

Whitepaper

# Accelerating BSS Transformations for Telco B2B

Scale at Speed™

Over the last decade, the telecommunications business-to-business (B2B) segment has emerged as the most durable engine of growth for communications service providers (CSPs). Much of this momentum stems from rising enterprise demand for advanced capabilities such as AI, cloud connectivity, IoT, private wireless networks, cybersecurity, and end-to-end managed services.<sup>1</sup> Yet a troubling gap persists: most operators have failed to translate this opportunity into scalable, profitable growth.

The bottleneck is structural. Many B2B BSS (Business Support Systems) transformation initiatives across the landscape struggle to scale effectively, delivering slower-than-expected outcomes, resulting in higher implementation costs and elevated exposure to revenue leakage and execution risk. As a result, the promise of B2B growth and transformation largely remains an untapped opportunity across the industry. This white paper presents Tech Mahindra's strategic framework, BEACON, to address this challenge and provides a holistic roadmap for transformation.

# Executive Summary

- **Introduction**
- **Key Challenges in Scaling Telco B2B**
  - Legacy, Fragmented B2B Stacks
  - Slow and Expensive Transformation Programs
  - Intricate B2B Product Constructs
  - High Cost-to-Serve and Operational Rigidities
  - Maintaining Revenue Stability While Modernizing
  - Common Transformation Pitfalls
- **BEACON: A Structured Model for Telco B2B Modernization**
  - (B) - Business Transformation
    - Why Business-Led Sequencing Matters in B2B Transformations
  - (E) - Engineering/Technology Transformation
    - Technology Transformation Anchored in Reference Architecture
  - (A) - Accelerators
    - Pragmatic Use of AI in Telco B2B Transformations
  - (C) - Innovative Commercial Models
  - (O) - Operational Insights and Learnings
  - (N) - NextGen Delivery
- **Common Transformation Risks and Mitigation Strategies**
- **Conclusion**
- **End Notes**
- **About the Authors**

# Table of Contents

# Introduction

Transforming telco B2B requires more than a technology upgrade; it demands a fundamental shift in the modernization approach. Most BSS transformation projects apply consumer-grade modernization patterns without accounting for enterprise contexts. Unlike consumer applications, enterprise BSS must support SLAs, contracts, revenue recognition, and partner dependencies that fundamentally operate under different rules. When these realities are overlooked, transformation programs become fragile, slow, and difficult to course-correct.

To capture untapped B2B revenue and address these challenges, leading telcos are adopting integrated transformation approaches that align sales, operations, and customer success—specifically designed for enterprise operations. TechM's BEACON delivers value-driven business transformation, ensuring enterprise processes, commercial models, and governance are strategically aligned. By combining a reference-architecture-led engineering approach, pragmatic use of AI, TMF-aligned accelerators, proven delivery methodologies, and outcome-aligned commercial models, BEACON enables faster, safer, and predictable transformations.

Furthermore, by stabilizing revenue-critical processes, enforcing enterprise-grade controls, incremental modernization, and sequencing transformation, BEACON enables CSPs to reduce risk while accelerating time-to-market. The result is a next-gen-ready B2B stack that supports agile service innovation, strong revenue protection, and ecosystem-ready growth.

# Key Challenges in Scaling Telco B2B

The global telco B2B market exceeds **USD 700-800 billion** annually and is growing at a rate of **~4-6% YoY**.<sup>2</sup> This growth indicates that by 2030, B2B will contribute to over **50%** of incremental revenue for CSPs worldwide, making B2B stack transformation a high-level priority. As this margin for opportunity expands, enterprises need to confront the following:



## Legacy, Fragmented B2B Stacks

Most CSPs operate multiple heritage IT/BSS stacks accumulated over years of acquisitions, siloed product launches, and parallel IT programs. These fragmented architectures impede agility, delay product launches, and actively contribute to technical debt.



## Slow and Expensive Transformation Programs

Global CSPs consistently struggle with multiyear programs that drag on due to a lack of a unified process blueprint, slow decision-making, disparate systems, and vendor fragmentation.



## Intricate B2B Product Constructs

Telco enterprise services, such as SD-WAN, SIP, IoT, and ICT bundles, function through high configurability, entitlements, multi-party fulfillment, partner integrations, and deep orchestration. Standardizing this journey is a major challenge across legacy systems.



## High Cost-to-Serve and Operational Rigidities

Slow order journeys with multiple hand-offs, manual effort in service assurance and delivery, limited automation, and dependency on legacy platforms continue to increase costs and complexity for CSPs.



## Maintaining Revenue Stability While Modernizing

For telco enterprises, revenue protection is non-negotiable. Downtime or migration errors can put billions in contracted revenue at risk, making operators cautious about large-scale modernization.



## Common Transformation Pitfalls

Recurring patterns like attempting to standardize B2B offerings as configurable SKUs (treatment similar to Consumer offerings) instead of contract-driven commercial constructs, selecting platforms before harmonizing enterprise processes, and underestimating the complexity of multi-party fulfillment, partner settlements, and long-lived contractual obligations limit telcos from scaling.



# BEACON:

## A Structured Model for Telco B2B Modernization

Enterprises need a business-aligned B2B transformation approach that is faster, safer, and modular. TechM's BEACON framework is designed to meet this need. It is a six-pillar model purpose-built for telco B2B transformation and consists of:

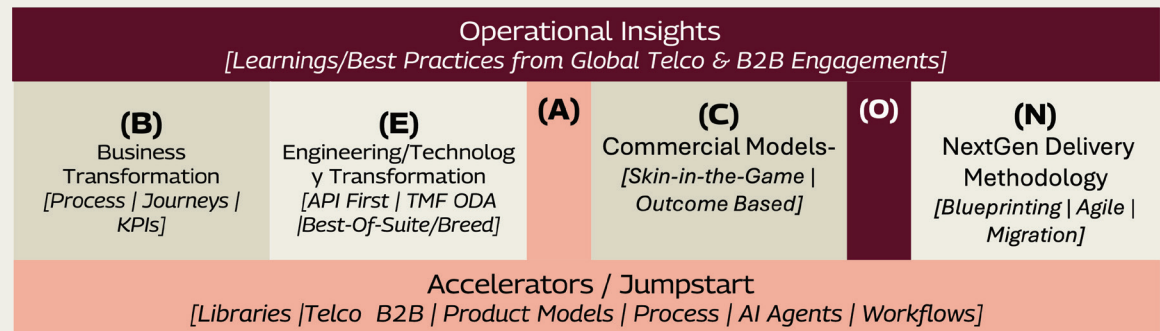


Figure 1: TechM's BEACON - Transformation Framework

### (B) - Business Transformation

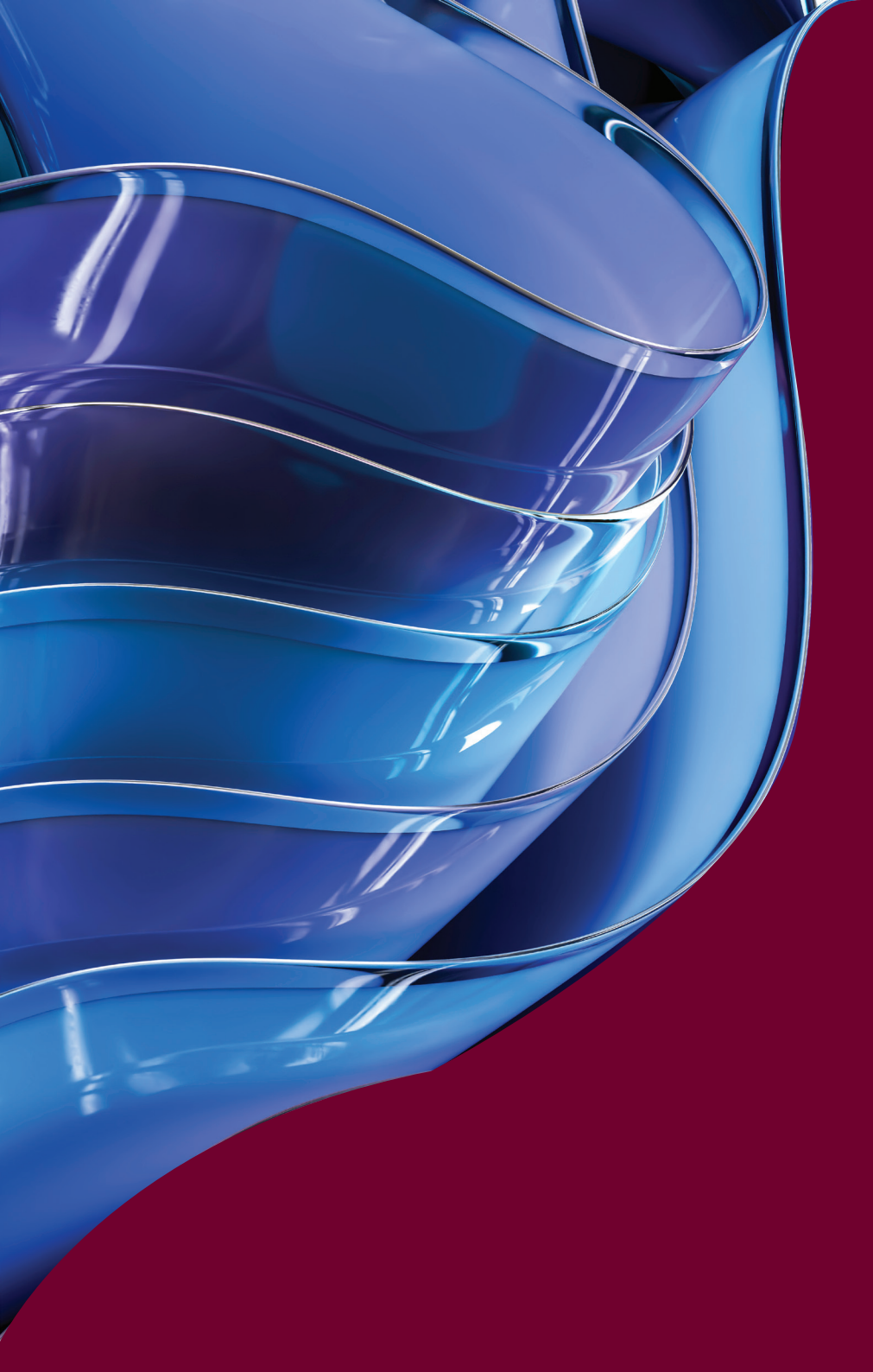
The key shift, the framework focuses on, is from a process-first to a value-first approach. This begins with process harmonization, value stream engineering, and aligning vision and business drivers as the key context. Central to this are:

- **Stabilize-Simplify-Automate Framework:** Prioritizes revenue-critical processes (Lead-to-Quote, Quote-to-Order, Order-to-Activate)
- **End-to-End Value Stream Blueprinting:** Maps B2B journeys across sales, ordering, provisioning, billing, and care, ensuring process, data, customer experience, and KPIs are aligned.
- **Embedded KPI Traceability:** Maps every process change back to CFO/CTO/COO KPI lenses (e.g., TCV uplift, MTTR, cycle time reduction, fallout reduction, etc.)
- **Business Change Management:** Plans and drives the change adoption across all relevant stakeholders.

As a result of this business-led sequencing, customers incur a simplified business operating model with lower OPEX and a strong alignment between commercial strategy and technology foundations.

### Why Business-Led Sequencing Matters in B2B Transformations

BSS transformations fail when platforms are implemented before business change. In B2B ecosystems, platform flexibility does not compensate for misaligned enterprise product models, inconsistent contract structures, or divergent partner and settlement processes. Therefore, BEACON emphasizes business and process convergence as a prerequisite to technology modernization.



### (E) - Engineering/Technology Transformation

Understanding enterprise business models and the complexities of their product portfolios and customer journeys is essential for effective transformation. Implementing enterprise portfolio solutions requires addressing business, technical, performance, and integration challenges. BEACON provides a structured approach to technology selection by evaluating options across business, technology, and commercial parameters.

Business	<ul style="list-style-type: none"><li>• Differentiating Position</li><li>• Enable Partner Ecosystem</li><li>• Faster Deal Velocity</li><li>• Enterprise Experience</li></ul>
Technology	<ul style="list-style-type: none"><li>• Simplification &amp; Consolidation</li><li>• Future-Proof Architecture</li><li>• Tech Synergy Across LoBs</li><li>• Best of Breed vs. Traditional Full Suite vs. Challenger Full Suite vs. Bespoke Microservices</li></ul>
Commercial	<ul style="list-style-type: none"><li>• Transformation Risk</li><li>• Budget and Investments done</li><li>• Vendor Contracts</li></ul>



# Technology Transformation Anchored in Reference Architecture

B2B BSS transformations demand architectural clarity rather than product-centric implementations. BEACON adopts a telco reference architecture-led approach that separates experience, commerce, orchestration, billing, and ecosystem integration concerns, allowing operators to modernize incrementally without disrupting revenue flows.

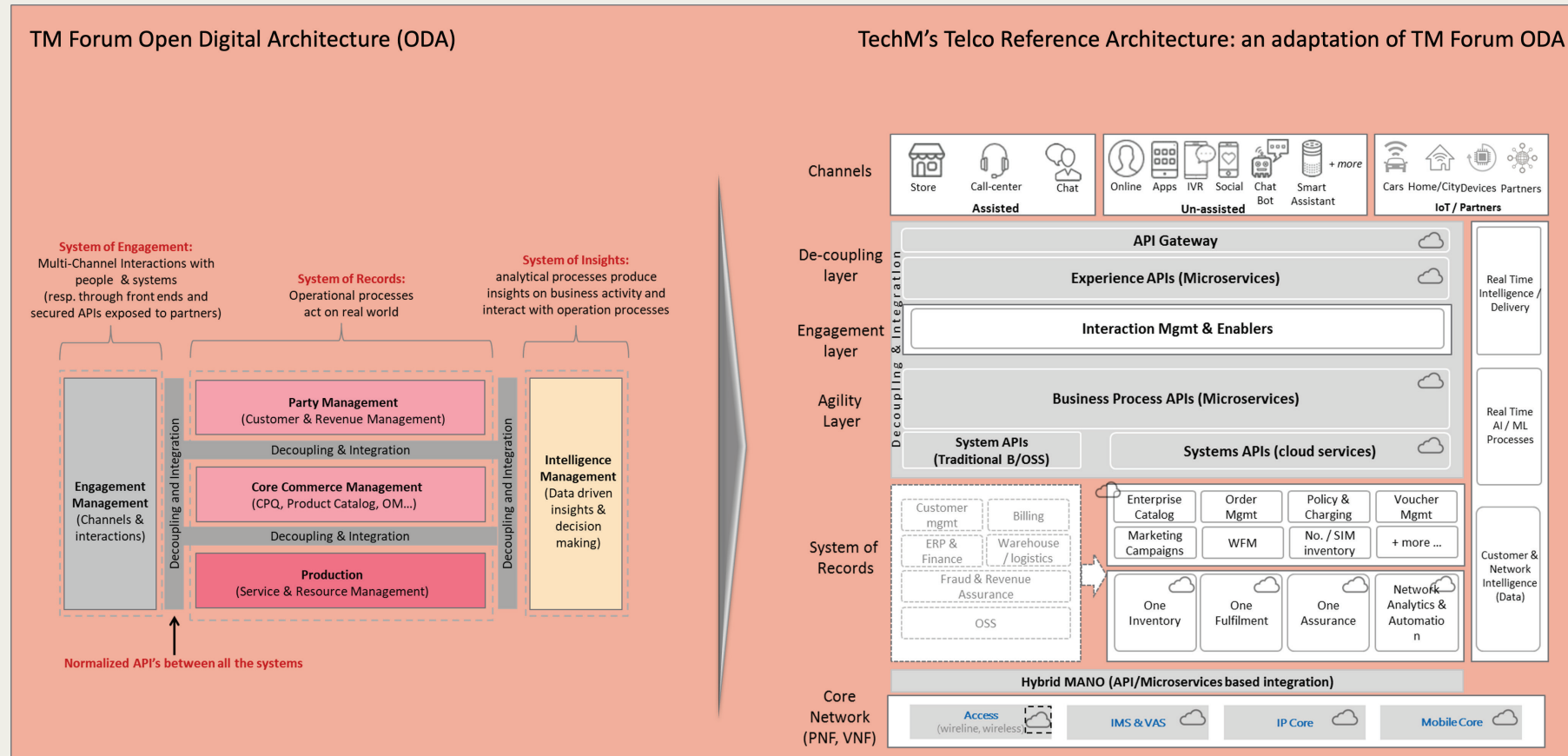


Figure 2: TechM's Telco Reference Architecture—An Adaptation of TM Forum's ODA



This layered, vendor-agnostic architecture enables progressive decoupling of legacy systems, supports coexistence during migration, and ensures that enterprise-specific requirements such as contract lifecycle management, SLA enforcement, and partner settlements are treated as first-class architectural capabilities rather than extensions of consumer BSS patterns. Key features of the approach include:

- API-first, TeleManagement Forum (TMF), Open Digital Architecture (ODA)-aligned, cloud-native enterprise architecture.
- Adoption of best-of-suite SaaS platforms such as Salesforce for CRM, CPQ, order capture, and customer care, with telecom-specific variants where available.<sup>3</sup>
- Use of best-of-breed options such as ServiceNow, Oracle, Hansen, Nokia, BMC, etc., with telco variants where available.
- Decoupled, catalog-driven architecture with unified product and service models.
- Tight BSS-OSS alignment, including service order management and orchestration.
- Integration through TMF Open APIs and reusable adapters.

The result of this architecture is a future-ready B2B stack enabling rapid digital service innovation, measurable reduction in tech debt and platform costs, faster time-to-market for new ICT, IoT, security, and managed services, greater ecosystem readiness for partners, MVNOs, and wholesale models, and improved enterprise-grade reliability, scalability, and resilience.

To realize these benefits, business transformation and technology transformation must progress together.





## (A) - Accelerators

BEACON brings a suite of accelerators directly aligned to TM Forum frameworks and enterprise telco B2B needs:

- TMF-aligned reusable B2B process libraries and journey patterns for SD-WAN, IPVPN, IoT, mobile, ICT bundles, etc., derived from prior implementations.
- Prebuilt Open API adapters for Salesforce, ServiceNow, Oracle, Hansen, and BMC.
- Various AI-enabled data migration accelerators, including an ETL test automation tool, Agentic AI-powered data quality as a service, and other migration accelerators.

### Pragmatic Use of AI in Telco B2B Transformations

AI needs to be selectively implemented in B2B BSS transformations to accelerate engineering and operational activities while maintaining human control over commercially sensitive functions. It is primarily used in automated testing and regression validation, order fallout prediction, and data reconciliation and anomaly detection.

While AI accelerates core functions, human oversight remains essential for enterprise-critical activities such as contract creation and amendment, billing adjustments, pricing decisions, and revenue recognition. This separation ensures faster delivery without compromising financial integrity, regulatory compliance, or customer trust.

The implementation offers

- Faster rollout of B2B products with standardized, repeatable journeys.
- Reduction in cycle times (quote, order, activation) by **30-40%**.
- Improved order accuracy and reduced fallouts.
- Faster blueprinting, design, and build cycles.
- Safer migration with **<1-2%** error rates.
- Reduction of manual effort by **25-40%** through AI automation.
- Higher test coverage and faster release cycles.
- Smarter enterprise CX with proactive issue resolution.

(\*Note: quantitative numbers are observed across comparable Tier-1 engagements and may vary depending on scope and automation maturity at the start)

## (C) - Innovative Commercial Models

When commercial models are input-based, risk is pushed entirely to the customer. In such cases, transformation programs predictably drift into change-request cycles, defensive scope control, and delayed value realization. To avoid “delivery progress without any real business impact”, the BEACON framework uses risk-and-reward-sharing models to anchor delivery and drive business outcomes. This model includes:

- Outcome-based pricing linked to migration and customer milestones.
- Pod-based (Product-Oriented Delivery) agile squads with velocity-based commercials.
- TCO flatlining and OPEX reduction commitments.
- Gain share on business outcomes with cost-to-serve improvements

BEACON's commercial model delivers extended benefits such as strong alignment of partner incentives with business outcomes, lower upfront investment with predictable spending over the program lifecycle, reduced transformation risk through shared accountability, and accelerated business case realization.





## (O) - Operational Insights and Learnings

Across Tier-1 and regional operators, successful telco B2B and BSS transformations depend on strong governance, disciplined cutovers, and incremental migration. Programs with phased coexistence, early stabilization of enterprise order journeys, and proactive operational readiness consistently achieve faster time-to-value with lower production risk.

These learnings are embedded in the framework and help treat B2B transformation as a long-running enterprise change rather than a one-time platform replacement initiative. Major operational learnings include:

- Breadth-first modernization playbook (CRM and catalog before deep fulfillment)

- MVP-first approach to reduce risk and accelerate value, supported by a phased greenfield strategy that protects revenue, simplifies with control, and creates a future-ready enterprise B2B stack.
- Reorienting product propositions during the phased transformation.
- Governance models that minimize design churn and stakeholder fatigue.
- Reusability frameworks to cross-leverage B2B patterns.

These insights and learnings enable lower transformation risk through proven patterns, offer predictable implementation roadmaps aligned with enterprise realities, drive faster delivery by avoiding typical pitfalls (design cycles, alignment delays), and prioritize stepwise value capture instead of monolithic multi-year timelines.

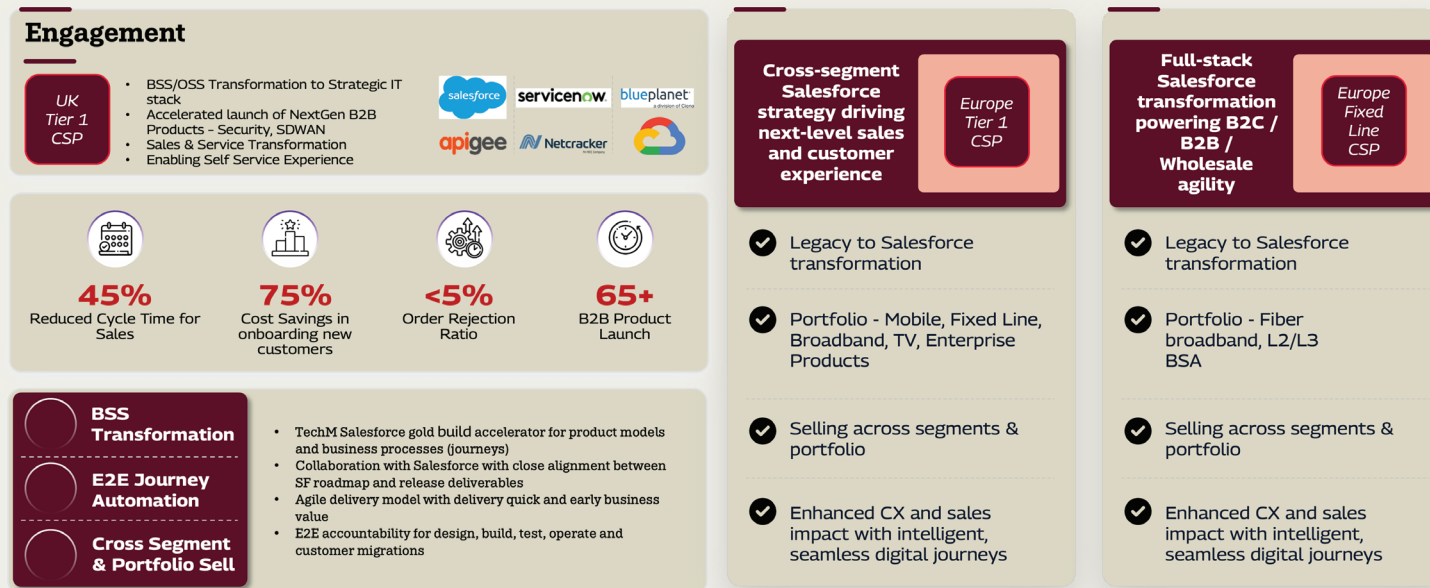


Figure 3: TechM's Recent B2B Transformation Engagements



## (N) - NextGen Delivery

Without clear value stream mapping and disciplined sprint governance, B2B transformations stall in prolonged design cycles, repeated rework, and stakeholder fatigue, delaying execution, despite platform readiness. Similarly, when data migration and cutover are not engineered with rehearsals and dual-run safeguards, risk concentrates at go-live events, impacting contracted enterprise revenue. BEACON's delivery methodology overcomes these hurdles through:

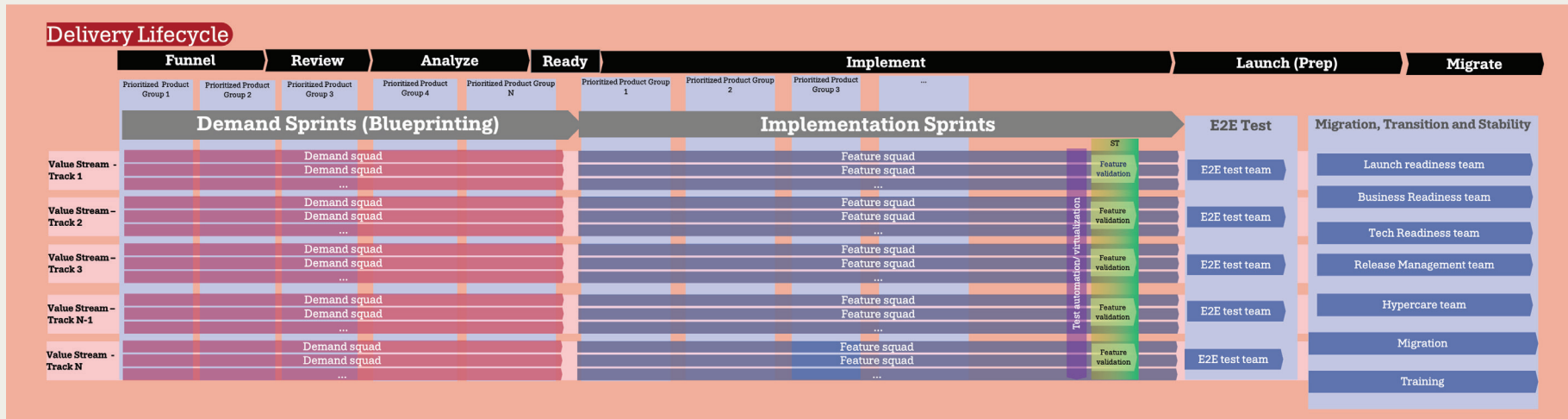


Figure 4: TechM's Delivery Lifecycle for BSS Transformation

- Sprint-based design → build → test → deploy model.
- Value-stream-led mapping aligned to TMF standards.
- Unified governance across the COTS vendor and the customer to maximize Out-of-the-Box (OOTB) implementation.
- A structured data migration approach and execution plan guided by key considerations across customer segments, product portfolios, and IT systems.
- Network readiness with data migration tools and the agentic framework.
- Dual-run and controlled cutover for revenue protection.
- Automated SIT, regression, and UAT through GenAI tools.
- Hypercare-led stabilization framework.



### What we will prioritize

- B2B Data Migration to Target stack
- Migration approach based on Product MMP roadmap & Market segment readiness
- Minimum risk & zero service disruption

### Using Solution Tenets

- **Strategy** - Planning, Migration Approach, System Study, Data Analysis
- **Preparation** - Data Selection, Validation, Transformation, Target Mapping, Test
- **Execution** - Deployment & Execution, Reconciliation, Re-run, Reports

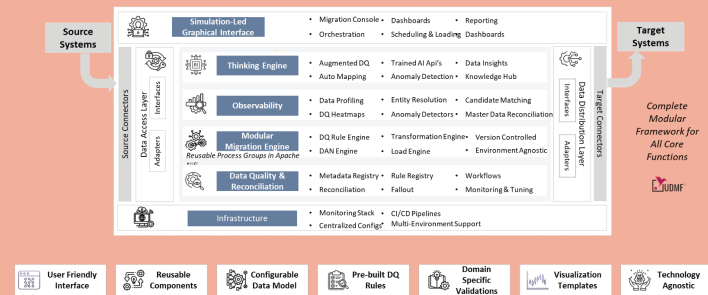
### Bringing required Interventions

- Data Migration factory setup with COE, Tools and Agents
- UDMF - Ready Data Migration engine
- B2B Customer, Product and Application Complexity learnings & Best Practices
- Data Quality & Reporting Dashboard ensuring Data Quality
- Personalized Supervisor & Worker agents

### Similar Engagements

- UK Tier 1 CSP
- Europe Tier 1 CSP
- Europe Fixed Line CSP

### Modular Migration Controller



### And Dedicated Agents for Data Migration

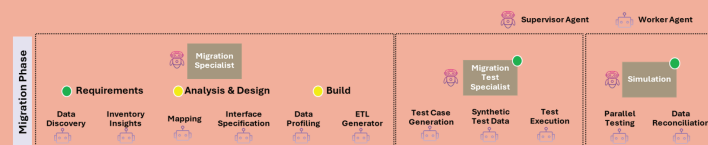


Figure 5: TechM's Data Migration Framework and Agentic Architecture

Through BEACON's delivery model, telco enterprises can achieve higher delivery velocity with fewer change-related disruptions, safer migrations with full fallback readiness, reduced rework and waste via early design assurance, and faster go-lives with 'first-time-right' quality.



## Common Transformation Risks and Mitigation Strategies

Any large-scale telco transformation carries significant risks. Proactively addressing these risks helps stabilize the transformation initiatives from the get-go. TechM's approach to predictable risks is as follows:

Risks	Mitigation Strategies
<b>Risk A:</b> Design paralysis and slow decision cycles	Process-led mapping, sprint-based design governance, and TMF-driven reference architecture.
<b>Risk B:</b> Platform misalignment or over-customization	Clear Best-of-Suite / Best-of-Breed boundaries, out-of-the-box-first approach, strict change control.
<b>Risk C:</b> Migration complexity and data quality issues	AI-enabled data migration accelerators, a phased migration approach, dual-run, and production rehearsal cycles.
<b>Risk D:</b> Multi-vendor dependencies limiting progress	Prime SI model, unified governance, cross-functional interlocks, and vendor-integration squads.
<b>Risk E:</b> Business stakeholder fatigue	Value-stream-based rollout, KPI-led prioritization, and organizational change management.
<b>Risk F:</b> Revenue impact during transformation	Revenue-protection-first sequencing, fallback frameworks, dual-run, controlled cutover.
<b>Risk G:</b> Extending consumer-grade patterns for the enterprise context without due consideration.	TechM's accelerators and process libraries for telco B2B/Enterprise business, focused on enterprise considerations while evaluating process/solution reuse across consumer business.



## Conclusion

The telco B2B segment will define the next decade of growth for CSPs. Operators with strategic modernization plans will realize the full market potential and benefit from the transformation efforts. Through incremental modernization, phased coexistence, and outcome-aligned delivery, TechM's BEACON framework empowers CSPs to minimize risks and build a robust, enterprise-ready B2B foundation for sustainable growth. Focusing on business-led transformation, not just platform-led change, BEACON delivers value at every stage of the BSS transformation journey.

## End Notes

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