TATA CONSULTANCY SERVICES

TATA

PLM Road Map & PDT 2026

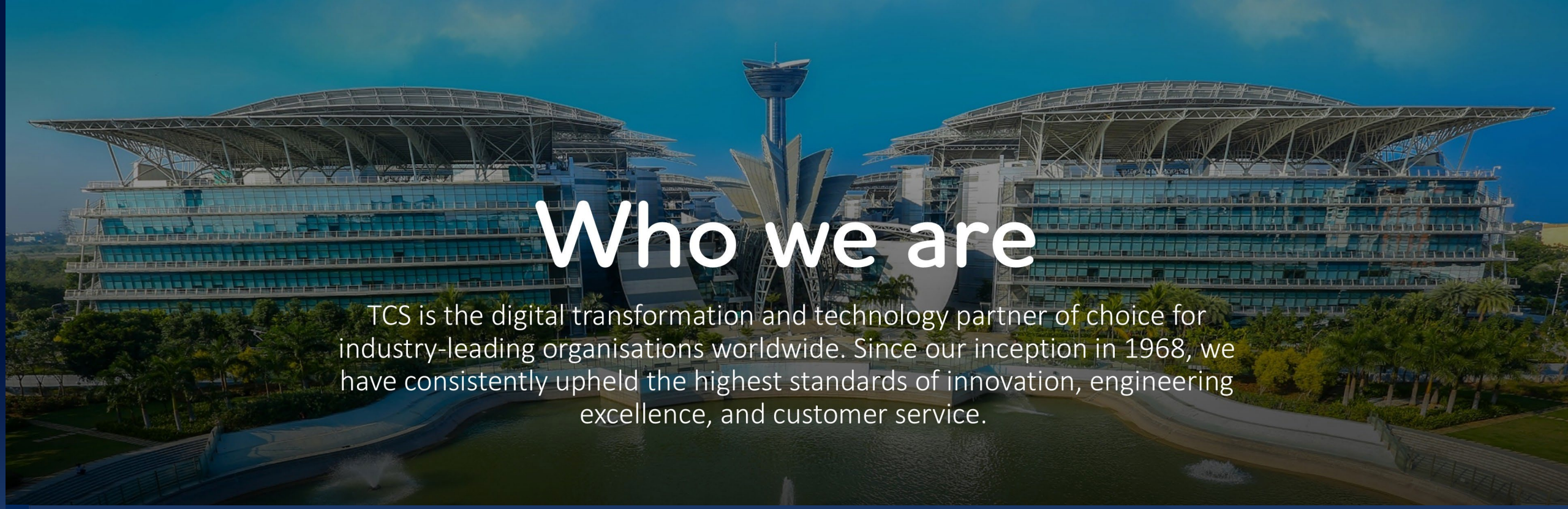
PLM Road Map PDT

Sweden | 4-5 November



Roadmap to AI-native autonomous enterprise

David Segal
Global Head, Digital Thread BU



Who we are

TCS is the digital transformation and technology partner of choice for industry-leading organisations worldwide. Since our inception in 1968, we have consistently upheld the highest standards of innovation, engineering excellence, and customer service.

30 BN $ Revenue	593,314 employees	149 nationalities	573K+ trained in GenAI

Our Aspiration

We will be the world's largest AI-led Technology Services company

AI & autonomy are disrupting industrial value chains

Engineering Oriented Value Chains

- Automotive
- Heavy Machinery
- Hi-tech
- EPC
- Utilities
- Aerospace
- Medical Devices
- Telecom(eqp. Mfg.)

>100% shift left in NPI

Software Defined Products

Manufacturing Oriented Value Chains

- Pharma
- Automotive
- Process
- Aerospace
- Semiconductor
- Battery
- Medical Devices
- CPG

2x productivity

Lights out factories

Asset Oriented Value Chains

- Oil & Gas
- EPC
- Utilities
- Metals & Mining
- Ports, Yards
- Airports
- Warehouses

24*7 peak availability

Prescriptive & self-healing

Service Oriented Value Chains

- Retail
- Healthcare
- Logistics
- Telecom
- CMI

NPS multiples

Personalized engagement

Enterprises can leverage the AI transformations led advantages of more than one value chain
Source of competitive advantage has shifted to the ability to institutionalize the Human + AI continuum

Business outcomes shaped by customer imperatives across value chains

Engineering Oriented Value Chains

- Time-to-Market Reduction (%)
- Engineering Productivity Index
- Design Reuse Ratio (%)
- First-Time-Right Design Rate (%)
- Innovation Yield (%)
- Software Content Contribution (%)
- R&D Cost Efficiency (% of Revenue)

Manufacturing Oriented Value Chains

- Overall Equipment Effectiveness (OEE)
- Reduction in Cost per Unit (%)
- Yield Improvement (%)
- Production Throughput Increase (%)
- Supply Chain Resilience Index
- Working Capital Efficiency
- On-Time-In-Full (OTIF) Delivery (%)

Asset Oriented Value Chains

- Asset Utilization Rate (%)
- Unplanned Downtime Reduction (%)
- Maintenance Cost per Asset (%)
- Return on Capital Employed (ROCE)
- Asset Life Extension (Years / %)
- Energy Efficiency /Loss Reduction(%)
- Safety Incident Rate Reduction (%)

Service Oriented Value Chains

- Revenue per Employee
- Utilization Rate (%)
- Customer Satisfaction / NPS
- First-Time Fix Rate (%)
- Service Delivery Cost Reduction (%)
- Contract / SLA Adherence (%)
- Recurring Revenue Ratio (%)

Clients are inclined to value outcome-based conversations more than managed services & staffing

Industrial Autonomy and Engineering business services & solutions

Actionable, scalable services and solutions to deliver the business outcomes

AI-Led Software Defined Products

- Digital Engineering
- New Product Introduction (NPI)
- SDV, SDP (MedTech, Industrials)
- AI Engineering & "Art to Part"
- AI Data Center Engineering
- VLSI, Custom SOC, ASIC
- Product Sustenance & Obsolescence Management

Intelligent Connected Ecosystems

- Connected Asset Performance Management
- Connected Cars Charging Eco'm Shared / Fleets
- Connected Healthcare
- Connected Workforce
- Industrial Safety
- Smart Utilities & Grids
- Digital EPCM
- Smart Stores, Smart Facilities

Autonomous Systems & Industrial AI

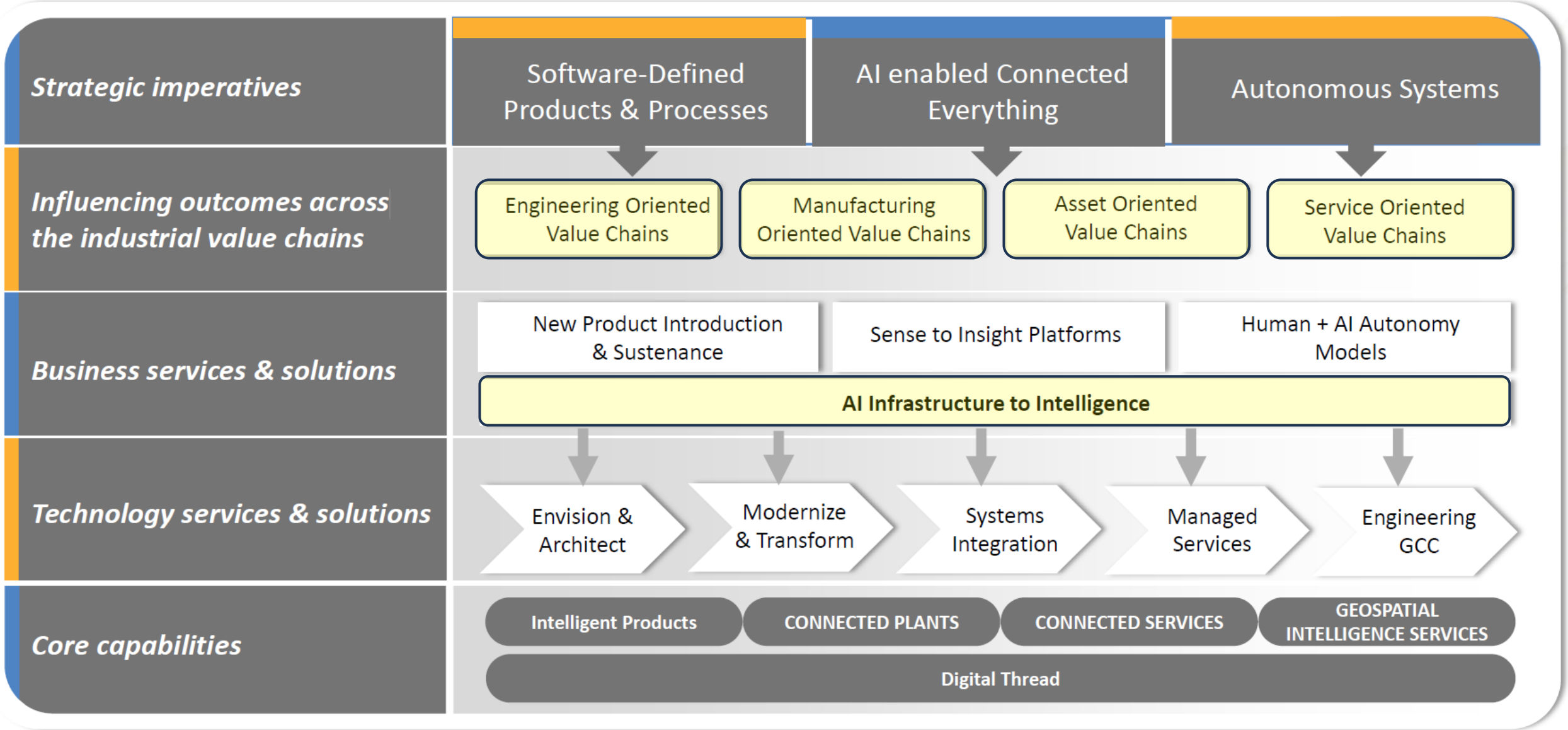
- Lights-out Plant
- Autonomous Operations
- Autonomous Mobility
- DERMS Orchestration
- AMR, Robotics & Humanoids
- Self Healing Assets

Digital Twins and Digital Thread

ET / IT / OT Data Ontology

OT & Device Cyber Security

Industrial Autonomy and Engineering at a glance…



AI led reimagination of industrial value chains … towards AI-native …

AI Infused Engineering

SDX

Product Design Services

Automotive | Semiconductor | Aerospace | Medical Devices

Product Engineering Services

CAE | CFD | Value Engineering | Regulatory Compliance

Manufacturing Engineering Services

Plant Simulations | QC | Should Costing | BOP | EWI / SOP | Digital Twins

Plant Engineering Services

PLC & Automation | Virtual EPC | Process/Asset Twins

Asset Management Services

Asset Performance Management | Asset Twins

AI Led Industrial Autonomy

Agentic Libraries

Product Lifecycle	Connected Plants	Connected Services
Engineering.AI	Production.AI	Services.AI
Orchestrated ECM & BOM Engineering V-Curve	Autonomous Operations Physical AI	Energy Orchestration Earth AI

Digital Thread

Architecture & Data Ontologies/Models (ET IT OT)

Connected Digital Enterprise Orchestration Platform

Engineering.AI

Three layers of applied AI, unified by one governed engineering intelligence foundation.

Product.AI

INTELLIGENCE IN PRODUCTS & SERVICES

- AI embedded in products, platforms and services to lift behavior, autonomy, reliability and differentiation.
- Products sense, learn, adapt, analyze, predict and secure.
- Eg. ADAS perception, medtech diagnostic support, aerospace engine health and predictive maintenance.

Process.AI

INTELLIGENCE IN ENGINEERING WORKFLOWS

- AI inside requirements, architecture, design, V&V, compliance, manufacturing and service decisions.
- Governed lifecycle: models monitored, improved and responsibly retired.
- ISO/IEC 5338 and the NIST AI Risk Management Framework embedded at every stage.

Engineering Tools AI

INTELLIGENCE IN ENGINEERING TOOLCHAINS

- AI in and around PLM, ALM, MBSE, CAD/CAE and software development platforms.
- Agentic workflows and role-based assistants inside the tools engineers already use.
- Cross-vendor intelligence across platforms

Engineering Intelligence Fabric

A semantic, domain-aware and governed fabric giving engineers and agents trusted lifecycle context.

Digital Thread & knowledge graphs

Agentic orchestration

Governance, security & observability

Enterprise partnerships | Domain partnerships | Deep Tech partnerships | AI-native partnerships

AI moves to the core of engineering — faster design, continuous validation, safe governance and learning from every product in the field.

IAE advisory and technology services

Advisory Services



- Vision to value strategy
- Business case & outcomes modeling
- M&A Management/ PMI
- 'AI-First' Enterprise
  - ‘Human +AI’ Design
  - Infrastructure to Intelligence
- Sustainable by Design
- Strategic Cost Reduction
- Servitization

Modernize & Transform



- Rapid Build & MVP Prototype
- Physical product (Embed Electronics, S/W & AI)
- Engineering Tool Chains
- Legacy Mfg. Apps & OT
- Installed Asset Base
- Application Rationalization
- ET /OT Code Migration

Systems Integration



- Custom Applications
- Software Product Dev
- Partner Product Blueprint & Deploy
- Product Migration & Upgrades (incl. SaaS)
- AI/ML Data Engineering
- Engg., Mfg. & Asset Cloud
- IoT Platform Dev Ops
- IT/OT/ET data platforms

Managed Services



- Command Centers & Real Time Monitoring
- Observability Services
- Service Automation
- Reliability Engineering
- AI Led Application Service Management

Engineering GCC



- Global Innovation Center
- AI GCC
- Engineering BOT
- Captive Optimization
- GCC Advisory

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Thank you



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