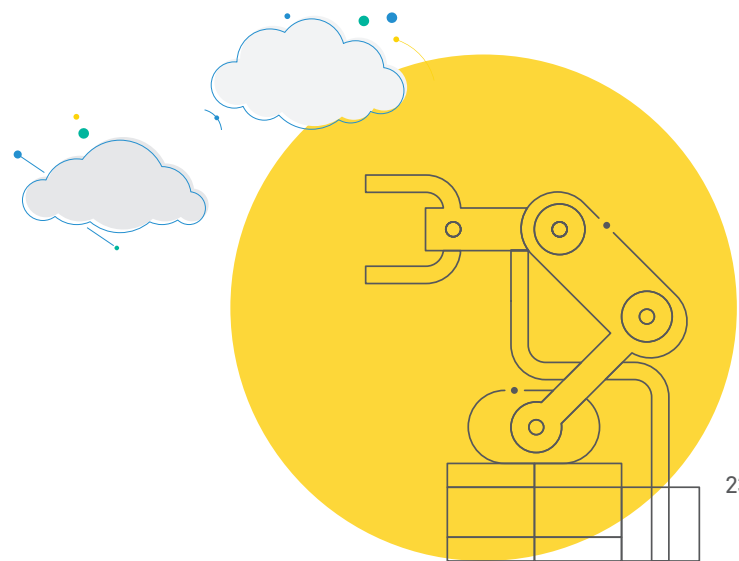
Natural Language  
Translation

AI & Machine  
Learning

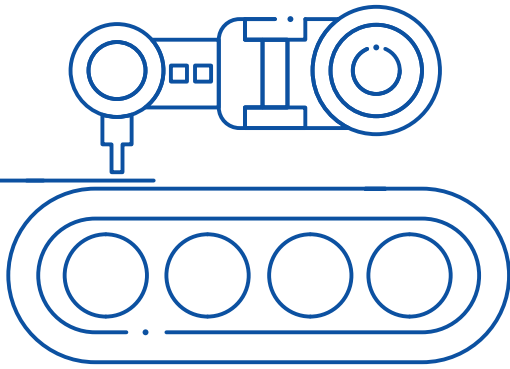
The next step is Wipro's 4-dimension fitment analysis. In the context of cloud adoption, this assessment explores the technical feasibility of cloud adoption, the expected ROI, your business suitability, and the level of risk involved.

The final phase of building your cloud strategy includes platform selection, data and security

strategy, outlining your cloud architecture and project portfolio, and delivering service and software recommendations. Once all of these elements are in place, we can solidify your transition roadmap and move on to the next phase.







## A leading gear manufacturing company unlocks the secret to agility

### The client problem

A Fortune 500 company needed a comprehensive cloud strategy to rationalize unmanageable application sprawl and centralize IT infrastructure procurement

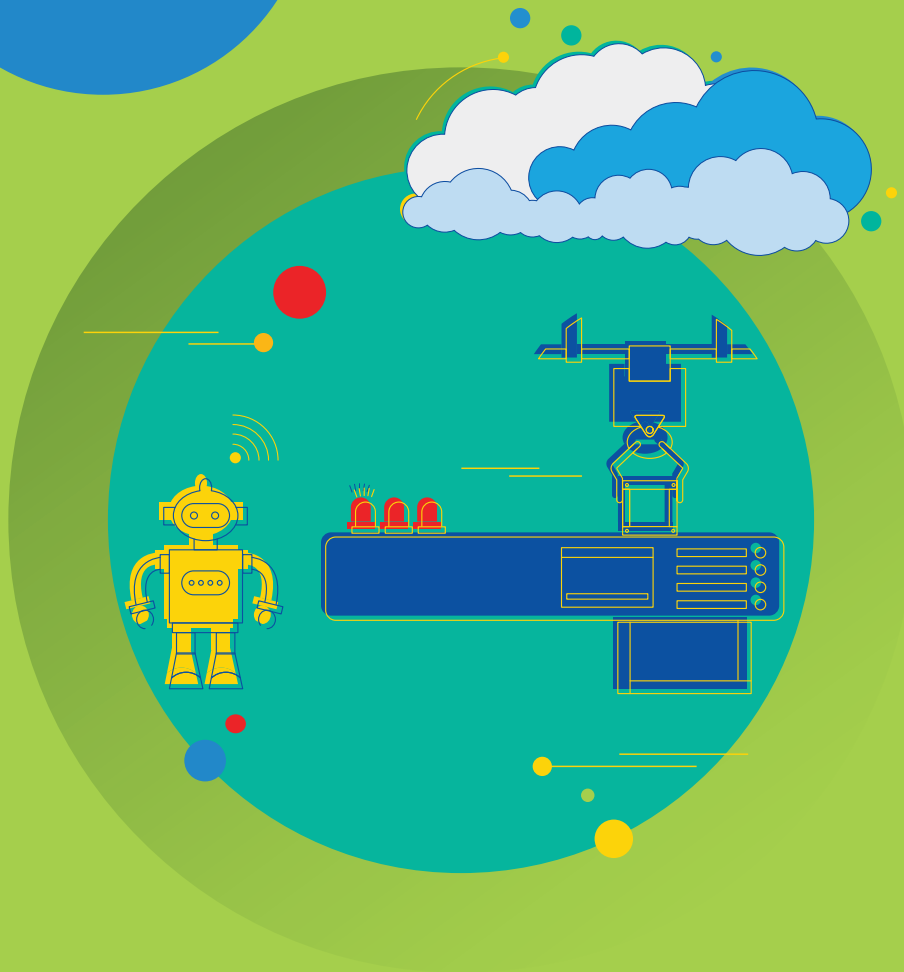
### The Wipro impact

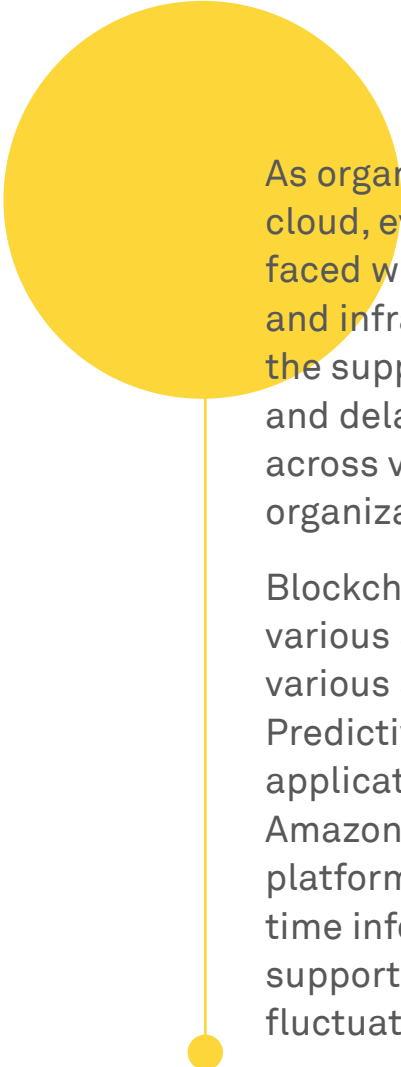
Built the Cloud strategy blueprint with a clearly defined execution roadmap

Created app groups, Identified target cloud environments

Accelerated client's cloud journey by providing a clearly executable roadmap within 8 weeks

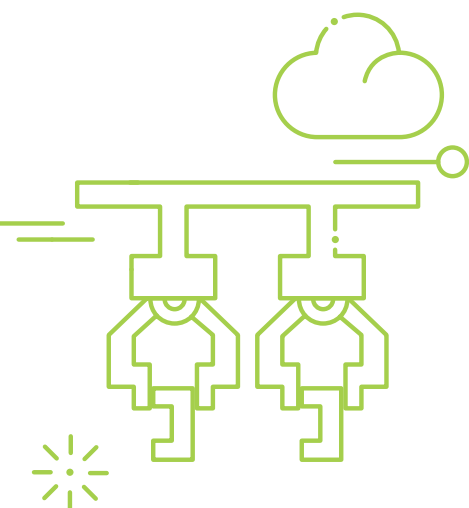
Powering  
your business,  
the cloud way

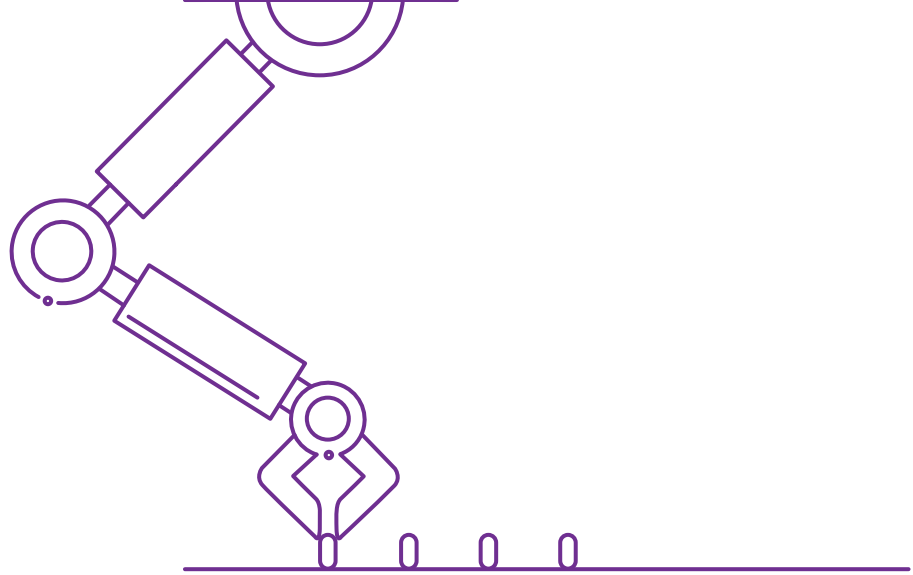




As organizations move more of their applications to cloud, even with greater adoption of 5G, they are faced with increasing challenges in cybersecurity and infrastructure utilization. An avenue to keeping the supply chain secure and ensuring disruptions and delays are minimal is to use SaaS products across various critical functions that support the organization.

Blockchain technology will help unite the data from various stakeholders and encapsulate them from various sources into one universal data structure. Predictive analytics using AI and enterprise applications like SAP, Oracle, Adobe, and others like Amazon and Microsoft -- used on an integrated platform -- can ensure secure, seamless, and real time information flow across business functions. This supports critical and quick decision making amidst fluctuating market demands.





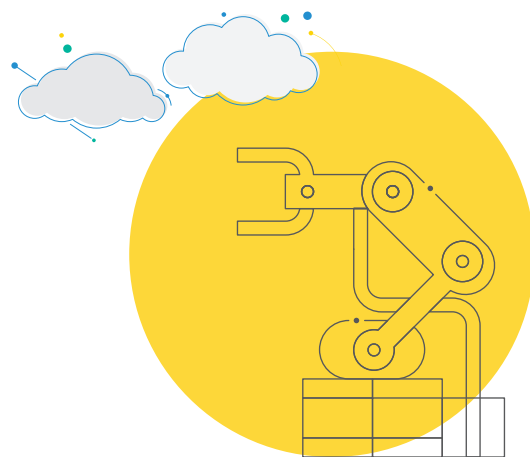
## This Dutch oil & gas MNC saved \$1 million in annual costs by migrating to cloud

IT represents an important part of total spending – 5 percent or more in some industries – and IT infrastructure cost accounts for a significant percentage of that value.

This Anglo-Dutch Oil & Gas MNC engaged with Wipro to help drive agility, reduce IT costs, and set up Cloud Brokerage Platform for AWS, Azure, and Force.com through cloud migration.

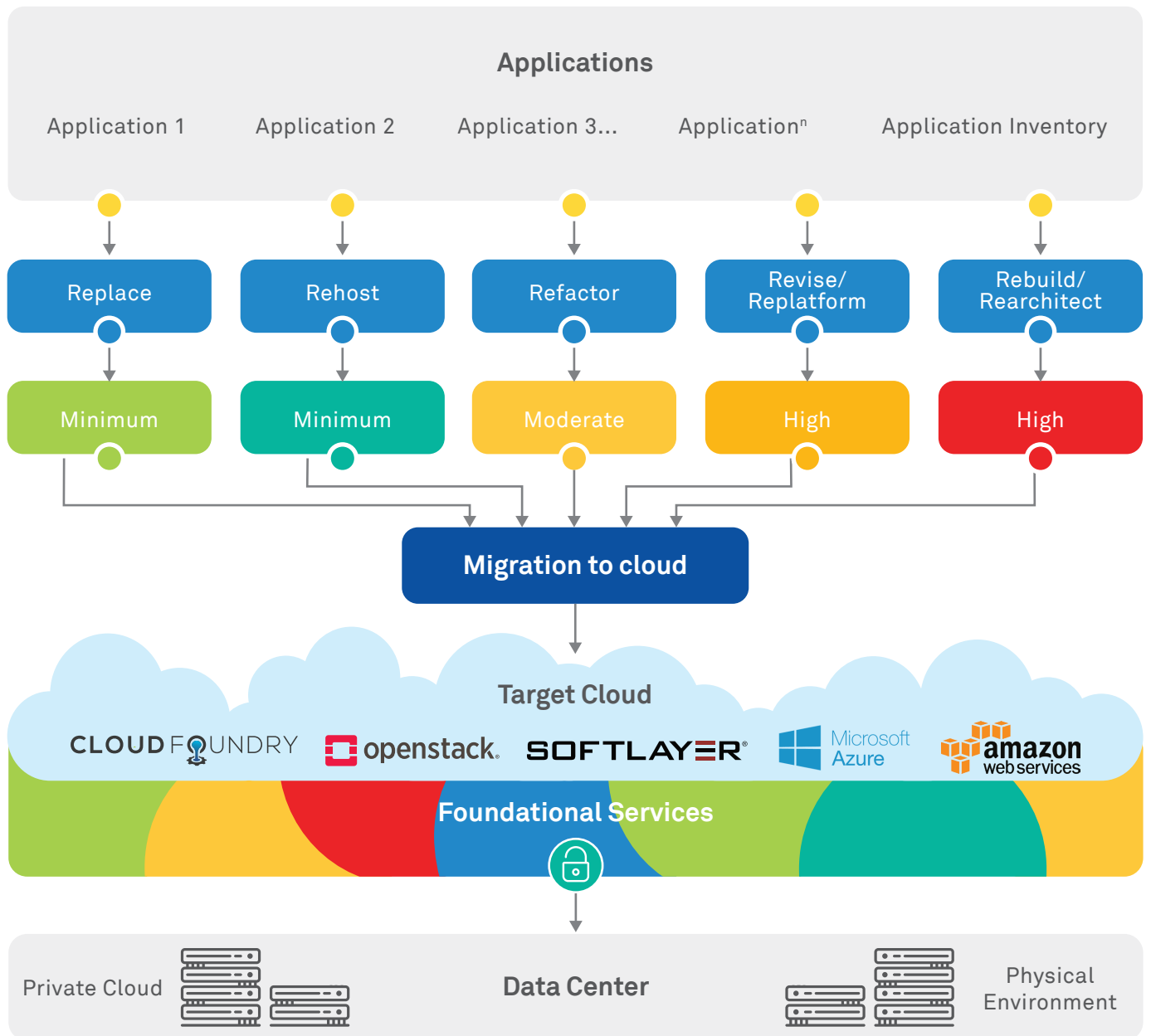
Wipro set up Cloud CoE to bring in best practices and governance, helping the client devise and enforce cloud adoption policies -- Public Cloud First. Wipro also established a Cloud Acceleration Centre to accelerate public cloud migration through cookbooks and SOPs, and we focused on IT-as-a-Service Model on a self-service catalogue.

The engagement resulted in \$1 Million in annual savings through best-fit hosting strategy, as well as reduced provisioning time from weeks to few hours. It also brought Variabilization to the client's infra, wrapped within ITILv3 compliant processes.



# Understanding different migration paths

Here's an illustration on how to create an effective migration plan.



## Replace (SaaS)

Move application functionality with SaaS business processes

## Rehost (Lift & Shift)

Similar source and destination platforms, which require minimal changes

## Refactor (Cloud Adoptive)

Requires changes in application codes & database services to work in cloud environment

## Revise/ Re-platform (Modernize and Lift & Shift)

Requires legacy modernization and re-platforming (for OS & database upgrade)

## Rebuild / Rearchitect (Native)

Rebuild solution using PaaS & Cloud native services

Determining which cloud service model to adopt can get confusing. Keep these points in mind to simplify decision making:

- **IaaS is a good fit for VM infrastructure, both SQL and NoSQL database, as well as custom applications built on open source platforms**
- **Web apps, mobile or IoT app back ends, custom Java, and other business applications are good targets for migration to platform as a service (PaaS)**
- **SaaS choices favor line-of-business systems, such as CRM and ERP, as well as productivity communication, and collaboration services**

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## Executing a successful migration

Migrating to a new system can be challenging, especially if handled without a suitable framework.

At Wipro, we offer end-to-end migration services across all cloud platforms and IoT devices. We have access to one of the richest partner ecosystems in the cloud industry, and that helps us create true value at the intersection of digital, IoT, and manufacturing. Additionally, we offer a full suite of IaaS, PaaS, and SaaS services to ensure your manufacturing operations stay 'always on' while embracing total digital transformation.

As an extension, our business-process-as-a-service covers the entire business cycle from procurement and workforce management to marketing and eCommerce management.

With all migrations, speed and error-free processes are critical to maximizing your ROI. We leverage Wipro's proprietary frameworks and accelerators for a quick, seamless, low cost, and successful cloud migration, regardless of your operational complexity.

### An American multinational conglomerate drives transformation with Office 365

#### The client problem

The client needed a strong Microsoft partner to migrate their mailboxes from Exchange to Office 365, while supporting their digital transformation

#### The Wipro impact

155,000 mailboxes migrated

93%+ success rate

20% reduced operational cost

Service availability increased to 99.99%

Internal customer satisfaction rate of 87%

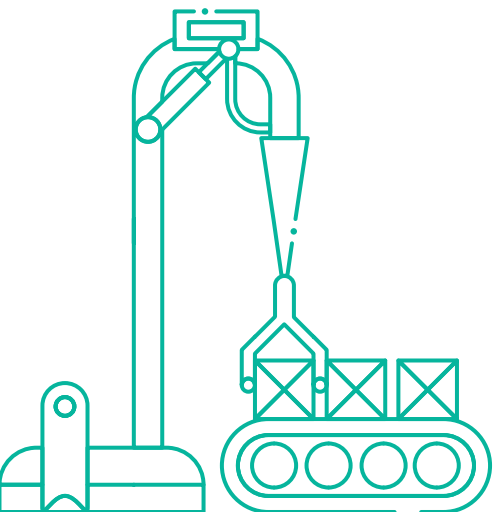
**Integrate  
to be future  
ready**



“ Autonomous vehicles with intelligent technology and services will create new business models which will require huge data integration. A scalable cloud platform is the future supporting business continuity and innovation in automobile industry. ”

**Dharam Sheoran**

Business Head- Automotive Vertical

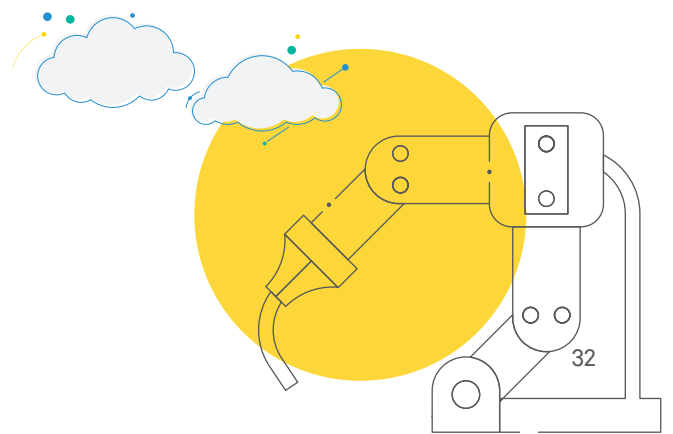




Implementing the right cloud operations tools is imperative for ensuring security, compliance, network connectivity, and technical support. It also helps track operational costs, storage solutions, and other IT operations.

## Any tool designed to support cloud operations should meet the following basic criteria:

<b>Integration</b>	Should be capable of integrating multi-cloud platforms (Public, Private, Hybrid cloud) with enterprise-level customizations
<b>Enterprise management</b>	Should rely on existing enterprise systems to provide capabilities such as incident management, configuration management, and asset management
<b>Automation services</b>	Should be capable of simplifying resource management by automating repetitive tasks and services
<b>Port usability &amp; availability</b>	Should enable self-service and be configurable and accessible via web browsers and mobile devices
<b>Service monitoring</b>	Should provide monitoring and reporting for all managed cloud services
<b>Metering</b>	Should collect cloud resources and service usage statistics
<b>Orchestration</b>	Should have the ability to automate processes needed to manage cloud resources
<b>Provisioning</b>	Should simplify provisioning and de-provisioning of cloud resources via appropriate automation tools



## Accelerating integration and operations

At Wipro, we aim to bring greater intelligence to manufacturing operations through digital approach, connected systems, real time data, and automation tools to drive the future of manufacturing.

A well-executed migration paves the way toward full integration and renewed profitable operations.

Wipro Cloud Managed Services offers manufacturers best-in-class administrative and monitoring capabilities over their cloud infrastructure.

The service is designed to streamline operational expenditure and improve the resiliency of your enterprise's IT landscape while delivering a set of unique offerings.

- **BoundaryLess DataCenter™ (BLDC)**

An enterprise-wide ITaaS platform that creates an agile, intelligent, hybrid infrastructure providing global businesses with cloud datacenter services that are responsive to dynamic workloads, drive outcome-based financial management, and enable agility and scale.

- **ServiceNXT™**

A battle-tested framework to further improve business - IT alignment, operational resiliency and cost-savings.

- **HOLMES™**

Wipro's proprietary cognitive automation platform that analyzes real-time data from hundreds of devices to power preventive maintenance and RPA, while improving operational efficiency.

### Tech giant streamlines service delivery

#### The client problem

A Fortune 500 tech company needed to automate and consolidate its infrastructure and processes to overcome operational challenges such as poor resolution time, resulting from a large IT landscape and extensive manual intervention

#### The Wipro impact

41% workload automated, and 11,497 man-hours saved per month

100% reduction in service resolution time

30% of service requests fulfilled by catalogs

Reduction in service restart cycle time from 8.5 hours to just 6 minutes

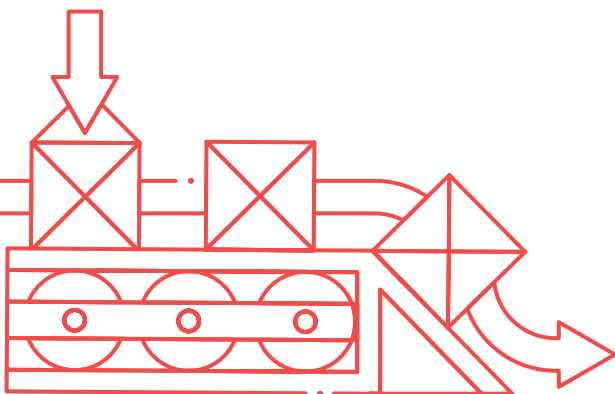
Are you  
ready to take  
the leap?



“Manufacturers must shift the focus back to connecting business-level cloud strategy with implementation and migration plans. Only then can they truly unlock the value of cloud for their business.”

**Ashish Saxena**

Vice President and Business Head,  
Manufacturing, North America, Wipro



## Leverage cloud to accelerate adoption of the next wave of technologies

The enormous cloud computing power coupled with the possibility of instant response will enable intelligence to be available (on demand) to anyone, anywhere. This easy access to computing resources is sure to give birth to exciting new possibilities. Technologies that are currently in a budding stage will soon formulate operating models fueled by inexhaustible cloud-based resources.

Cloud will soon be a business-as-normal activity, and disruptive technologies will enable the majority of functionalities on its foundation. As of now,

movement towards a “cloud-related” vision of manufacturing is already established, and advanced technologies are now being embedded across the value chain.

From 3D printing to high-performance computing (HPC), industrial robots, new interactive services, and much more, cloud will allow manufacturers to leverage a diversified mix of production systems. The cherry on top? It even democratizes access to and use of these technologies by manufacturers.

### With cloud, you harvest benefits of all kinds

#### Scalability

Cloud mitigates failure/incapability of existing data centers to meet the service demands posed by digital initiatives owing to their fixed design and operations economics.

Cloud-based blockchain solutions take away the complexities involved in enterprise-grade applications. It is scalable, easily integrated, and it ensures secure access to the application.

IoT programs can benefit from the on-demand, elastic, high-performance characteristics of the cloud.

#### Agility

#### Platform for collaboration

With cloud, you can lower your cost of experimentation, play with technology without worrying about underlying infrastructure, and scale with a single click.

Cloud also overcomes the challenges of AI implementation – data labeling for consumption, lack of computing capabilities, and lack of skilled resources to build and deploy AI.

#### Access to new technology

Today, manufacturers face rising pressure to cut costs while churning out high-quality products within increasingly shorter production cycles. Cloud services, when adopted and implemented correctly, can help manufacturers adapt and innovate in the face of these challenges.

A cloud partner that is dedicated to understanding your business and orchestrating your cloud

transformation in tandem with your stakeholders and key business priorities is crucial to a smooth transition to Industry 4.0.

To help you work better with your cloud provider, we have put together an assessment to help you determine your manufacturing cloud maturity.

## Answer these simple questions to discover your organization's affinity for cloud as the next big step

Are more than 50% of your applications running on the cloud?	YES	NO
Are your cloud workloads managed via automation and well-defined orchestration capabilities?	YES	NO
Do you have an integrated view of your cloud workloads to monitor availability, security, and performance?	YES	NO
Does your organization integrate complex business processes using more than one cloud service?	YES	NO
Do you have a streamlined process to communicate cloud service consumption charge to individual business units?	YES	NO
Do you have a process or methodology to calculate the economic benefit of all deployed cloud services?	YES	NO
Do you have a dedicated cloud architecture and policy team or role within your organization?	YES	NO
Do you have a cloud adoption strategy that includes all aspects of cloud transformation from implementation to security to decommissioning?	YES	NO
Does your organization have an Identity Access Management platform for cloud tools, data, and service interfaces?	YES	NO

Do you have a process in place to regularly patch and update cloud applications?	YES	NO
Do you have a documented cloud governance policy in place?	YES	NO
Do you have a training program or strategy that is specific to usage of cloud services?	YES	NO
Do you have a cloud CoE to improve adoption, impact, agility, and user skill-sets?	YES	NO

*Based on the number of questions you answered ‘Yes’ to, use the scoring key below to rate yourself on your cloud maturity levels. Each ‘Yes’ counts as 1 point.*

## Scoring key

- **Level 1 - Experimental (1 to 4 points)**

You’re at the beginning of onboarding with cloud but have not integrated the technology to a point where it will begin to create real business impact. Largely, you use cloud for ad-hoc functions and do not have a governance strategy or policy in place.

- **Level 2 - Structured (5 to 8 points)**

Your organization has a robust cloud service footprint but is only leveraging cloud in low-risk operational sectors. Cloud adoption is slowly lowering costs and improving business efficiency, and you are keen on moving more complex, high-value workloads to the cloud.

- **Level 3 - Integrated (8 to 11 points)**

You have a well-defined cloud strategy that is built on powerful governance policies and have the capabilities to build and deploy new cloud skills, as they become necessary. You may not have a highly developed CoE, but you have mastered the art of orchestration tooling, measuring cloud impact and have competent support service structures in place.

- **Level 4 - Optimal (12+ points)**

Your organization has truly embraced the cloud-first approach to business and operates with defined standards, support structures, operational toolsets, and KPIs mapped to specific business processes. As a leader in using cloud for business you are also well aware of the ecosystem and emerging skillsets required to stay relevant in the cloud landscape.

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Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have a dedicated workforce of over 170,000, serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

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