

DIGITAL SERVICES FOR O&G VERTICAL

BROCHURE



Connected World.
Connected Experiences.

Summary

Tech Mahindra is a Technology Services & Consulting Company which is spread over more than 90 countries. In the past 32 years of existence the organization has grown tremendously and serves 900+ customers spread across various domains such as Energy & Utilities, Manufacturing, Retail, BFSI, Life Sciences etc.

Tech Mahindra registered a revenue of nearly 5.2 Billion with a YoY growth of 4.3%. The company has been ranked 15th among top 100 digital companies by Forbes. Tech Mahindra was recognized as a major player amongst Digital Transformation Service Providers for the O&G Industry in EMEA region by IDC in 2020. The company was recognized by SAP & Microsoft as the partner of the year.

Practice Overview

The O&G Practice has been serving O&G clients across the value chain for more than 16 years. It has 30+ O&G Clients. The company has strong capabilities in Robotics Process Automation, Enterprise Performance Management, Subsurface Data Quality Management, Application Development & Management Services, Infrastructure & Journey to Cloud.

Tech Mahindra Resources



500+

Domain Consultants



1550+

Associates with SAP & other Technology skills

Services Buckets



Upstream Processes and Technology Capabilities and Offerings



Exploration & Appraisal

- Seismic data management
- Well log data management
- Data audit and inventory for wells and seismic data
- Digitization of legacy technical documents
- Petrotechnical application management
- Permit and lease management



Drilling & Completion

- Drilling data management
- Real-time drilling data monitoring
- Dashboards for drilling data analytics
- Completion data management
- Drilling NPT and cost optimization



Production & Operation

- Integrated production operation
- Hydrocarbon accounting – Energy components
- Digital oil field platform
- E- Log book
- Integrity operating window
- Alarm management
- Operations monitoring
- Operating instruction



HSE Management

- Unsafe acts & Behavior analytics
- Operations risk management -PTW
- Digital connected worker
- Video analytics – safety, security
- Occupation safety, waste and incident management



Asset Performance Management

- Risk and Reliability based maintenance
- Maintenance and turnaround planning
- Spares inventory optimization
- Predictive asset Management – Progressive cavity pump, ESP, compressors



Analytics

- Basin screening assistance
- Intelligent indexing of seismic data for improving search-ability
- Machine learning in petrophysical attribute extraction
- Well cost analytics
- Drilling NPT optimization – multivariate, multi dimensional, Stochastic analysis
- AI based well segmentation for chemical injection optimization



Engineering Information Management

- Engineering data management
- 3D Asset Virtualization
- CAD /CAM Design

Consulting: Management Consulting- Operational Excellence and Technology consulting

Digital: Social, Mobility, AI/Analytics, Cloud, BLOCKCHAIN, IIOT, Digital strategy and Road map

Technology/Outsourcing: Systems Integration, Application maintenance & development- Next Gen with Hyper automation, RPA, Enterprise services, Security, Infra structure & Cloud

Assets & Offerings for Upstream

Subsurface data management & Cloud storage

- Increase productive time of business users by 30%
- Remote data access anytime , anywhere



Drilling Analytics for NPT optimization

- Improve NPT on Drilling by 10-15%
- Optimize the drilling cost variance.
- Low time to decision making through dynamic warning system and proactive event prediction



Digitalization of well construction

- Crew efficiency management
- Electronic workflow for monitoring operation execution



AI enabled drilling data management

- NPT reduction for drilling & workover operations by 20%
- Reduction in manual efforts by 30%



Digital Platform for Operations & Production Optimization

- Opex reduction by 5-10%
- >97% availability
- 10-15% reduction in production deferment



Well Plug & Abandonment Management

- 50% reduction in manual effort for building WPA Program
- 20% improvement in Regulatory Compliance
- 25% improvement in Schedule adherence



AR/VR Offerings For Enhanced Operations and Remote Maintenance

- Up to 50% of the issues solved remotely by expert engineers
- Reduced mean time to repair up to 30%
- On job training for onsite technicians to reduce dependency on experts



Predictive asset management for PCP/ESP Pumps

- Reduction in production deferment by 10 to 15%
- Helps in work over rig optimization.
- Optimize spare inventory



Safety solutions suite

- Digital People Safety
- Digital Unsafe Acts and Incidents
- Digital Emergency Response Centre
 - Connected work force ensuring enhanced safety and people tracking –LTIFR<0.3
 - ROI of 20-30%



Hyper-automation based Application Management Services

- IT cost optimization by 40-50%



Midstream Processes and Technology Capabilities and Offerings



Oil & Gas Pipeline Optimization

- Offline & Online Simulations
- Optimization for batched liquids pipelines, including DRA, Power and Pumps
- Global and Local Optimization
- Constraints vs Unconstrained optimization



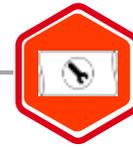
Oil & Gas Pipeline Operations

- Pipeline Nomination & Ticketing
- Pipe line Scheduling
- Capacity Release
- Contracts, Pricing & Tariffs
- Physical Balance
- Commercial Balance
- Invoicing & Settlements
- eLogbook /M-logbook
- Process Data Historian



HSE Management

- Unsafe acts & Behavior analytics
- Operations risk management - PTW
- Digital connected worker
- Video analytics – safety, security
- Emission management



Oil & Gas Pipeline Asset Management

- **Oil & Gas Pipeline Integrity Management**
- Pipeline Integrity
- Planning, Scheduling & Forecasting
- Pipeline External Corrosion
- Pipeline internal Corrosion
- ILI-Inline Inspection
- Integrity Assessment & Risk Management
- Risk Based Inspections
- Enterprise Asset Management
- Workforce & Mobility Management Solutions



Energy Trading & Risk Management (ETRM)

- Oil, gas Trade capture to settlements – front, mid and back office operations
- Risk Hedging & Mitigation
- Trade Optimization
- Market Price Integration



Oil & Gas Pipeline Engineering

- GIS based Oil & Gas Pipeline Spatial info
- GIS based Operations & Integration with SCADA
- GIS based Workforce management & Mobility Solution
- Engineering data management
- Engineering Document Management
- P&ID Digitalization and Digitization
- 3D Asset Virtualization
- Pipeline FEED
- CAD/CAM/CAE



Gas Distribution & Utilities

- Meter to Cash process
- Customer Experience
- Customer relationship Management
- Utility supplies

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Downstream Processes and Technology Capabilities and Offerings



Trading & Risk Management

- Trade management
- Front, Mid and Back
- Office
- Risk management
- Chartering & vessel operations
- Hedge accounting



Commercial optimization

- Planning
- Scheduling
- Feed Stock management
- Mass & energy balance



Operations Management

- Plant Historian
- Laboratory Management
- E- Log book
- Integrity operating window
- Alarm management
- Operations monitoring
- Operating instruction



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Asset Performance Management

- Risk and Reliability based maintenance
- Maintenance and turnaround planning
- Spares inventory optimization
- Predictive asset Management management



Supply & Distribution

- Supply chain design
- Decision support for make verses buy verses exchanges
- Envelope Optimization
- Arrival to departure time optimization at terminals



Retail & B2B

- Retail forecourt and C store automation
- Consumer Analytics
- Fleet card and loyalty management
- Consumer analytics
- Offer to cash
- Pricing analytics



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Assets & Offerings for Downstream

Integrated manufacturing operations management for Refineries & LNG

- IMOM enables operations **agile, intelligent, flexible, adaptive** to derive strategic cost, margin and market advantage through collaborative work environment
- Reduce Opex by 10 -15% & GRM improvement by 0.1 cents to 1.5 cents /barrel for refinery, LNG EBITDA by 5 to10%



Next Gen Integrated applications & Infra Support

- Optimize cost 40 to 50%, upfront benefit realization
- through hyper-automation ,prediction ,auto ticket
- Resolution and RPA



Retail consumer insights platform

- Retail Consumer and business 360 deg view on SFDC platform with predictive marketing analytics, propensity modeling, churn analysis , segmentation, promotion effectiveness, campaign effectiveness, head room analysis
- Gross margin uplift 10-15%, opex reduction 5-10%



Procurement control tower

- Platform based solution for procurement cost reduction
- which helps to measure, compare, analyze, correct & perform .The business benefits are Reduce procurement cost by 10 to 15% through spend
- Analytics, should be cost modeling etc.



Safety solutions suite

- Digital personal safety solution -
- AI based unsafe acts and incidents- Test/Video analytics
- Emergency response center – digital barrier management
- Reduce TIFR less than 0.3



Remote Monitoring of LNG, petrochemical plants & refineries

- Remote deployable platform for top management to manage the operational risk, Financial risk and business risk



Asset management solutions

- Integrated asset management
- Predictive asset management static & rotating equipment's
- Improve plant availability by = >97%
- Maintenance cost to 2.5% of Net asset replacement value



Digital turnaround as-a-service

- Reduction of the shutdown cost by 10-15%
- Improves efficiency of workers by 20%, reduction in billing leakages, execution monitoring ensuring on schedule completion of turnaround project.



Tech Mahindra



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