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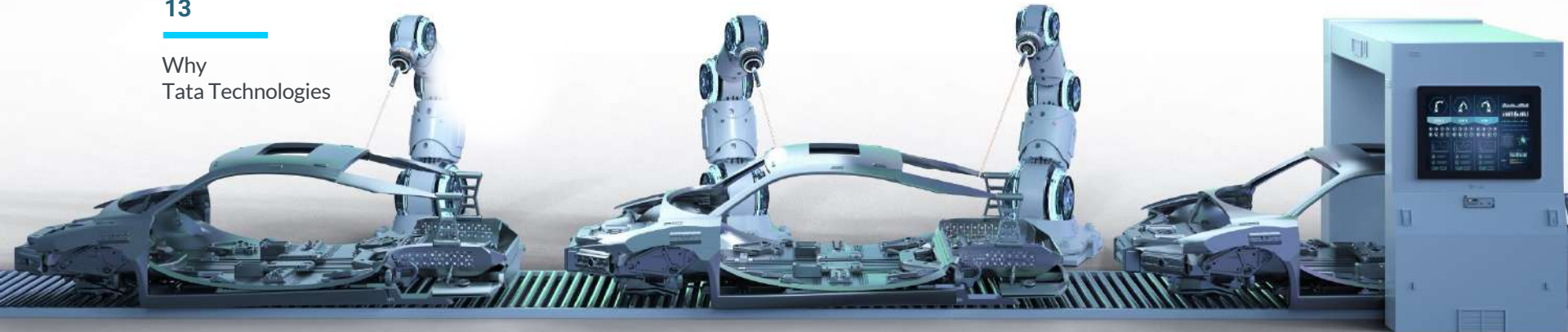
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Why Tata Technologies



# Bridging the transition from engineering to smart engineering through digitization

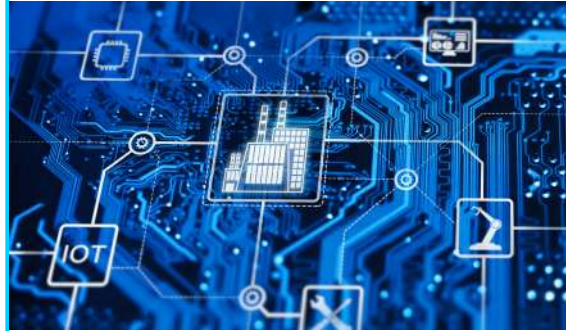
Digital integration is rapidly driving the traditional industry towards the visions of Industry 4.0.

## THE TIMES OF INDIA



Factories are developing flexible systems that can integrate new technology with old machinery into existing spaces.

OPEN  
GOV



China plans to speed up integration of digital and real economies for the nation's industrial development until 2025

## DAULATGURU



The global smart factory expected to expand at a CAGR of 9.22% during 2019 – 2024

VentureBeat



BMW uses Nvidia's Omniverse to simulate manufacturing operations

BREAKING  
DEFENSE



Digital systems integration makes future vertical lift more capable and affordable for the Army

IT CIO.com



Technological convergence and integration are key to moving towards Industry 4.0

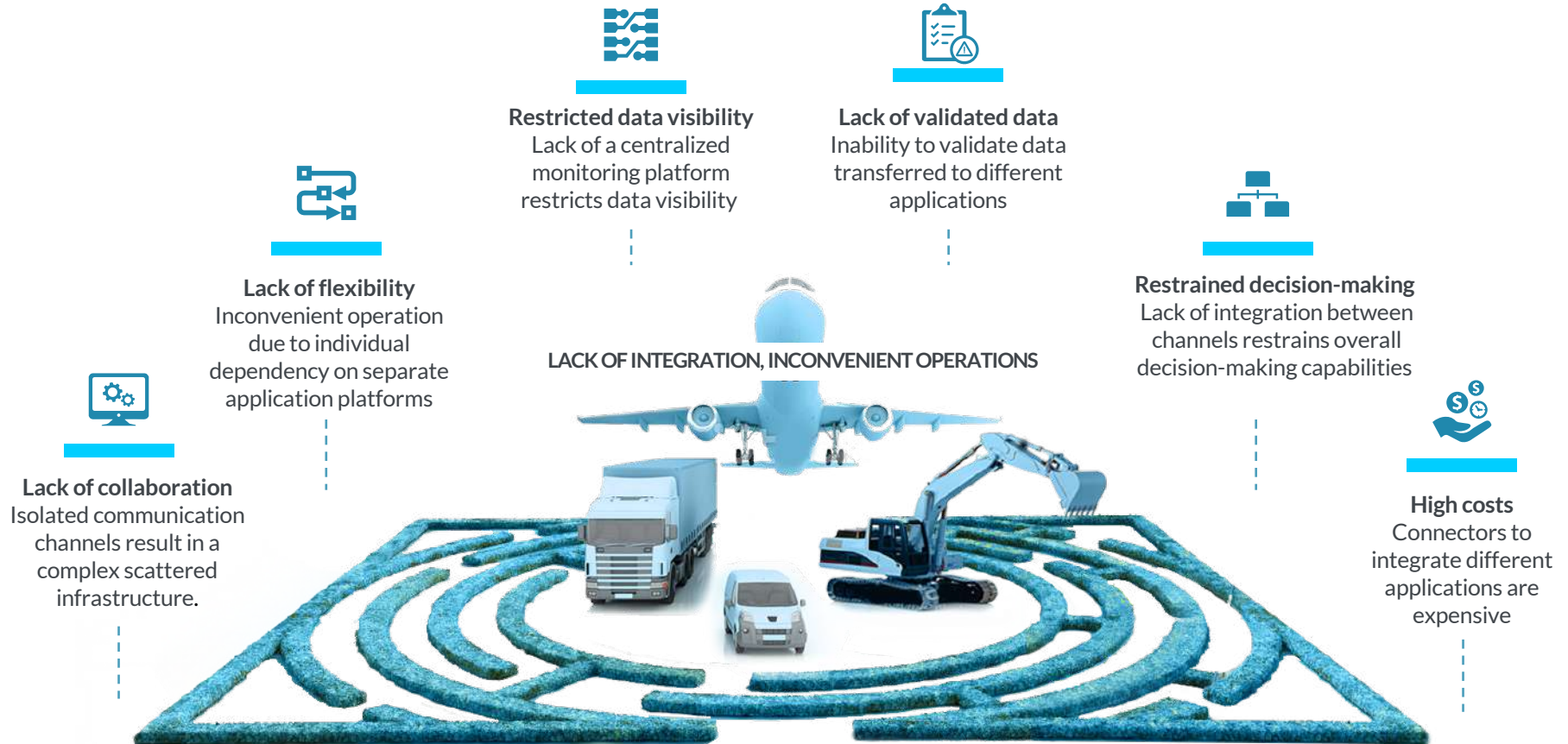
SB



Integration technology can improve resiliency, sustainability in supply chain management

# Eliminate integration challenges to accelerate the transition towards a smart factory

There are a host of dedicated application-specific engineering & manufacturing automation technologies, which can be configured whenever required but rarely any centralized integrated system that unifies these technologies on a single platform.





# Integration is integral

Technological integration & convergence is a key step in the realization of Industry 4.0.

## Desired Solution



A centralized integrated solution comprising all the PLM, ERP, MES & telematics tools on one universal platform



Visualization of the pre-defined attribute mappings for PLM-MES, PLM-ERP, MES-ERP and vice-versa



Seamless and event-driven transfer of data, whether automatic or manual



An interface that will not store any data in any intermediate stage after the data exchange is initiated

## Potential Benefits



Convenient, integrated system structure to manage engineering & manufacturing processes with minimum configuration; ease of maintenance



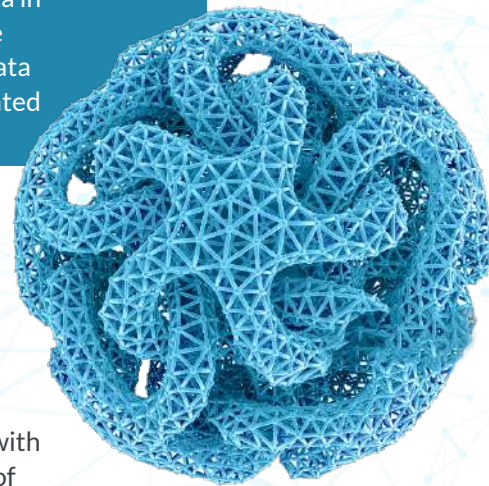
Better data visibility leading to prior and detailed understanding of customer requirements and expectations



Ease of operability due to easy exchange of data and presence of a neutral platform, enabling convenient tracking of performance

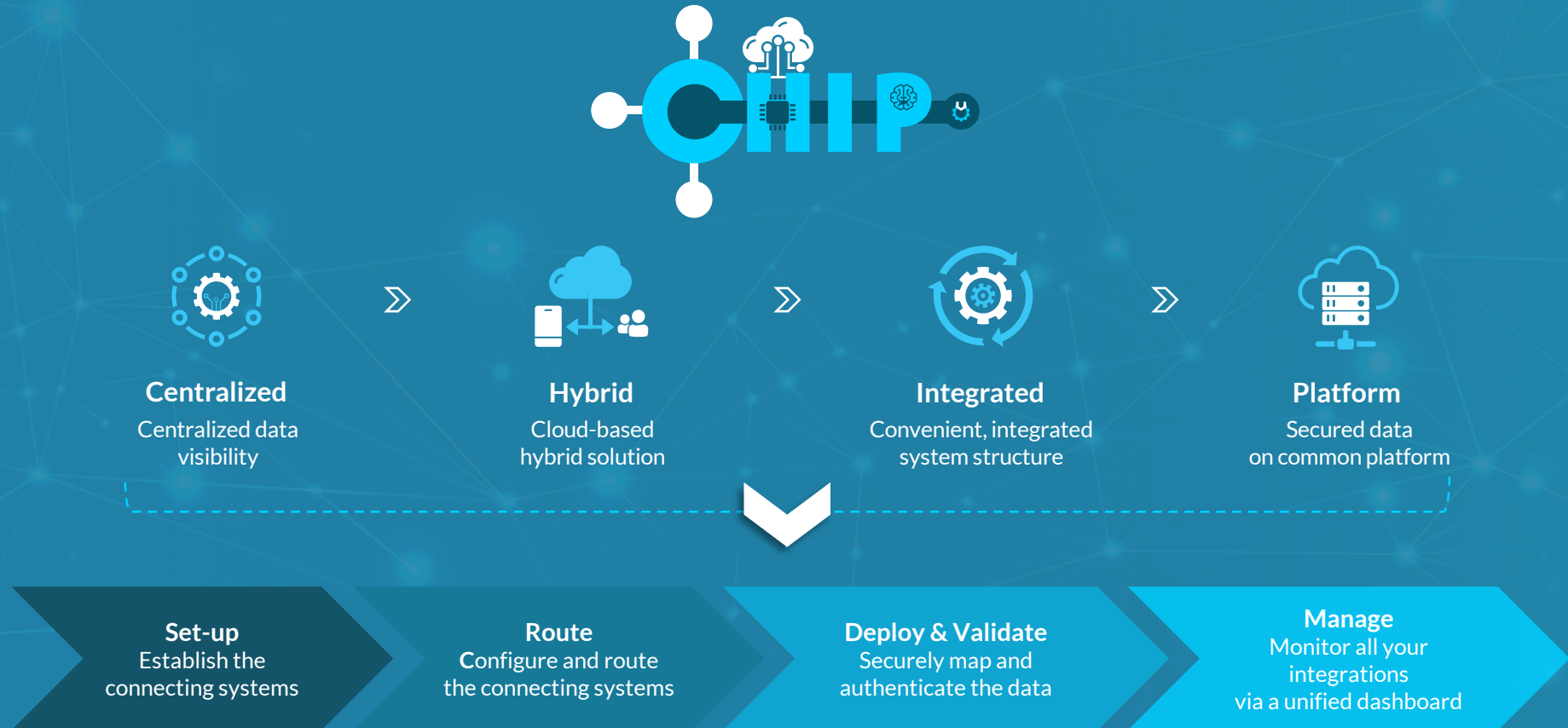


Secured & validated data with a single source of truth

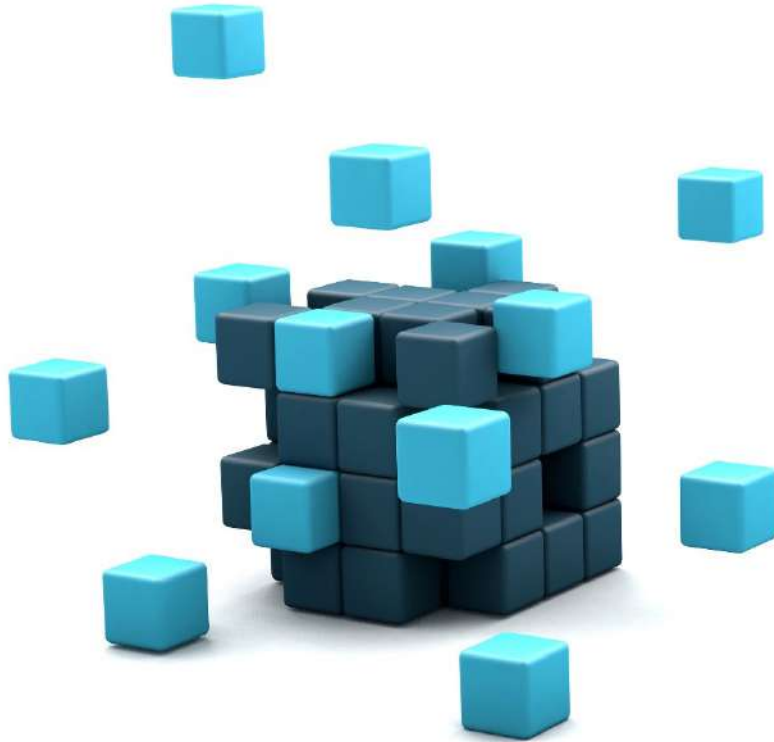


# Presenting Tata Technologies – CHIP, a lean integration factory approach

Tata Technologies' CHIP is an enterprise hybrid integration ecosystem to connect and map applications, data, and devices in the cloud and on-premises on a unified, extensible platform for achieving accelerated delivery, improved operational collaboration, and engaging user experiences.



# Connect anything, anytime, anywhere



Tata Technologies CHIP model involves a flexible and secured integration ecosystem, powered by a seamless admin user interface, that makes it easy to use, install, maintain, and synchronize trusted data.



First-of-its-kind  
seamless admin  
user interface



Visual mapping  
capability



Ready-to-deploy  
with minimal  
configuration



On cloud or  
on-premise  
operability



Easy to use  
& install



Easy  
maintenance  
and reusability

# End-to-end connected loop for more responsive and agile integration processes

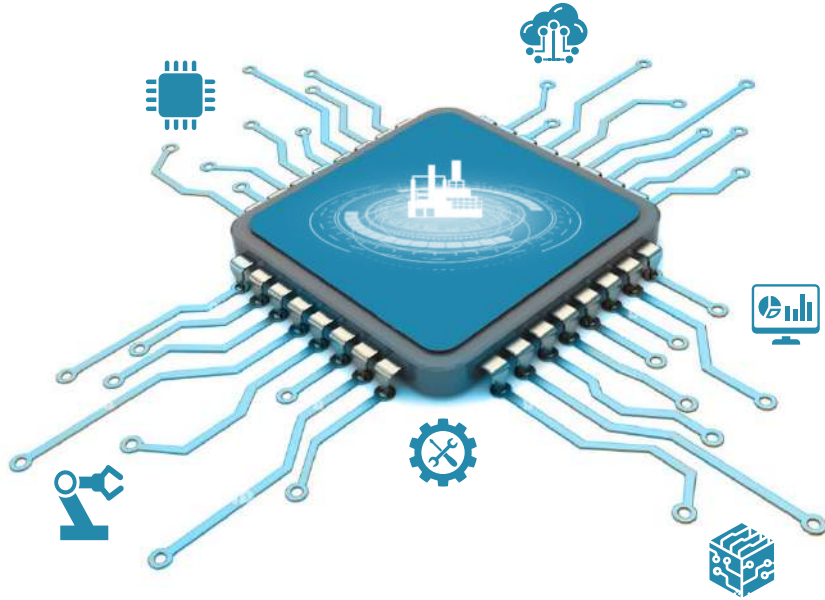
Empower your decision-making and business strategies with end-to-end data visibility that helps streamline product delivery cycles, eliminate redundant manual processes, and elevate customer experience.





# Streamline production, fast-track delivery, and improve automation capabilities

Accelerate your business transformation journey with the integrated digital CHIP ecosystem.



## Secured data

Automated security and threat protection at every layer

## Better flexibility

Hybrid (on-premise + cloud) solution that can be easily accessed anytime, anywhere

## Reduction in time & costs

Easy-to-use centralized platform saves substantial time & costs by minimizing disruption

## Reduced time to market

Integrated channels & agile automation help accelerate delivery

## Higher efficiency & reduced risk

Easy to drag and drop visual functions helps increase efficiency and reduces errors

## Improved decision-making & insights

Real-time data visibility across multiple systems improves decision-making

# Tata Technologies is poised to accelerate your digital transformation journey through CHIP

With end-to-end integration capabilities, we are well-equipped to transform your digital engineering journey through the implementation of the CHIP ecosystem



We combine technology and system integration skills...

...into centralized automation solutions that inspire the Smart Factory of the future.



## 360° integration capabilities

End-to-end capabilities in helping manufacturing organisations define and implement their PLM and NPI optimisation business case right from PLM-ERP-MES integration and business analytics to supply chain collaboration.



## Dedicated digital manufacturing skills

A dedicated team of engineers specializing in helping manufacturers link their ER&D and manufacturing functions, across the wider enterprise and supply chain



## Global Presence

With a presence virtually across all continents, helping organizations globally and across industries to connect, grow, and transform their engineering operations through digital integration



## Valuable Alliances

Valuable partnerships with some of the world's leading system integrators and technology innovators throughout the PLM-ERP-MES and digital services value chain for the manufacturing industry

# Powering digital integration capabilities across the globe

Our experience and achievements are a reflection of the value created by our CHIP ecosystem.

Facilitated real-time decision making on the shop floor with a flexible, build-to-order production process.



UK's largest automotive manufacturing business

- 100% visibility into orders and processes
- 10% improvement in productivity
- 90% build to schedule
- 10% improvement in quality

Improved end-to-end visibility for real-time decision making through tight integration of MES system with ERP and third party logistics software



Global market leader in the manufacture of industrial and portable compressors

- 95% reduction in WIP inventory (72 hours down to four)
- Improved production planning by 30%
- 100% improvement in visibility
- 10% improvement in productivity
- Reduced meeting time and TCO

Enabled manufacturing excellence through integration of manufacturing processes with SAP across three plants



India's largest automotive manufacturer

- Improved product quality (FSO)
- Improved vendor communication
- Reduced inventory
- Provided tracking for on-time delivery

Merged eight individual company operations into a single centralized entity by creating a common set of standards



Leading supplier of airflow management and water-deflection systems

- Developed a standardized, company-wide process
- Improved CAD data management
- Increased 3D data visibility
- Improved governance for all programs and projects

# Right time, right decision through real-time visibility into value chain

Tata Technologies, along with an associate custom-built an centralized integrated application to improve end-to-end visibility for real-time decision making.

## OBJECTIVE



A global player and market leader in manufacturing industrial and portable compressors sought a solution provider to streamline operations at two assembly plants.



## CHALLENGES

Develop system-driven integrated LEAN manufacturing processes

Tightly integrate system with ERP and third party logistics software

Reduce time spent in meetings by providing a single source of the truth

Improve quality, process adherence and production planning

Synchronize operations across the value chain through a single system

## SOLUTION



Custom extension built on our integration platform to provide an end-to-end solution that included both interfacing & integrating

Deployed a system across two flexible assembly plants for made-to-order products

Interfaced with multiple PLCs, barcode printers and scanners

Implemented order management

Provided real-time updates via reports, dashboard and email

# 95%

Reduction in WIP inventory  
(72 hours down to four)



Improved production planning by 30%



10% improvement in productivity



Reduced meeting time and TCO



100% improvement in visibility



# Why Tata Technologies

## Analyst Recognition ■■■■■



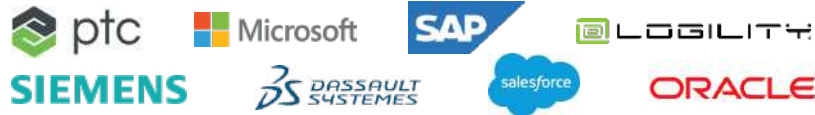
Digital Thread Service  
Ratings 2021



Tata Technologies has been positioned in the 'Leadership Zone' in the Zinnov Zones Global ER&D services report for four consecutive years. Zinnov has positioned Tata Technologies as 1st amongst all India-based Automotive ER&D ESPs for the second consecutive year. Zinnov also has positioned Tata Technologies as Global Leader in the Automotive ER&D, Aerospace ER&D, as well as Digital Thread services.

## Partner Ecosystem ■■■■■

Tata Technologies has forged extremely valuable alliances throughout the Product Engineering, Product Life Cycle Management and Digital Services for manufacturing industry. Simply put, the strength of our alliances helps you connect your business solutions to the needs of your customers. That's better for you, better for your customers. Tata Technologies is proud of our key alliances.



## Company of the Year 2020



## Industries Served ■■■■■



Automotive



Aerospace



Industrial Heavy  
Machinery



Industrials

## Commitment to Business Excellence ■■■■■

Tata Technologies has adopted the Tata Business Excellence Model (TBEM) as an organizational improvement methodology to achieve excellence in the way it runs its business and manages the operations. TBEM ensures focus on critical aspects of the business including Leadership, Strategy, Customer, Workforce and Processes and these are assessed for process maturity as well as competitive outcomes that they deliver. The Company achieved a score of 553 in the last formally conducted TBEM assessment and was positioned under the 'Emerging Industry Leader' category. From Quality Management system perspective, the Company has adopted globally recognized standards across its key delivery centers to establish its enterprise-level Quality Management System(QMS) and Information Security Management System(ISMS).

AS 9100D | ISO 27001: 2013 | ISO 9001:2015

Reach out to us at [marketing@tatatechnologies.com](mailto:marketing@tatatechnologies.com)  
to learn more about **CHIP** ecosystem

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 Engineering a *better world*

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