





Machine-as-a-Service for Industrial Manufacturing





MACHINE-AS-A-SERVICE

THE INDUSTRY IS EXPERIENCING A SHIFT IN BUSINESS MODEL FROM PRODUCT-BASED OFFERING TO PERFORMANCE-BASED OFFERING

The shift towards a new business model

TRADITIONAL PURCHASE	TRADITIONAL LEASE	NEW IIoT, Analytics, Cloud	NEXT 5G, Cybersecurity, Blockchain
 <p>Make-Sell-Ship</p> <ul style="list-style-type: none"> Product owned by the customer Customers served basis the contracts/annual AMC 	 <p>Usage-based</p> <ul style="list-style-type: none"> Products owned by OEMs, allowed continuous customer connect and revenue stream Subscription-based, shared economy, and pay-per-use fall into this category. 	 <p>Product-based</p> <ul style="list-style-type: none"> Products may or may not be owned by customer, and the services are sold separately. Models such as after-sales services, condition monitoring, predictive maintenance etc. fall in this category. 	 <p>Outcome-based</p> <ul style="list-style-type: none"> OEMs deliver value to customers by supporting their KPIs like reducing lead times and costs or increasing efficiency etc. OEMs are paid when pre-defined outcomes are achieved.

Challenges

 <ul style="list-style-type: none"> Heavy Capex, MSMEs could not participate The need for CAPEX to OPEX shift caused a shift towards usage-based model. 	 <ul style="list-style-type: none"> Productivity, asset health and process control remained a challenge. IIoT, Big Data and advanced analytical models paved the way for a product-based model. 	 <ul style="list-style-type: none"> Tomorrow's customer wants to pay for performance → Outcome-As-A-Service OEMs need a trust architecture enabled by 5G, cybersecurity and Blockchain. 	 <ul style="list-style-type: none"> Data reliability needed for trust-based business model. Requires careful digital roadmap planning and enablement of digital platforms and skill sets to create a win-win for all the stakeholders.
---	--	--	---

"Around 87% of industrial manufacturing OEMs acknowledge that the shift from product-based to service-based business models is the key trend impacting their industry. While 69% acknowledge that not investing in intelligent products and services would constitute a serious risk of loss of market share/competitive advantage."





Capgemini Research Institute, Sep'22

MACHINE-AS-A-SERVICE




WITH THE ADVENT OF CONNECTIVITY ENABLED BY 5G AND IIOT, THIS SHIFT IS BEING ACCELERATED AND AS-A-SERVICE MODEL IS GETTING PROMINENCE

Emergence of IIoT and as-a-service models

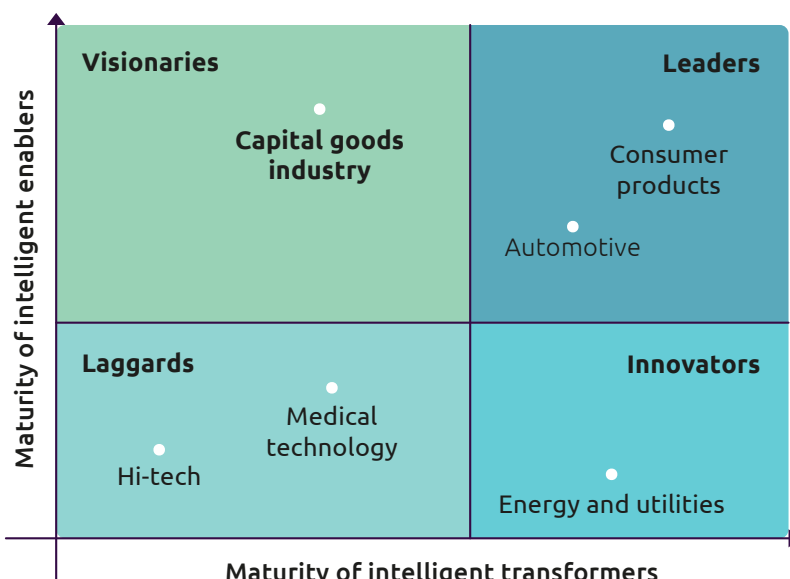
GROWTH DRIVERS AND ENABLERS

-  **Falling Cost of Sensors**
-  **Reduced cost of data storage**
-  **Enhanced connectivity enabled via 5G**
-  **Exponential Increase in IIoT spending**

AND THE GROWTH POTENTIAL ...

-  Emergence of product-as-a-service models such as after-sales service, condition monitoring, predictive maintenance
-  Real-time machine health insights
-  Continuous revenue flow and inclusion of MSME in the ecosystem

- According to a Capgemini survey, **less than 10%** of organizations are mature in building and implementing intelligent products and services.
- Industrial and capital goods sector **has a strong vision, strategy, and collaborative culture**, but lacks the necessary tools and technology to develop the intelligent portfolio.



Source: Capgemini Research Institute, Intelligent products and services survey, April-May 2022, N=1,000 respondents from unique organizations that have or are currently building visions and strategies for a move to intelligent products and services.

"Fast movers who were able to scale fast were able to acknowledge the benefits of reduced environmental impact, increased customer loyalty and satisfaction, greater efficiency and reduced total cost of ownership."

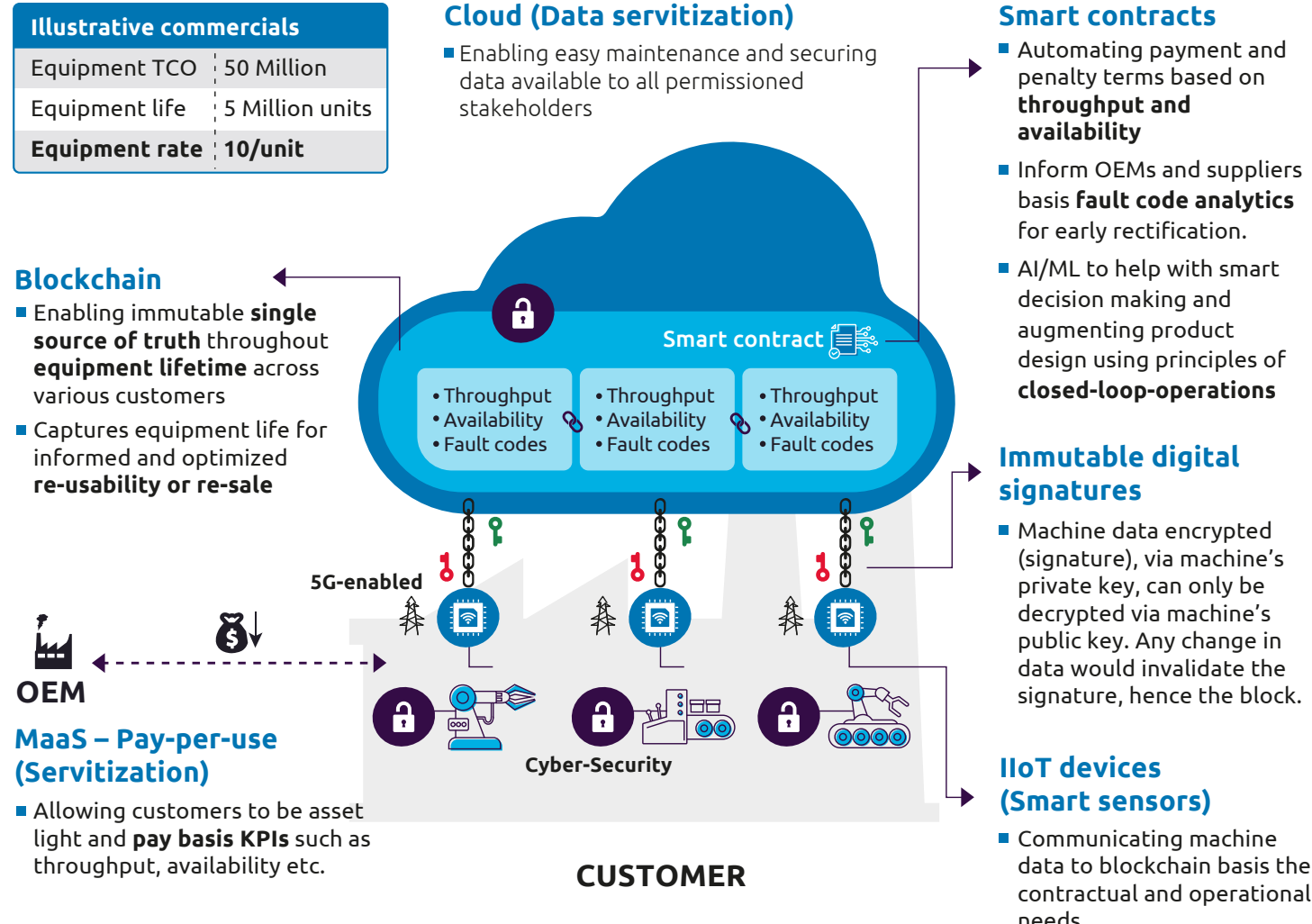
Capgemini Research Institute, Sep'22

MACHINE-AS-A-SERVICE

LARGELY THE IT-OT CONVERGENCE AND ADVANCED DIGITAL TECHNOLOGIES WILL SHAPE THE AS-A-SERVICE TARGET MODEL

MaaS – target picture

... enabled via convergence of multiple digital technologies like Blockchain, cyber-security, IoT, AI/ML, 5G, and Cloud services



"Servitization is all about manufacturing business responding to the shift in society's appetite for services over products. And not just services, but services that provide outcomes."

Professor Tim Baines, Director of Advanced Services Group at Aston Business School

CONTACT US



Vikas Kumar
vikas.g.kumar@capgemini.com

Ashish Sharma
ashish.c.sharma@capgemini.com