## **Detailed Description of Data and AI Current Demand and Future Projects (093025)**

CURRENT DEMAND

### **MOS IN PD/ PD KPIS Project**

#### **Project Objective** - Establish a single, governed set of Global Product Development KPIs and trusted PD data sources to improve decision-making and measure PD performance across DSS, TIS, and CCS.

#### **Project Description** -Stand up a cross-functional program that defines and governs Global PD KPIs, creates a PD KPI Community of Practice, and delivers a centralized PD data catalog with automated reporting, dashboards, and enablement to drive adoption and measurable value.

**Problem Statement** - Product Development reporting is fragmented across siloed systems, reliant on manual data pulls, and lacks consistent metric definitions and ownership; incomplete business process mapping and an undefined PD digital thread prevent reliable measurement of PD performance and obscure the impact of transformation efforts.

**Who Has the Problem** - PD leadership and GPDO category owners need consistent performance metrics to manage and benchmark engineering efforts; engineering and program teams in DSS, TIS, and CCS require visibility into project performance and profitability; finance and commercial stakeholders need standardized measures for decision-making; and Enterprise Data/Integration teams must supply and centralize the underlying data while supporting business adoption.

**What They Want to Do** - Stakeholders want a single, trusted set of Global PD KPIs supported by reliable, centralized data sources (including RPM/CATS and Teamcenter) so teams can measure current-state performance, prioritize initiatives, and track improvements; they expect clear KPI ownership and feedback mechanisms, easier self-service access to cataloged PD data, and analytic capabilities that enable faster, more confident decisions and improved part reuse and churn outcomes.

**What's Preventing the Objective (Constraints)** - Incomplete business process mapping and an undefined PD digital thread limit clarity on required data flows and element definitions, while inconsistent data collection practices and variable data quality across source systems hinder automation; the program is also constrained by Enterprise Data/Integration priorities, potential lack of business buy‑in and adoption, resource availability for dedicated staffing and infrastructure, and cultural resistance to standardized KPIs across diverse BUs.

**Why this Project Matters to the Future of Data and AI -** A governed PD KPI program creates the trusted data foundation required for advanced analytics and responsible AI by standardizing metrics, establishing a single source of truth, and institutionalizing feedback loops that enable scalable decision intelligence and measurable ROI from future AI initiatives.

FUTURE POTENTIAL DEMAND

### **ARIA Development Project (Advanced Reasoning & Insights Agent)**

#### Project Objective

Develop an AI system that detects conversation context and automatically delivers relevant insights, with predictive analytics that validates insight value before delivery, ensuring insights align with business outcomes rather than driving them.

#### Project Description

Create a contextual AI insight delivery system that seamlessly integrates with AR glasses and audio devices. ARIA will observe user interactions, anticipate information needs, and proactively surface relevant data, analysis, and recommendations at the precise moment of need. The system will learn from user behavior patterns and continuously refine its understanding of when and how to deliver insights for maximum impact.

#### Problem Statement

Teams waste valuable time searching for information across multiple systems, often missing critical insights that could inform better decisions. Current analytics tools require users to actively query data, leading to delayed or incomplete understanding. Manual information retrieval interrupts workflow and creative thinking, while valuable insights remain buried in disparate data sources.

#### Who Has the Problem

Product designers needing real-time feasibility checks; engineering teams requiring immediate access to historical design patterns; sales teams seeking customer insights during negotiations; manufacturing engineers needing instant access to production constraints; executives requiring contextual business intelligence for rapid decision-making.

#### What They Want to Do

Access relevant insights automatically without interrupting their thought process, receive validated information that enhances rather than drives their decisions, and collaborate seamlessly with AI assistance that understands their context and anticipates their needs.

#### What's Preventing the Objective (Constraints)

Current limitations include fragmented data sources across enterprise systems, lack of contextual understanding in existing analytics tools, privacy and security concerns around always-on monitoring, technical complexity of AR/audio device integration, and organizational resistance to AI-driven decision support.

#### Why this Project Matters to the Future of Data and AI

ARIA represents the evolution from reactive to proactive intelligence, transforming how humans and machines collaborate. By removing friction between insight and action, it enables the confident, rapid decision-making described in "The Future of Confident Decision-Making at Molex," making AI a seamless partner rather than a separate tool.

### **Enterprise Data Product Platform**

#### Project Objective

Design and implement a curated data product marketplace with standardized templates, trust indicators, and continuous improvement mechanisms to ensure reliable, accessible data products across the organization.

#### Project Description

Build a comprehensive platform where data products are treated as first-class enterprise assets. The marketplace will feature curated data products with clear trust indicators (freshness, reliability, confidence scores), standardized templates for various use cases, and robust feedback loops for continuous improvement. Users can subscribe to data products, track deprecation schedules, and contribute to product evolution through structured feedback.

#### Problem Statement

Data consumers currently struggle to find trustworthy, relevant data products, often recreating analyses that already exist elsewhere. Without standardized formats or quality indicators, users waste time verifying data accuracy and understanding limitations. The lack of a centralized marketplace leads to duplicated efforts, inconsistent analyses, and missed opportunities for data reuse.

#### Who Has the Problem

Data scientists spending excessive time on data preparation; business analysts needing reliable datasets for reporting; product managers seeking consistent metrics across teams; IT teams managing redundant data pipelines; executives requiring trustworthy data for strategic decisions.

#### What They Want to Do

Easily discover and subscribe to high-quality data products, understand data lineage and trust levels at a glance, contribute feedback to improve data products, and confidently reuse existing analyses rather than starting from scratch.

#### What's Preventing the Objective (Constraints)

Barriers include lack of data product standards and governance, absence of automated quality scoring mechanisms, siloed data ownership across departments, technical debt from legacy data infrastructure, and limited resources for data curation and maintenance.

#### Why this Project Matters to the Future of Data and AI

The Enterprise Data Product Platform transforms data from a technical asset to a business product, enabling the scalable, trustworthy data ecosystem essential for AI-driven decision-making. It provides the foundation for all other data initiatives by ensuring consistent, reliable inputs.

### **Data Governance & Lineage Framework**

#### Project Objective

Establish comprehensive data governance with end-to-end lineage tracking, industry-standard taxonomy, and trust scoring algorithms to ensure data integrity throughout its lifecycle.

#### Project Description

Implement a robust framework that tracks data from source to consumption, providing clear visibility into transformations, validations, and usage patterns. The system will include automated data model qualification, statistical validation mechanisms, and dynamic trust scoring that reflects data quality, freshness, and reliability. Industry-standard taxonomies will ensure consistent data classification across the enterprise.

#### Problem Statement

Without clear data lineage, teams cannot verify data accuracy or understand the impact of upstream changes. Inconsistent data definitions lead to misaligned analyses, while the absence of trust indicators forces users to manually validate data quality. This results in delayed decisions, increased risk, and reduced confidence in data-driven insights.

#### Who Has the Problem

Data engineers needing to trace data transformations; compliance officers requiring audit trails; business users needing to understand data sources; quality teams validating data accuracy; IT teams managing data dependencies and impact analysis.

#### What They Want to Do

Trace any data element back to its source with full transformation history, automatically assess data quality and trustworthiness, maintain consistent data definitions across systems, and confidently use data knowing its lineage and quality status.

#### What's Preventing the Objective (Constraints)

Challenges include complex legacy system integrations, inconsistent data capture practices across sources, lack of standardized metadata management, resource constraints for comprehensive lineage implementation, and organizational resistance to new governance procedures.

#### Why this Project Matters to the Future of Data and AI

This framework provides the trust foundation essential for AI adoption. Without reliable data lineage and governance, AI systems cannot deliver trustworthy insights. This project ensures the "single source of truth" that enables confident decision-making.

### **Growth & Performance System Implementation**

#### Project Objective

Restructure decision-making hierarchy to push authority to edge employees, with intelligent monitoring, adaptive guardrails, and embedded coaching mechanisms based on experience levels.

#### Project Description

Deploy a decentralized decision authority system that empowers front-line employees while maintaining appropriate oversight. GPS will define clear role-based decision rights and thresholds, monitor decision patterns for anomalies, and provide real-time coaching when needed. The system adapts guardrails based on individual experience and performance history, gradually expanding authority as competence is demonstrated.

#### Problem Statement

Centralized decision-making creates bottlenecks that slow response times and frustrate employees closest to the work. Current approval hierarchies don't account for individual expertise or context, leading to unnecessary escalations. Without intelligent monitoring, organizations cannot balance empowerment with appropriate risk management.

#### Who Has the Problem

Front-line employees waiting for approvals on routine decisions; managers overwhelmed with minor approval requests; customers experiencing delays due to escalation requirements; executives concerned about maintaining control while enabling agility; HR teams struggling to define appropriate decision authorities.

#### What They Want to Do

Enable rapid decision-making at the point of impact, provide appropriate oversight without creating bottlenecks, develop employee capabilities through graduated empowerment, and maintain governance while increasing organizational agility.

#### What's Preventing the Objective (Constraints)

Obstacles include rigid organizational hierarchies, lack of systems to monitor distributed decisions, absence of risk-based decision frameworks, cultural resistance to decentralized authority, and limited tools for providing real-time coaching and guidance.

#### Why this Project Matters to the Future of Data and AI

GPS exemplifies AI-enabled organizational transformation, using machine intelligence to enable human empowerment. It demonstrates how AI can enhance rather than replace human decision-making, creating the adaptive organization needed for future competitiveness.

### **Secure Digital Collaboration Environment**

#### Project Objective

Develop a secure platform for real-time design collaboration with customers, featuring IP protection, selective information sharing, and structured innovation frameworks.

#### Project Description

Create a comprehensive collaboration platform that enables secure co-creation with customers while protecting intellectual property. The system will provide role-based access controls, selective information visualization, real-time feasibility checking, and structured frameworks for innovation sessions. Advanced security features ensure sensitive data remains protected while enabling meaningful collaboration.

#### Problem Statement

Current collaboration methods either expose too much sensitive information or restrict interaction to the point of limiting innovation. Without secure, structured environments, customer co-creation sessions lack the real-time data and tools needed for effective design iteration. This leads to longer development cycles and missed innovation opportunities.

#### Who Has the Problem

Design teams needing customer input while protecting IP; sales teams wanting to demonstrate capabilities without revealing proprietary information; customers frustrated by limited visibility into feasibility; legal teams concerned about IP exposure; innovation managers seeking structured co-creation processes.

#### What They Want to Do

Collaborate with customers in real-time on actual designs, share selective information based on roles and agreements, validate feasibility during design sessions, and capture innovation insights within secure, auditable frameworks.

#### What's Preventing the Objective (Constraints)

Barriers include complex IP protection requirements, technical challenges in selective data sharing, lack of real-time integration with design systems, customer reluctance to adopt new platforms, and balancing openness with security needs.

#### Why this Project Matters to the Future of Data and AI

This platform enables the customer-centric innovation essential for competitive advantage, demonstrating how AI can facilitate secure collaboration. It transforms customer relationships from transactional to collaborative, accelerating innovation while maintaining necessary protections.

### **Knowledge Capture & Dissemination System**

#### Project Objective

Create an AI-powered system that continuously captures tribal knowledge, provides instant access to institutional expertise, and proactively surfaces relevant knowledge based on context.

#### Project Description

Build a living knowledge network that automatically captures expertise from daily work, structures it for easy retrieval, and proactively delivers it when needed. The system will include video tutorial creation, documentation platforms, and AI-powered retrieval mechanisms. Knowledge cultivation sessions will be automatically scheduled to capture expertise before it's lost.

#### Problem Statement

Critical organizational knowledge exists primarily in employees' minds, making it vulnerable to loss through turnover. Current documentation is often outdated, hard to find, or doesn't capture the nuanced understanding that experts possess. This leads to repeated mistakes, longer onboarding times, and missed opportunities to leverage past learnings.

#### Who Has the Problem

New employees struggling to access organizational knowledge; experienced employees repeatedly answering the same questions; managers losing expertise through retirements; teams recreating solutions that already exist; organizations facing knowledge gaps from turnover.

#### What They Want to Do

Instantly access relevant organizational knowledge, capture expertise before it's lost, learn from past successes and failures, and build on existing knowledge rather than starting from scratch.

#### What's Preventing the Objective (Constraints)

Challenges include unstructured existing knowledge repositories, time constraints preventing documentation, lack of incentives for knowledge sharing, technical complexity of knowledge extraction, and difficulty in maintaining knowledge currency.

Why this Project Matters to the Future of Data and AI

This system transforms organizational memory from passive archives to active intelligence. By making institutional knowledge instantly accessible and contextually relevant, it accelerates learning curves and prevents repeated mistakes, essential for maintaining competitive advantage.

### **Predictive Analytics & Context Engine**

#### Project Objective

Develop a system that observes user context, anticipates needs, and delivers insights through adaptive presentation methods while learning individual decision-making styles.

#### Project Description

Create an intelligent engine that monitors user activities, understands context, and predicts information needs before they're expressed. The system will support multi-modal delivery (visual, audio, tactile) and adapt presentation styles based on individual preferences and decision-making patterns. Non-disruptive notification mechanisms ensure insights enhance rather than interrupt workflow.

#### Problem Statement

Current analytics tools require users to actively seek information, often missing critical insights due to lack of awareness or time. One-size-fits-all presentation methods don't account for individual learning styles or contextual needs. This results in overlooked opportunities, delayed responses to emerging issues, and suboptimal decision-making.

#### Who Has the Problem

Executives needing situational awareness without information overload; analysts requiring timely alerts to data anomalies; designers wanting contextual constraints during creation; field teams needing location-based insights; all users seeking personalized information delivery.

#### What They Want to Do

Receive relevant insights without explicit queries, have information presented in their preferred format, maintain focus while staying informed, and trust that critical information won't be missed.

#### What's Preventing the Objective (Constraints)

Obstacles include complexity of context detection, privacy concerns around behavioral monitoring, technical challenges in multi-modal delivery, difficulty in balancing proactive delivery with avoiding interruption, and individual resistance to predictive systems.

#### Why this Project Matters to the Future of Data and AI

This engine represents the evolution from pull to push intelligence, making insights ambient and contextual. It demonstrates how AI can augment human awareness without creating dependency, enabling the fluid human-machine collaboration essential for future work.

### **Insight ROI Assessment System**

#### Project Objective

Create algorithms to assess insight value versus existing knowledge, implement decision impact thresholds, and provide transparent reasoning for all recommendations.

#### Project Description

Build a comprehensive system that evaluates the potential value of insights before delivery, comparing them against existing knowledge and decision thresholds. The system will include cost-benefit analysis engines, reasoning transparency mechanisms, and continuous value measurement loops. Only insights that meet ROI thresholds will be surfaced, reducing information overload while ensuring critical insights aren't missed.

#### Problem Statement

Information overload prevents effective decision-making, with users bombarded by insights of marginal value. Without clear ROI assessment, valuable insights are lost in noise while trivial information consumes attention. The lack of reasoning transparency makes users skeptical of AI recommendations, limiting adoption and value realization.

#### Who Has the Problem

Decision-makers overwhelmed by excessive alerts and recommendations; analysts needing to prioritize high-value insights; AI teams struggling to demonstrate system value; users skeptical of black-box recommendations; organizations measuring the impact of analytics investments.

#### What They Want to Do

Receive only high-value insights that justify attention, understand the reasoning behind recommendations, measure the actual impact of insights on decisions, and trust that AI filtering doesn't hide critical information.

#### What's Preventing the Objective (Constraints)

Barriers include difficulty in quantifying insight value, complexity of modeling decision impact, lack of feedback mechanisms to validate ROI, technical challenges in reasoning transparency, and organizational resistance to algorithmic filtering.

#### Why this Project Matters to the Future of Data and AI

This system ensures AI delivers value rather than volume, building trust through transparency and demonstrated ROI. It transforms AI from a data firehose to a trusted advisor, essential for sustainable AI adoption and value realization.

### **Employee Enablement Initiative**

#### Project Objective

Design comprehensive data literacy programs with role-specific training, decision science fundamentals, and personalized learning paths to build organizational data confidence.

#### Project Description

Develop a "Data Confidence Bootcamp" curriculum that transforms employees into confident data users. The initiative includes role-specific modules, real-world scenario training, decision science fundamentals, and personalized learning paths that adapt to individual progress. Practical exercises using actual organizational data ensure skills transfer to daily work.

#### Problem Statement

Despite investments in data infrastructure, many employees lack the confidence and skills to effectively use data in decisions. Generic training programs don't address role-specific needs, while theoretical approaches fail to build practical capabilities. This results in underutilized data assets, poor data-driven decisions, and continued reliance on intuition over insights.

#### Who Has the Problem

Employees intimidated by data analysis tools; managers making decisions without data confidence; teams underutilizing available data resources; L&D departments struggling with effective data training; organizations not realizing ROI from data investments.

#### What They Want to Do

Build practical data skills relevant to their roles, gain confidence in data-driven decision-making, apply data insights to real work challenges, and progress at their own pace with personalized support.

#### What's Preventing the Objective (Constraints)

Challenges include diverse skill levels and learning needs, limited training resources and expertise, difficulty in making training role-relevant, time constraints for employee participation, and measuring skill development and application.

#### Why this Project Matters to the Future of Data and AI

This initiative ensures the human side of the human-AI partnership is prepared for collaboration. Without data-literate employees, even the best AI systems cannot deliver value. It transforms data from a specialist domain to organizational capability.

### **Decision Intelligence Capture Platform**

#### Project Objective

Create a system that captures expert decision-making patterns, reconstructs scenarios from successes and failures, and provides immersive apprenticeship experiences.

#### Project Description

Build a platform that observes and documents expert decision-making in action, highlighting decision points, capturing rationale, and creating reusable learning scenarios. The system will reconstruct both successful and failed decisions, providing immersive simulations where novices can practice in safe environments. AI analysis identifies patterns that distinguish expert from novice decision-making.

#### Problem Statement

Expert decision-making knowledge is rarely captured in a form that enables effective knowledge transfer. Traditional training methods fail to convey the nuanced judgment that distinguishes experts. This leads to long apprenticeship periods, repeated mistakes, and loss of expertise through retirement without adequate succession.

#### Who Has the Problem

Organizations losing expert knowledge through retirement; novice employees with lengthy learning curves; training departments lacking effective apprenticeship tools; experts spending excessive time mentoring; teams repeating mistakes due to lost lessons learned.

#### What They Want to Do

Systematically capture and transfer expert judgment, accelerate the development of decision-making skills, learn from both successes and failures, and create scalable apprenticeship experiences.

#### What's Preventing the Objective (Constraints)

Obstacles include difficulty in articulating tacit knowledge, complexity of capturing decision context, expert time constraints for knowledge transfer, technical challenges in creating realistic simulations, and organizational reluctance to document failures.

#### Why this Project Matters to the Future of Data and AI

This platform preserves and scales organizational wisdom, using AI to accelerate expertise development. It transforms apprenticeship from one-to-one mentoring to one-to-many digital experiences, essential for maintaining competitive advantage as workforce demographics shift.

### **Machine Learning Optimization Platform**

#### Project Objective

Build comprehensive feedback loops, pattern recognition, and A/B testing frameworks to enable continuous system evolution and optimization.

#### Project Description

Create an intelligent platform that monitors all system components, identifies optimization opportunities, and automatically tests improvements. The system includes sophisticated pattern recognition for optimal insight timing, A/B testing frameworks for delivery methods, success factor analysis, and automated evolution mechanisms. Continuous learning ensures systems improve without manual intervention.

#### Problem Statement

Current systems remain static after deployment, missing opportunities for improvement based on usage patterns. Without systematic optimization, systems degrade over time rather than improve. Manual optimization efforts are sporadic, subjective, and fail to capture the full range of improvement opportunities.

#### Who Has the Problem

IT teams managing system performance; users experiencing suboptimal system behavior; data scientists manually tuning models; business leaders seeking continuous improvement; organizations competing on algorithmic efficiency.

#### What They Want to Do

Enable systems to automatically improve based on usage, identify and implement optimizations without manual intervention, continuously test and validate improvements, and maintain competitive advantage through algorithmic evolution.

#### What's Preventing the Objective (Constraints)

Barriers include complexity of automated optimization, risk of autonomous system changes, lack of comprehensive feedback mechanisms, technical debt limiting flexibility, and organizational concern about self-modifying systems.

#### Why this Project Matters to the Future of Data and AI

This platform enables the self-improving systems essential for maintaining competitive advantage. It demonstrates how AI can create systems that get better with use, transforming technology from depreciating assets to appreciating capabilities.

### **Enterprise System Orchestration**

#### Project Objective

Integrate all data and AI capabilities into seamless workflows with unified user experience, real-time synchronization, and fail-safe mechanisms.

#### Project Description

Build a comprehensive orchestration layer that connects all enterprise data and AI systems into cohesive workflows. The platform provides unified APIs for system interoperability, consistent user experience across platforms, real-time synchronization of data and insights, and robust fail-safe mechanisms. This creates a seamless environment where capabilities combine to deliver greater value than individual components.

#### Problem Statement

Fragmented systems force users to navigate multiple interfaces and manually transfer information between platforms. Without orchestration, powerful capabilities remain isolated, limiting their collective impact. This results in inefficient workflows, inconsistent experiences, and missed opportunities for synergistic value creation.

#### Who Has the Problem

Users frustrated by fragmented systems; IT teams managing complex integrations; business processes spanning multiple platforms; organizations seeking unified digital experiences; leaders trying to realize ROI from technology investments.

#### What They Want to Do

Access all capabilities through unified interfaces, have data and insights flow seamlessly between systems, maintain consistent experiences across platforms, and leverage the full power of integrated capabilities.

#### What's Preventing the Objective (Constraints)

Challenges include legacy system limitations, diverse technology stacks and APIs, complex data synchronization requirements, organizational silos resisting integration, and balancing standardization with flexibility.

#### Why this Project Matters to the Future of Data and AI

This orchestration layer transforms disparate capabilities into a unified intelligent enterprise. It enables the seamless human-machine collaboration described in the vision, making technology invisible while its benefits become pervasive. Without orchestration, even the best individual capabilities cannot deliver transformative value.