25 YEARS OF IES

Tech Mahindra

Engineering Your

NXT.NOW™

ACCELERATE | INVENT | TRANSFORM

#mynewIES | **Beyond Resilience**
Success Stories of New Digital Journeys

Connected World.
Connected Experiences.

Engineering Your NXT.NOW™

SHAPING TOMORROW'S EXPERIENCES 'NOW'

At Tech Mahindra Engineering, we believe the only way to define the future is to design it today. In the last decade, we have consistently emulated this vision into helping all our customer organizations reshape their digital future. **Our next step is to move to being future-ready with a brand new engineering approach.**

The vision for Tech Mahindra engineering is founded on the new digital economy considering emerging market trends like digital engineering, intelligent workplaces, adoption of tele-everything, end-to-end connected and immersive approach covering smart manufacturing and the need for an overall resilient business framework. We call this approach as Engineering Your NXT.NOW™

"The NXT.NOW™ strategy equips us to reimagine our customer's businesses and their future experiences—today."

Charting Digital Pathways

DIGITAL TECHNOLOGIES ARE THE WAY FORWARD

Individuals, organizations and economies the world over are on the recovery path. Amidst the many challenges, one certainty has emerged: digital technologies are the way forward. The importance of 'tech for business continuity' was clearly demonstrated post-COVID. From scientists using virtual reality (VR) platforms to collaborate on coronavirus research to internet of things (IoT)-enabled inventory management—these emerging technologies greatly accelerated productivity and automation.

At Tech Mahindra's Integrated Engineering Solutions (IES) perseverance is woven into the very fabric of our solutions. We strive to provide revolutionary products and solutions to our valued customers, at every step of the way. Our steadfast commitment to **Accelerate**, **Invent** and **Transform** our customers' business holds us accountable to be their pillars of strength even in times of disruption. When businesses were forced to rethink   strategies on how they SS

would service their customers or revamp their current technology stack; we offered our clientele the best solution to survive and transform.

We understood the critical role that technology plays in ensuring their success. Our support helped them redefine their functional structures, fast-track their digital adoption and leverage automation to drive profitability.

Under each pillar of Accelerate, Invent and Transform, we present to you interesting stories of how we have collaborated with our smorgasbord of clientele. Learn how we worked to the best of our ability and applied our products and solutions to drive success and growth for our customers.

We hope you enjoy reading these stories, as much as we enjoyed bringing acceleration, invention and transformation.

"Amidst the many challenges, one certainty has emerged: digital technologies are the way forward."

STEERING THROUGH THE GREAT RESET

SUCCESS WITH A DIGITAL-FIRST APPROACH

2020 saw significant changes in the dynamics of business operations and forced organizations to navigate through uncharted territories of workforce disruption, destabilized supply chains and impaired systems and processes. Businesses were influenced to shift their priorities to overcome these disproportionate effects. On their journey towards recovery and reinvention, a digital-first approach became the priority. The effective integration of upcoming technologies helped reinvent supply chains, bring autonomy in processes, and accelerate the digitization of operations.

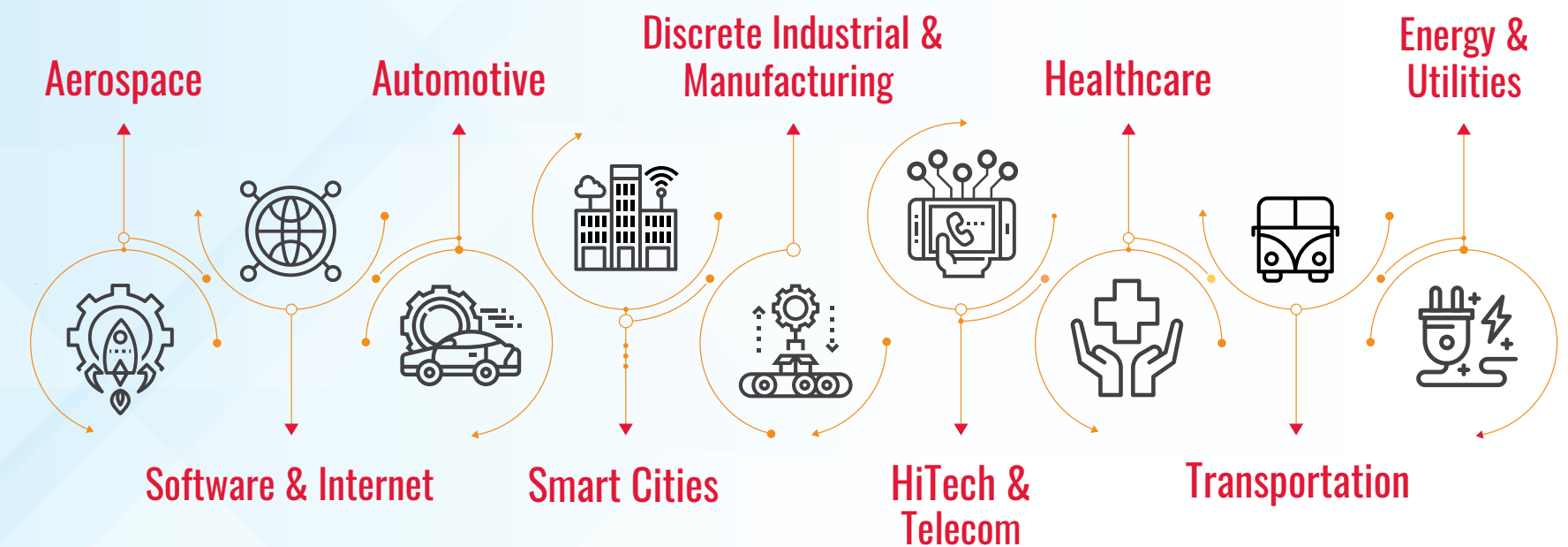Tech Mahindra's Integrated Engineering Solutions (IES) collaborated with clients from diverse industries to deliver technological solutions that have helped them steer through the great reset. Our aim is to turn massive challenges into meaningful change by integrating digital innovation and design thinking into our solutions that are geared towards sustainability. Our multi-disciplinary approach helps our clients imagine a new digital future by adopting advanced research and manufacturing technologies enabled with **artificial intelligence, machine learning, internet of things, advanced robotics, big data and so on.**

"The effective integration of upcoming technologies helped reinvent supply chains, bring autonomy in processes, and accelerate the digitization of operations."

Through our expertise, we helped create a positive impact across various business domains such as:

Aerospace   **Automotive**   **Discrete Industrial & Manufacturing**   **Healthcare**   **Energy & Utilities**

Software & Internet   **Smart Cities**   **HiTech & Telecom**   **Transportation**

For instance, we joined forces with clients from the aerospace, automotive and pharmaceutical industry to deploy disruptive technologies like predictive maintenance, automated driving and digital twin to provide real-time insights and build more resilient systems and processes. We helped our clients to streamline their current strategies and re-evaluate their priorities to operate seamlessly and grow exponentially.

We are continuously exploring new avenues to Accelerate, Invent and Transform the current pace of technological development. To ease digital integration for our clients, we are reinventing our game plan to promote additional flexibility and customization. As our clients seek to effect change in their respective sectors, we at Tech Mahindra's IES are ready to 'Rise' and define the new digital economy.

"We helped our clients to streamline their current strategies and re-evaluate their priorities to operate seamlessly and grow exponentially."

The New IES

NEW VISION, REDEFINED CAPABILITIES AND ENDLESS POSSIBILITIES

The engineering and R&D (ER&D) has been a constant driver of change in the world of technology, and in the process, is continuously revolutionizing the business space. Today's ER&D world is witness to several changes. There is an intense and immediate need for building modern products that are led by software innovation. This has also accelerated the requirement for more service-oriented business models to be a part of the economy. The digitalization and intelligence in engineering processes have not only led to advancements in manufacturing more efficient products and solutions but has also enhanced the need for efficiency and transparency of R&D expenditure.

These changes have created the need for strong partners who can deliver on key areas:

Maximize on the Existing
Driving efficiency and best practices in existing engineering programs and processes

Develop the Next
Building differentiated products and solutions for the future

Ace the Change
Adapt, adopt, and become adept at this dynamic change in the market

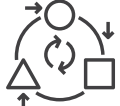"Today's ER&D world is witness to several changes."

To be efficient implementers of this change, and successfully address this emerging dynamic to drive successful collaboration with customers, Tech Mahindra's Integrated Engineering Solutions (IES) has formulated strategic pillars. Serving as a core structure for all our offerings, they address the key expectations of the enterprise.

Accelerate

Accelerating outcomes from existing engineering initiatives and investments of customers by applying the levers of efficiency, rigor, and productivity

Invent

Lead in **Invention** by partnering with customers to bring new engineering products and intellectual property (IP) to the market that creates the much needed competitive advantage and differentiation

Transform

Drive **Transformation** in enterprise business models in alignment with dynamic market requirements while traversing toward a smart, safe, and sustainable future

"Tech Mahindra's Integrated Engineering Solutions (IES) has formulated strategic pillars."

Engineering enterprises, supported by our differentiated capabilities, experiences and investments have reaped tangible value.

Robust Products

Engineering superior products and making them ecosystem-ready by fusing elements of connectivity and intelligence

Ubiquitous Platforms

Capitalizing on modern engineering practices and rising data volumes to enable mass-personalization and drive new business models

Cyber Factories

Enabling seamless cyber-physical integration for enhanced visibility, predictability, and productivity across factory operations

This approach has led to our customers experiencing exponential success —some of which we have captured in this case study compendium.

"Our customers have experienced success through the novel engineering solutions we offer."

ACCELERATE

INVENT

TRANSFORM

ACCELERATE

Businesses across the globe have had to rapidly evolve and enable digital integration across their business functions. Tech Mahindra IES powered this need for acceleration by engaging with clients across multiple disciplines to pivot business strategies and realign priorities. Whether it was identifying alternate sourcing that reduced costs, improving asset utilization through predictive maintenance, or leveraging digital twin technology for fast-tracked vaccine production, we swiftly enabled our clients turn **agile, scalable and reliable**.

Discover our success stories over the next few pages

Rail

ACCELERATING RESILIENCE IN SUPPLY CHAIN SYSTEMS WITH HI QUALITY ENGINEERING

PROJECT OVERVIEW
Tech Mahindra collaborated with a European locomotive manufacturer to identify an alternative supplier for specialized locomotive components and enhance their supply chain competence.

PROBLEM
The European locomotive manufacturer specializing in the manufacturing of bogie components was sourcing parts from APAC. They required alternative potential suppliers who could sustain their supply chain value while reducing logistics time and minimizing cost.

TECH MAHINDRA SOLUTION
Tech Mahindra accelerated the process of identifying alternate sourcing options from India. The vendor identification and development procedure was completed in 1.5 years. Through the effective mapping of critical logistics nodes, routes and transportation, a steady supply of 7500 steel casting components and 195 critical locomotive components was ensured.

THREE PHASE PROCESS
- Product Analysis
- Vendor Development
- Serial Production

Business Impact

- **15%** (upto) reduction in production cost
- **30** days reduction in average logistics time
- **4** new sources empaneled to the customer list
- **7** parts developed and transitioned
- **2** parts process initiated
- **2** parts in RFQ stage
- **De-risking** supply chain gaps
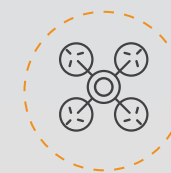
"Providing alternative sourcing of engineering successfully lessened the risk for any business impact while ensuring business continuity."

Aerospace

FAST-TRACKING AIRCRAFT OPERATIONAL EFFECTIVENESS THROUGH PREDICTIVE MAINTENANCE

PROJECT OVERVIEW

Tech Mahindra joined hands with an Italian aero parts supplier to provide a proactive approach to asset maintenance for job-feed automation system
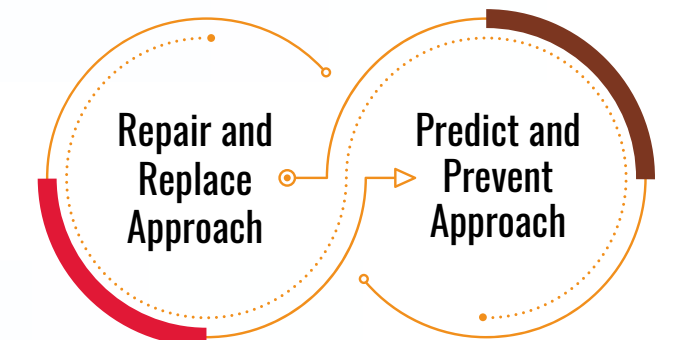
PROBLEM

Being a critical component in the manufacturing process and a single point of failure it was necessary to avoid unplanned downtime which could lead to performance inefficiencies and high spare parts cost, resulting in sub-optimum availability and Overall Equipment Effectiveness.

TECH MAHINDRA SOLUTION

The Tech Mahindra solution involved leveraging IoT and AI/ML analytics to accelerate the prediction of any failure in equipment or sub-component ahead of the actual failure. Predictive maintenance was achieved through:

- Machine and process assessment, which included KPI identification and selection of parameters
- Design, development and deployment of real-time monitoring solution in AWS private cloud which included machine connectivity and data collection, real-time process CTQ and Python-based machine learning (ML).

A PARADIGM SHIFT IN MAINTENANCE STRATEGY

Repair and Replace Approach

Predict and Prevent Approach

Business Impact

Significant reduction in unplanned downtime	Improvements in Asset Availability, OEE and Throughput	Enhanced scalability through Common Platform Solution across different plant

"Predictive maintenance brings significant reduction in unplanned downtime, amplifies asset utilization and improves scalability."

Pharmaceuticals

FACILITATING REAL-TIME MONITORING OF VACCINE PRODUCTION WITH DIGITAL TWIN

PROJECT OVERVIEW
Tech Mahindra collaborated with a UK-based pharma company to implement the Digital Twin model in their production setup to accelerate vaccine production.

PROBLEM
As a producer of Bio-Vaccines, it was imperative that there should be no variation of the process parameter from the golden batch. This required a comprehensive solution for real-time monitoring and prediction of drifts in process parameters to minimize errors and optimize vaccine production.

TECH MAHINDRA SOLUTION
Tech Mahindra deployed a unified digital twin solution to accele rate machine connectivity, real-time process parameter data extraction and IT-OT system integration which included:

- Design and development of interfaces, architecture and real-time alerts, notifications and visualization via 2-D representation
- Design, development and training of AI/ML models
- Deployment of analytics modules via an on-premise edge server for detection, forecasting and prediction of quality trends and drifts

Consulting-led approach

2-D representation of the process

Unified solution deployment

SOLUTION HIGHLIGHTS
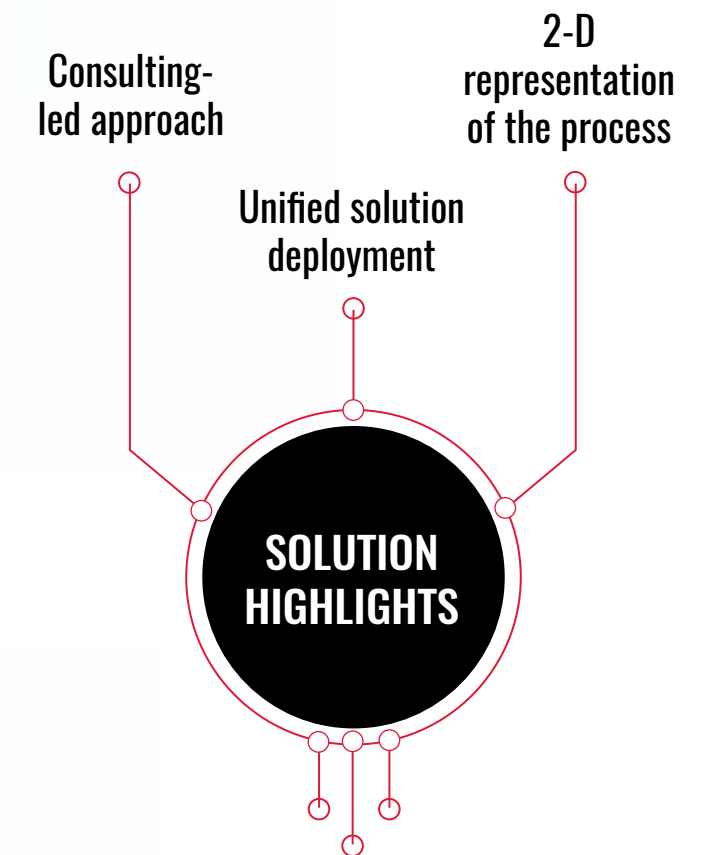
Business Impact

Reduction in batch rejection through corrective action, early detection and notification on drifting trends	Real-time actionable insights for process optimization	Improved consistency of product quality

"Improved real-time insights enable early detection of errors and overall process optimization."

Aerospace

"End-to-end aircraft health monitoring optimizes maintenance schedules in aircrafts and reduces overall operational costs."

MAXIMIZED UPTIME WITH AIRCRAFT HEALTH MAINTENANCE

PROJECT OVERVIEW

A North American Aero Original Equipment Manufacturer (OEM) required a holistic solution for Aircraft Health Management through digital integration.

PROBLEM

To optimize the rent paid to the airport operators while the flight is on the ground/gate, and reduce the delays in planned schedule, real-time collection and relaying of aircraft health information to the ground support systems was required.

TECH MAHINDRA SOLUTION

Tech Mahindra equipped the client with an Aircraft Health Management system to accelerate effective maintenance. This solution included:

- Real-time Fault Alerting through displaying the highest priority fault messages

- Consolidated Fault Dashboard which displays a combination of real-time data and historical data

- Fault Troubleshooting enabling ground crew to troubleshoot/ identify root cause in real-time as well in "offline" mode by studying the historical data for fault analysis

- Exclusion Management providing the option to exclude or ignore fault codes that occur in different flight phases

- Integration with third-party tools to enable effective troubleshooting

- Live Analysis of on-board data on AGSS supporting operational and business decision
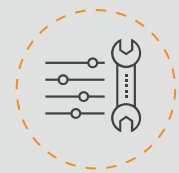
Business Impact

Minimization of operational costs

Reduced loss of revenue

Accelerated business decision making

Improved maintenance schedule

Telecommunications

"The launch of 5G MiFi device is accelerated through early detection of issues and timely delivery of software."

EXPEDITING 5G TECH SOLUTIONS

PROJECT OVERVIEW

Tech Mahindra provided engineering and certification services to accelerate the timely launch of the client's new 5G MiFi device.

PROBLEM

As a US-based original equipment manufacturer (OEM) delivering 5G and intelligent IoT device-to-cloud solutions, the client required strong technical support and coordination to launch their new MiFi device over t-mobile(TMO) and sprint carrier networks in the North American market.

TECH MAHINDRA SOLUTION

Tech Mahindra offered a bespoke solution which included the:

- Deploying significant automation practice across device functionalities
- Leveraging an in-house solution stacks for major features like orthogonal multiple access-demodulation implementation (OMA-DM)
- Driving existing test strategies for maximum test data re-use
- Developing a dedicated Program Management team for OEM & ODM interface
- Facilitating synergy between engineering and certification teams for pre-test, issue analysis and maturing solution

Business Impact

15% reduction in costs as compared to competitors	Timely delivery of fully functional software	Early detection of issues through AVL and Pre-cert labs testing

INVENT

As companies deal with various 'challenges' digital engineering solutions have come to the rescue by continuing to facilitate breakthrough solutions. By leveraging next-gen technologies, Tech Mahindra aims to eliminate bottlenecks by inventing NextGen products and solutions that are smart, scalable and sustainable. Some of our invention capabilities include—enabling end-to-end solutions in the automated driving and electric vehicles space and teaming up with clients from the Telecom and healthcare industry to deliver novel technologies and products which create a unique value proposition for their customers.

Discover our success stories over the next few pages

Healthcare

HIGH-QUALITY ENGINEERING SOLUTIONS FOR THE HEALTHCARE INDUSTRY

PROJECT OVERVIEW

Tech Mahindra helped engineer skin sensor modules to determine skin parameters that would help test the efficacy of skin moisturizers for cosmetic and skin research.

PROBLEM

Since the Healthcare industry uses the hydration index as an important rule of thumb to measure the efficacy of a moisturizer, there was a requirement to invent a smart instrument that would help in the formulation and testing of the hydration index of skincare products.

TECH MAHINDRA SOLUTION

Tech Mahindra developed a smart skin hydration sensor that measures skin parameters with the help of modern high-quality components and allows for a very quick reading of the hydrating properties. The sensor collects data through mobile applications (iOS and Android), and stores it on the cloud for further analytics. The integration with the mobile application makes it an easy-to-use instrument that guides users with clear and concise instructions.

Business Impact

3% improvement of accuracy of readings	Connected device that can be accessed on the mobile interface
1 second quick measurement time	Modular design
Instrument readings are not influenced by composition of the skin	One cap affordable replacement design

"Formulating Skin Sensor Modules to improve research and analysis for skincare products."

Telecommunications

INNOVATIVE IOT SOLUTIONS FOR A TELCOM MAJOR

PROJECT OVERVIEW

Tech Mahindra designed an exclusive, state-of-the-art IoT asset tracking solution for a telecom giant to enhance its ability to deliver high-value, scalable data-driven services for its enterprise customers.

PROBLEM

As a large telcom organization seeking growth opportunities in the rapidly changing landscape there was a requirement to build a bespoke IoT-based asset tracking solution that would allow for moving and fixed asset monitoring and vehicle tracking.

TECH MAHINDRA SOLUTION

Tech Mahindra devised and invented a customized IoT platform for the telcom giant with GTM services, managed services and custom IoT use case implementation. This would allow them to monitor, trace and track their assets.

" New business process creation **"**

Business Impact

Provided value added services for the telcom's various enterprise customers	Created newer revenue generation pathways	Developed a customized, scalable and reliable platform

"A revenue-generating, customized IoT platform for improved asset tracking."

Automotive

POWERING VEHICLE AUTONOMY THROUGH ADAS SOLUTION

PROJECT OVERVIEW
Tech Mahindra invented application software for Steering Control System by integrating intelligent drive control unit (IDCU), steering instruction control unit (SICU) and electric power steering (EPS) in conjunction controls of the vehicle steering system.

PROBLEM
The client required a Level 3 ADAS steering control system that would ensure autonomous steering control torque equivalent to the hand-wheel torque from the IDCU steering angle command.

TECH MAHINDRA SOLUTION
Tech Mahindra's custom-built ADAS software enabled Level-3 Autonomous Driving without driver intervention. This solution included:

- Model-based design using Matlab, MIL-SIL and Auto Code Generation using dSPACE TargetLink
- Development of steering wheel angle control (SAC) algorithms and based on adaptive state-feedback control system
- Diagnostic and fault monitoring functions for seamless switching between autonomous and manual modes

Business Impact

Improved vehicle dynamics with autonomous steering control and sensed steering angle	Deployed a seamless and flexible data management process	Optimized safety standard for automated driving

"Delivering purpose-built ADAS solution for Steering Control System for Level-3 Automated Driving."

Automotive

ELECTRIFYING SOCIAL MOBILITY THROUGH SMART EV DESIGN

PROJECT OVERVIEW

Tech Mahindra helped realize the client's vision of designing an ultra-mobility electric vehicle (EV) under the Japanese Government's "Society 5.0" initiative.

PROBLEM

The client required technical expertise to take the lead to invent from concept to reality—by designing, developing and implementing new-age OEM solutions—to address the evolving social mobility needs in Japan and the global market.

TECH MAHINDRA SOLUTION

Tech Mahindra provided and administered a comprehensive approach which included:

- **Seamless Product Engineering** with the help of an agile team with expertise in the automotive industry for quick development and faster turn around
- **Tailor-Made EV Solutions** for battery pack design and EV component availability
- **Unique Development Process** for new age OEMs and adaptation of available platforms for development
- **Unique Ecosystem** for leveraging Tech Mahindra Platforms

Business Impact

Strong entry in the Japanese EV market

Collaboration with Mahindra Electric for future expansion in the global market

Strategic sourcing for enhanced value proposition

End-to-end Vehicle Engineering capabilities coupled with EV technology integration

"End-to-end Vehicle Engineering capabilities leveraged to design and develop new-age Electric Vehicle OEM solutions."

" First-of-its-kind turnkey solution "

TRANSFORM

To address and stay ahead of the major disruptions, it is important that businesses transform their existing investments by adopting digital engineering technologies. By focusing on providing intelligent and proactive solutions to enable 'ease of doing business' for our clients we have helped transform redundant **products, solutions and processes**. We have enabled smart solutions to pivot existing systems both within and outside the organization—VR analytics for specialized employee training, a smart Trading Communication System, O-RAN network systems and Smart City ICCC.

Discover our success stories over the next few pages

Automotive

TRANSFORMING SAFETY AND CUSTOMER EXPERIENCE WITH CONNECTED CAR SOLUTIONS

PROJECT OVERVIEW
Tech Mahindra collaborated with a premium South Korean auto major to provide transformative connected car solutions to enhance customer experience while improving safety and monetization options.

PROBLEM
With end customers wanting next-gen digital solutions, a premium South Korean auto-manufacturer required transformative IoT connected car solutions.

TECH MAHINDRA SOLUTION
Leveraging a solutions-led approach, Tech Mahindra designed futuristic, next-gen E2E solutions and architecture that could also be extended to the electric vehicle category. The solution included a mobile application with remote control features, role-based access with dual language support, safety assistant services, after-market services, and subscription and billing services amongst others.

Business Impact

Improved safety of users via e-Call / b-Call integrations	New revenue channels for the OEM
Enhanced customer experience and loyalty	Strengthened market leadership

"Next-gen connected car solutions have improved safety, enhanced customer experience, brought in new revenue channels and strengthened the leadership position of a South Korean auto major. "

Semiconductor

REDUCED COSTS AND OPTIMIZED EXPERIENCE WITH AR/VR TRAINING

PROJECT OVERVIEW
Tech Mahindra leveraged its ingenious VR training modules for a semiconductor manufacturer to reduce training time and costs of on-site trainings, while transforming training effectives.

PROBLEM
Due to increased time and costs associated with the on-job, on-site trainings of their service technicians, the client required an optimized solution leveraging VR technology.

TECH MAHINDRA SOLUTION
Tech Mahindra designed life-sized 3D training models of equipment and surrounding data specific to the training of service technicians. This enabled learning by doing and in-context learning. It also facilitated remote training with a virtual assistant that ensured guidance throughout the learning session. Embedded VR Analytics further captured trainee behavior leading to an optimized learning experience.

Business Impact

Reduction in training costs	Diminished margin for errors	Time savings with remote training

"VR training modules deployed for a semiconductor manufacturer optimized learning effectives while reducing training time and costs."

Telecommunications

HIGH CAPACITY TRADING COMMUNICATION SYSTEM ENABLED THROUGH TRANSFORMATIVE R&D

PROJECT OVERVIEW
Tech Mahindra leveraged its R&D capabilities to transform a unified communication and collaboration trading platform for a US-based Trading Service Provider.

PROBLEM
As the global markets evolve, there is a growing need to initiate product transformation from a CAPEX based model to software as a service platform with automation for real-time product health monitoring and continuous integration and development.

TECH MAHINDRA SOLUTION
Tech Mahindra enabled transformation through the:

- Implementation of a Scaled Agile Framework (SAFe 4.0) and DevOps Adoption across the program to engage value stream
- Continuous integration using Jenkins and Puppet
- Collaborative development using tools like IBM CLM, Office Communicator, and share points
- Automation of 12000+ test cases (using Perl, selenium, QTP)
- Automation to enable real-time product health monitoring for global deployments and support
- Development of keyword-driven test framework to significantly optimize test efforts
- Soft client performance testing using Sauce labs cloud

Business Impact

1 year to 3 months
—Reduction of release cycle

90%—Increase of Test Automation capabilities

65% to 85%
—DRE Improvement due to continuous testing

10 to 3
—Reduction of team size

40%—Increase in cost optimization due to automation

"Transforming to a scalable agile (SAFe 4.0) and DevOps ecosystem enables reduced costs and quicker remediation of vulnerabilities leading to amplified customer satisfaction."

CAPEX based model → Software as a service platform

Telecommunications

FUTURE-PROOFING MOBILE NETWORKS THROUGH INTELLIGENT O-RAN COMPLIANT RAN DESIGN SYSTEMS

PROJECT OVERVIEW

Tech Mahindra designed an O-RAN compliant multi-vendor RAN for a European telecommunications company and specified requirements for efficient network management.

PROBLEM

With the ever-expanding mobile traffic growth rates, communication service providers are under immense pressure to meet the ever-increasing demand of consumers while maintaining costs and launching new services. This required a transformation in the existing RAN infrastructure.

TECH MAHINDRA SOLUTION

Tech Mahindra transformed the existing RAN system of the client by:

- Assessing baseband unit (BBU) and Radio unit (RU) vendor compliance for O-RAN O1 and Open FH Management plane requirements
- Identifying gaps in vendor compliance and adapter requirements for O-RAN adaptation
- Assessing workflows for supporting O-RAN management use cases for ONAP
- Verifying sufficiency of O-RAN standards against a working system
- Designing specification for management through ONAP and planning implementation of POC

Business Impact

25-30% reduction in CAPEX (RAN Cost)

Improved disaggregation

Enhanced vendor compliance to O-RAN specification

"Designing intelligent O-RAN compliant RAN systems to maximize disaggregation, vendor compliance and cost-effectiveness."

Smart City

TRANSFORMING INDIAN CITY KANPUR WITH INTEGRATED SMART CITY TECHNOLOGIES

PROJECT OVERVIEW

Tech Mahindra transformed Kanpur, a large industrial city in North India, into a smart city by leveraging smart mobility, integrated traffic management and sustainable civic infrastructure along with an Integrated Command Control & Communication Centre (ICCC).

PROBLEM

Kanpur's transformation into a smart city required an integrated service provider who could efficiently implement the required smart technologies and take care of operations and maintenance for 5 years after project completion.

TECH MAHINDRA SOLUTION

Tech Mahindra successfully deployed several technologies to set an Integrated Command and Control Centre (ICCC). AI-based surveillance, City Wi-Fi, Environment Management System, Integrated Traffic Management System, Smart Parking System, and a Web Portal & Mobile App were also implemented.

Business Impact

|	
	ICCC was utilized as COVID-19 War Room enabling telemedicine facilities
	Intelligent surveillance cameras enabled enforcement of lockdown and curfews
	VMDs and the PA system enabled display of messages and COVID advisory
	First Smart City in India to deploy radar-based 'Adaptive Traffic Control System', surveillance based on Video Analytics, SIEM with forensics, a chatbot, ICCC with ESB and 'Smart Racks' as part of its DC
	Kanpur Smart City received several awards

Diagram

Police Department — Managing lockdown violations

Citizen App & Web Portal — COVID Advisory

ICCC 'COVID-19 War Room'

Telemedicine Facilities — **Health Department**

Tracking coronavirus patients

Municipal Department

"Leveraging integrated digital solutions to transform Kanpur into a smart, safe and sustainable city."
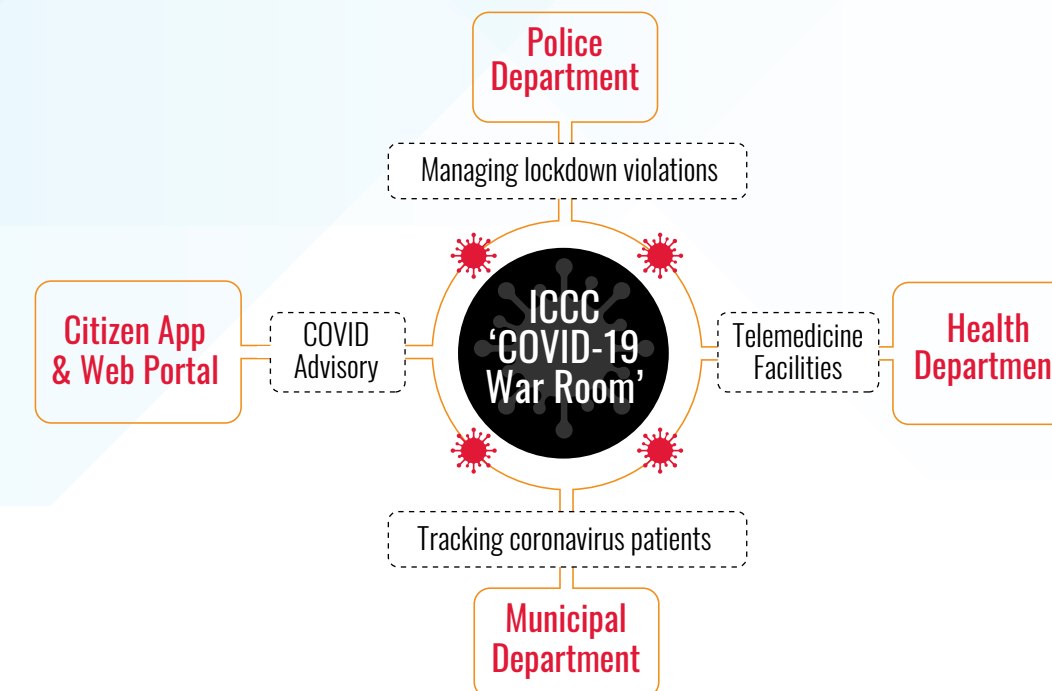
COVID-19:
THE CATALYST FOR NEW TECH TRENDS

As we experienced this once-in-a-generation transformative event, businesses across the globe quickly realized that reengineering through digital technologies was not only a way to survive this crisis but also the path forward in defining business strategies.

Though the pandemic created many challenges for businesses, it also acted as a catalyst for the quick adoption of several digital trends in major sectors like automotive and telecommunications.

Automotive sector
CASE – Connected, Autonomous, Shared and Electric; 3D Object Modeling; Symbolic AI; Vehicle-to-everything (V2X) and Vehicle-to-grid (V2G); 3D-LiDAR and Human Machine Interface.

Telecommunications sector
5G, Digital Twin, NB-IoT (Narrowband IoT), SD-WAN Turned Secure Access Service Edge (SASE), Artificial Intelligence, Cyber Security, Big Data, Robotic Process Automation (RPA) and Blockchain.

At Tech Mahindra, we believe that the effective integration of these emerging digital technologies will define the new era of business reinvention. Through all our collaborations, we will support our clients with a state-of-the-art approach to gain real-time insights enabling early detection of issues, more resilient business operations and increased profitability.

As we look beyond 2020, we are continuously rethinking and revamping our strategies and calibrating emerging techniques to empower our clientele to offer new digital experiences that fulfill the ' rising.... expectations of the new digital economy

WHAT'S ON THE MIND OF GLOBAL ENGINEERING LEADERS?

Tech Mahindra's 2020 survey of nearly 100 engineering customers comprising of VPs and Directors across various industries collated some interesting findings on how the business landscape is set to evolve.

35% consider core business investments as a top priority

29% feel that economic recession is a plausible consequence of the pandemic

36% are willing to make a move with intelligent and futuristic technologies

69% believe that the pandemic is "very likely" to impact their investments

27% believe that organizational roles have been reinvented to become more flexible

43% feel that it is vital to deploy technology to ensure businesses continuity

21% expect service providers to be quick to respond to operation risks

91% believe that the impact of the virus on the workforce will vary across industries

68% expect businesses to witness an upturn by next financial year

95% agree that it is important to restructure business operations to diffuse current and future risks

The comprehensive findings of the survey have been published in the report, Post-COVID Transformative Priorities in Engineering Services & Your Guide to Ensuring Business Continuity.

To read the full report, scan or click the QR code ⟫
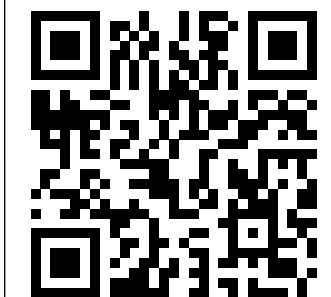
Tech Mahindra's Integrated Engineering Solutions (IES) delivers solutions enabling tomorrow's Digital Engineering Enterprise across diverse industries such as Aerospace and Defense, Automotive, Industrial, Telecom, Healthcare, Energy & Utilities and ISVs. With 50+ exclusive global engineering centers supporting new program launches and 350+ active global customers, Tech Mahindra's IES is an established leader for Engineering Services in the industry. With 25+ years of expertise across cutting edge engineering services, products, opti-shore delivery and flexible business models via. a well-defined framework, Tech Mahindra is **Engineering Your NXT.NOW™**

Tech Mahindra Engineering brings together a blend of talent, technology, business acumen, and domain expertise to collaborate with enterprises on their **engineering journey**– helping them **Accelerate** positive outcomes from existing engineering initiatives and investments, **Invent** new products and IP (Internet Protocol) for driving competitive advantage and differentiation, and **Transform** business models in alignment with the dynamic market requirements, while traversing towards a sustainable future.

Tech Mahindra delivers exponential value to engineering enterprises by collaborating with them across three key tenets: Robust Products, Ubiquitous Platforms and Cyber Factories.

Learn more at –https://www.techmahindra.com/en-in/integrated-engineering-solutions/

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