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SUMMIT 2023

02-05 March 2023,
Sofitel Dubai
The Palm Jumeirah
Dubai

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Managing Complexity in Software Development



Mahalakshmi SR

Delivery Manager

Have played multiple roles in the field of IT including software development, Presales, SaaS Marketing and now part of Accionlabs' strong delivery workforce.

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Venu G Reddy

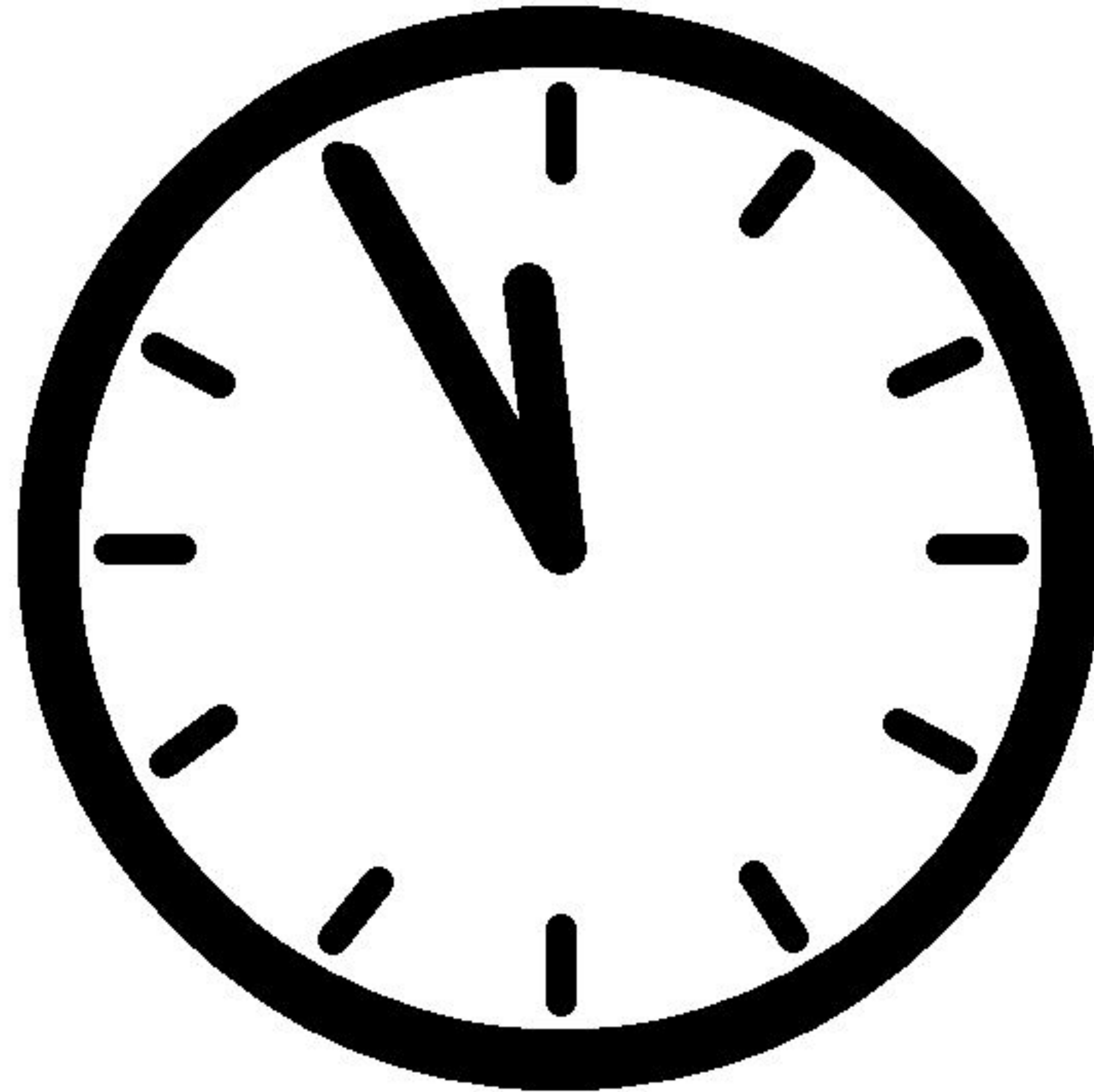
Associate Vice President - Delivery

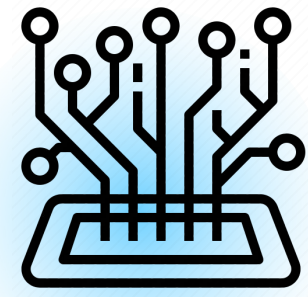
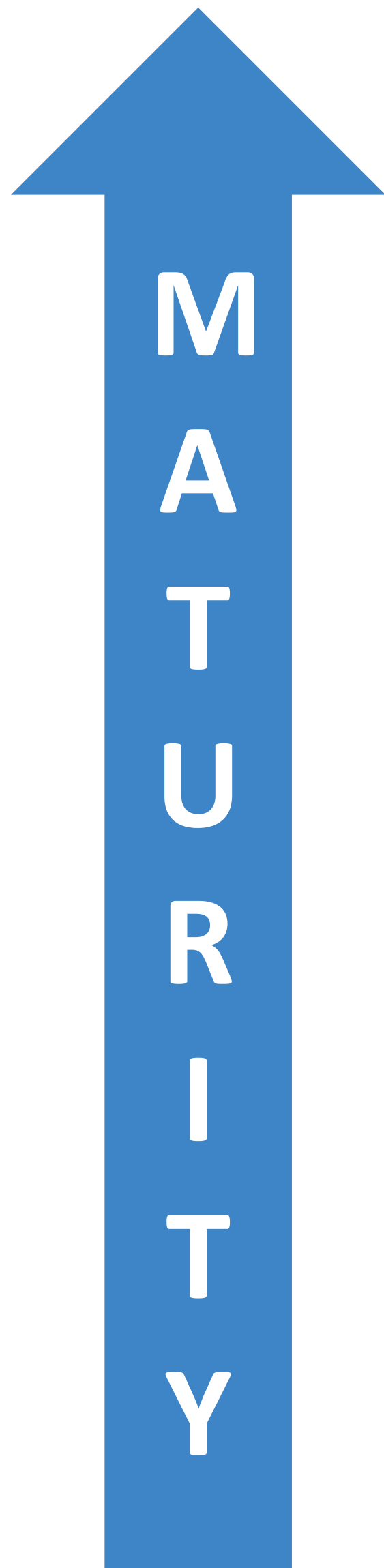
2.5 decades of software engineering and in IT Services delivery, product development and client management

Summary

- Product Architecture Maturity Analysis & Insights
- Maturity of SDLC practices
- Best Practices that help in Effective Delivery

Go back in time.....





Futuristic - Able to initiate significant change and disrupt the status quo. Created a new opportunity



Strategic- Able to accomodate unanticipated changes and well prepared to exploit positive risks. Exceeding objectives



Meticulous - Able to plan for anticipated changes and respond gracefully to “negative risks” and meet objectives reasonably well



Firefighting - We don't really believe in planning, but somehow react.



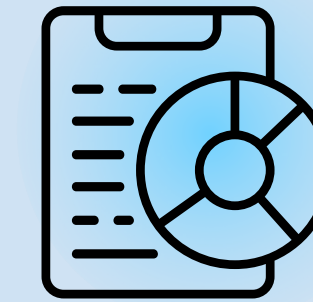
Disaster - Whatever we do, we never seem to win. Every project is "Dead on Arrival"....



Accounts
78

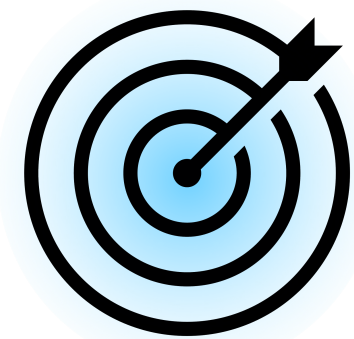


Projects
158



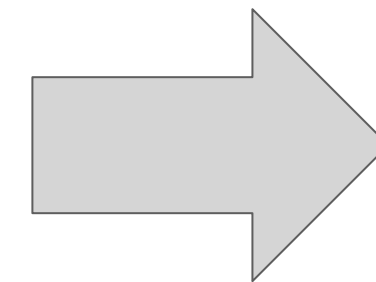
Data Points
50+

Assessment & Objective



- To assess the engineering practices of projects against the maturity model defined
- Survey to derive product landscape at Accion & trajectory towards maturity

- Architectural Maturity
- UX Maturity
- DevOps and Automation Maturity
- Security
- Data Maturity
- Process Maturity



The Outcome



- Metrics and Measurement
- Effective Risk Management
- Continuous Improvement

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Product Maturity Reports

Complexity Management through Architecture Patterns

Architectural Pattern	Substance Complexity		Dynamic Complexity		Suitable Business Conditions
	Architectural Complexity	Effort / Business Complexity	Architectural Complexity	Effort / Business Complexity	
Monolithic	Low	High	Low	High	Stable, predictable e.g. manufacturing
Layered	Moderate	High	Low	High	Periodic update E.g. niche ecom, crm,
Service Oriented	Moderate	High	Moderate	Moderate	Some degree of regulation and management e.g education, realestate
Microservices	High	Low	High	Low	Constant rapid change Large Scale E.g. banking, high-traffic ecom

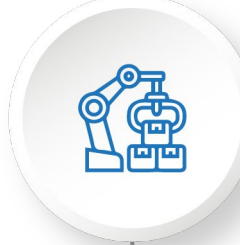



Conventional methods used to measure User Acceptance

Qualitative User Test

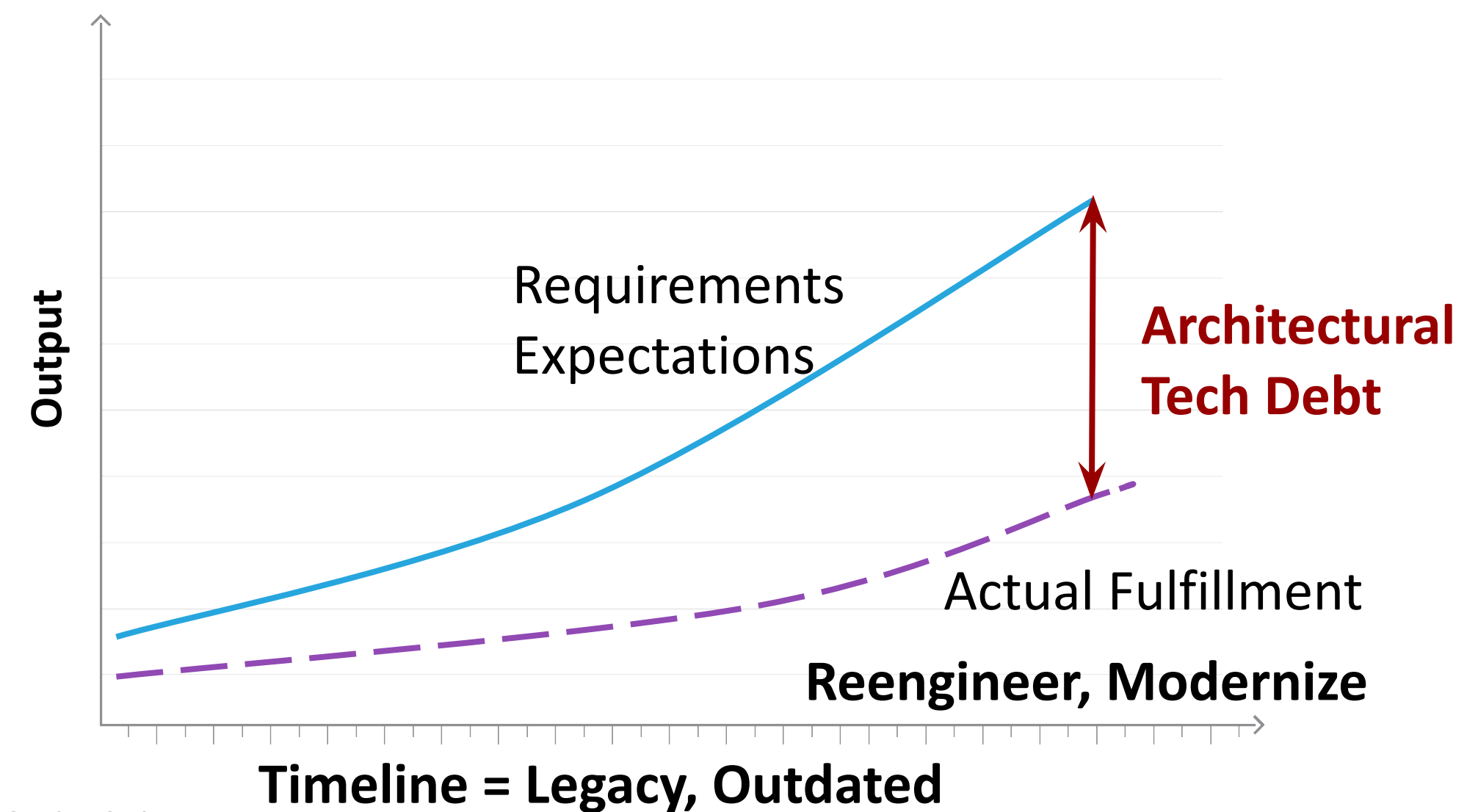
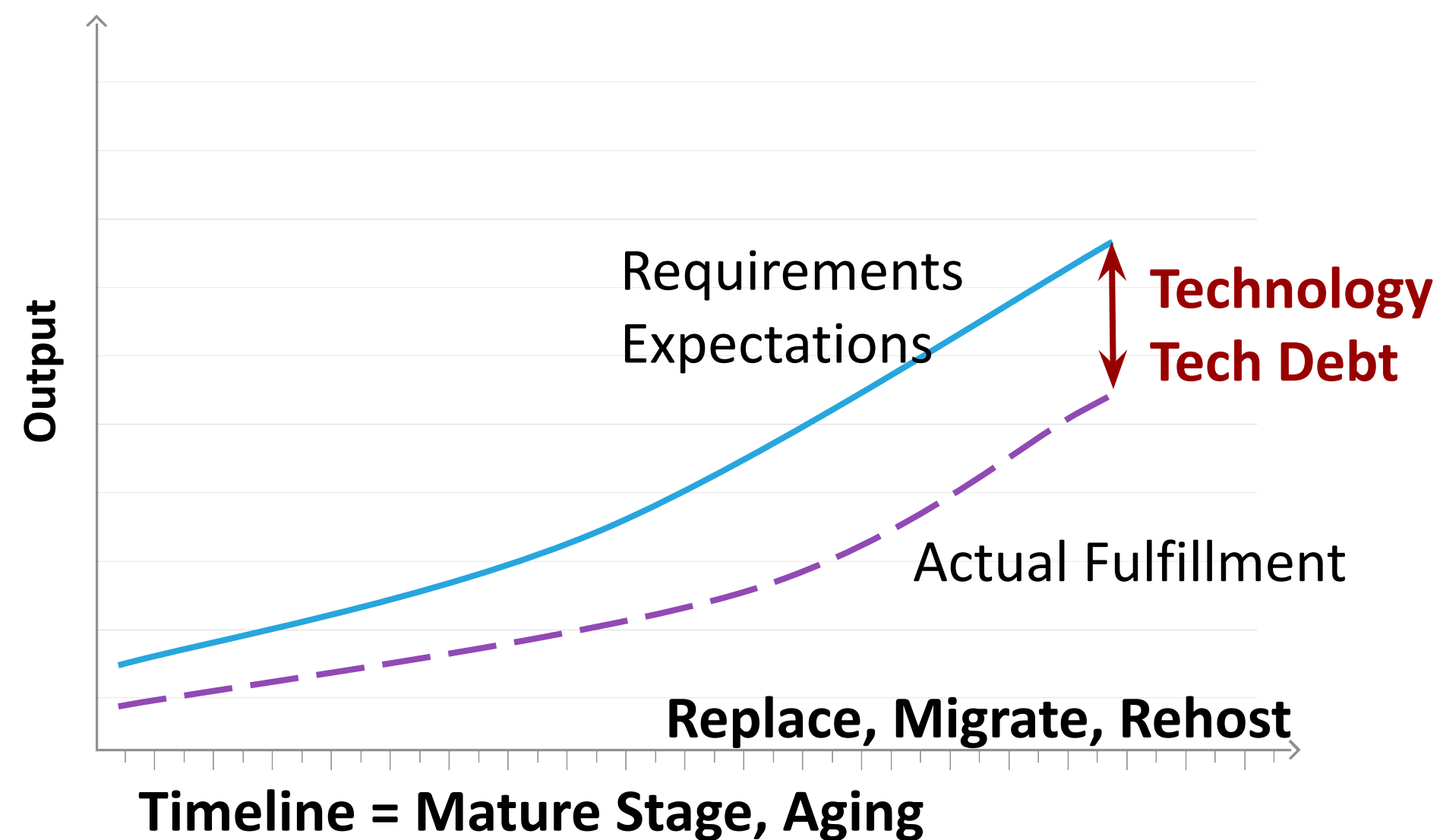
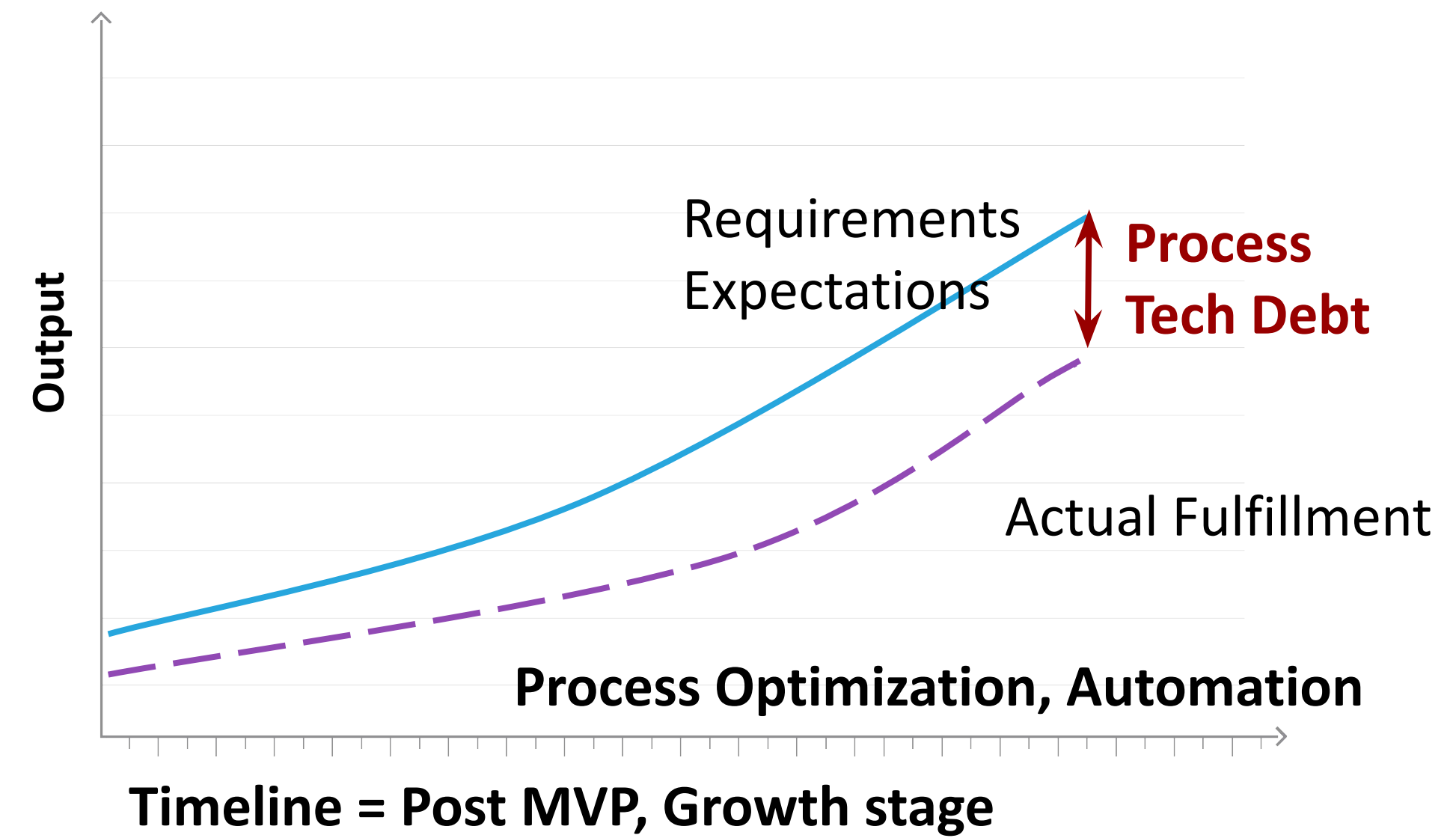
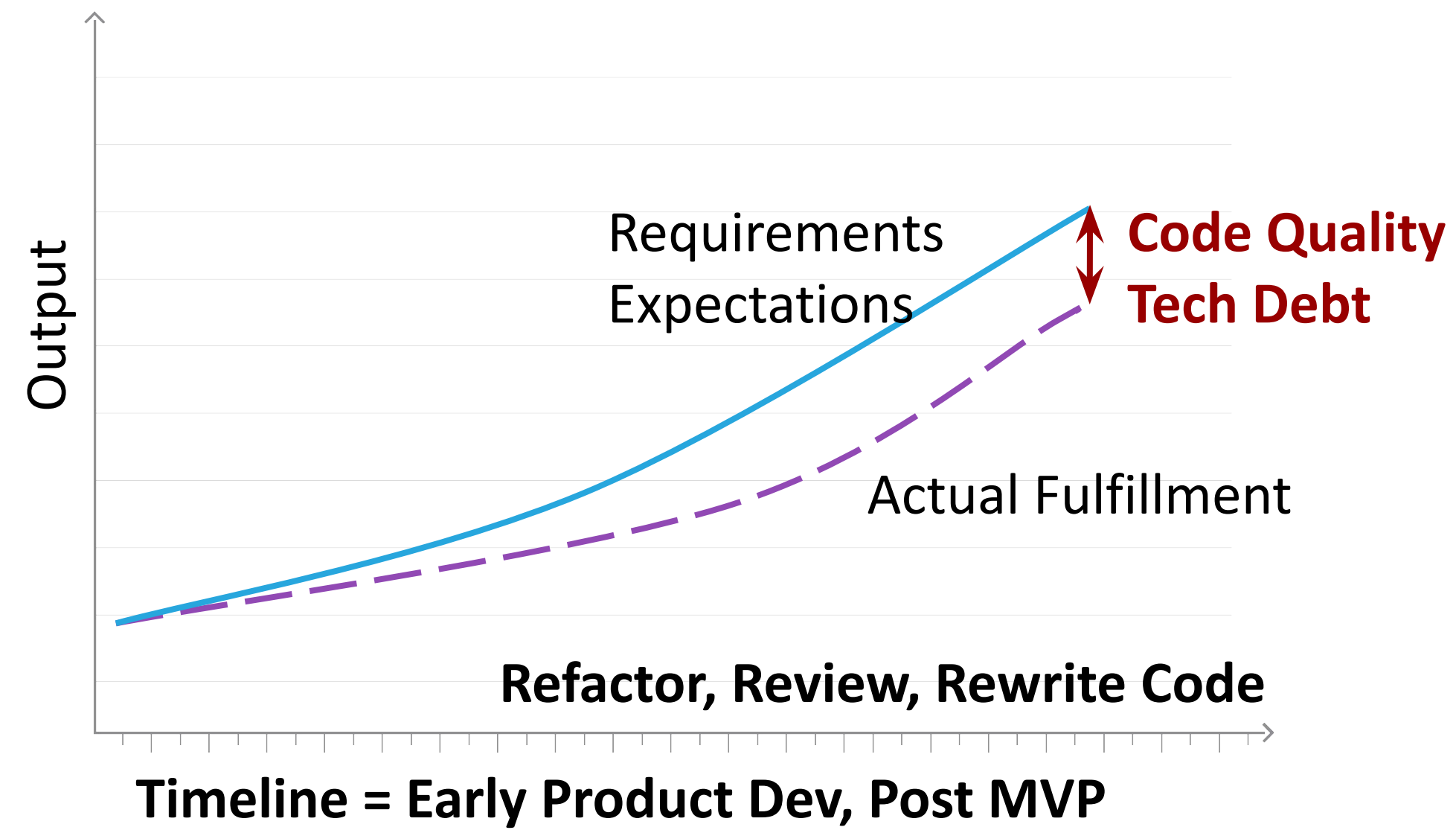
-  It is an analysis of **behaviours** and **cognition**. It is used to formulate a hypothesis
-  1-on-1 Interviews, Observations, Focus Groups
-  Manual Process
-  Humans are involved in conducting test and data analysis



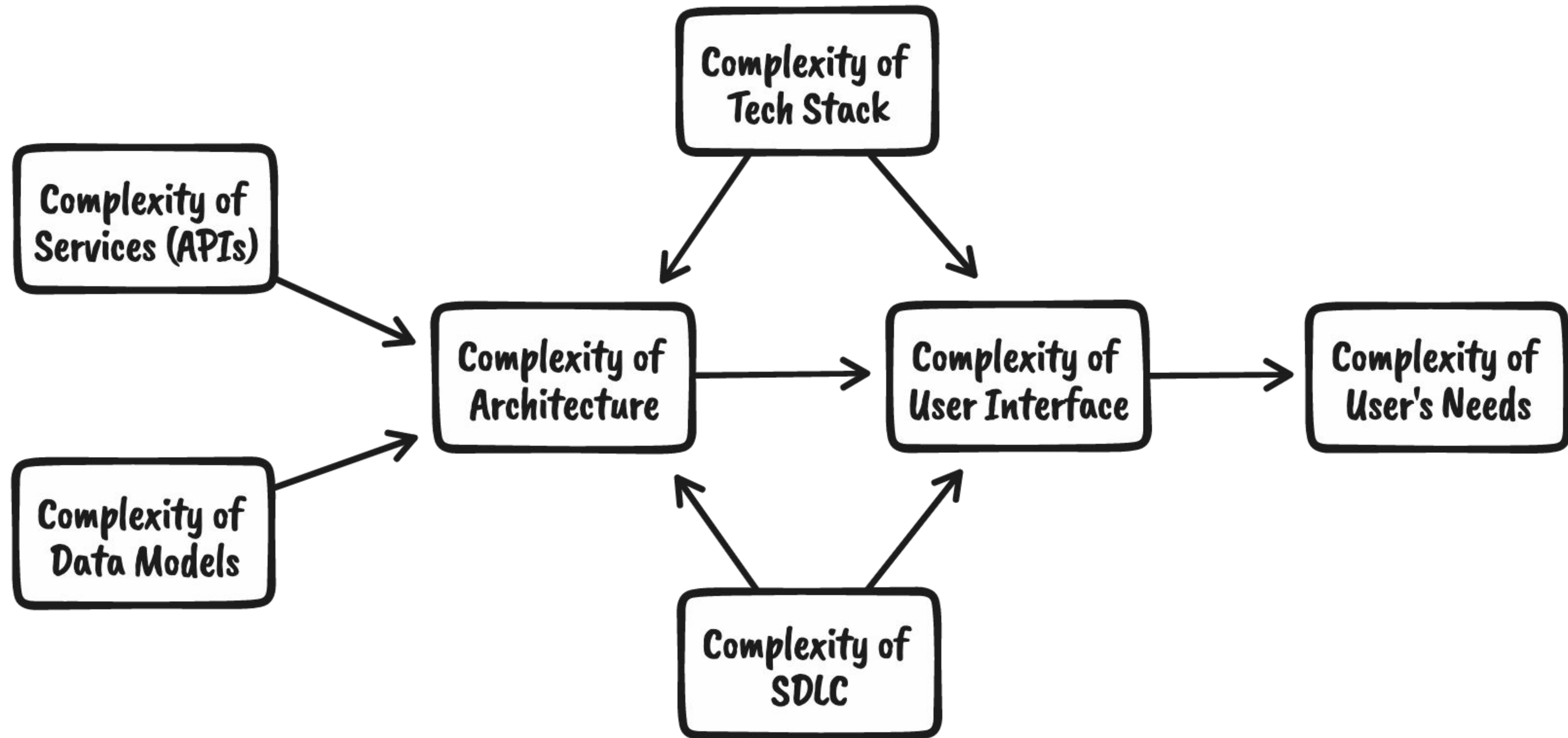
Quantitative User Test

-  It is an analysis of **numerical data** in large quantities. It is used to test or confirm a hypothesis
-  Statistical data (ratings, rankings, scales)
-  Partially automated
-  Humans are involved in data analysis, tests can be automated

Different Tech Debt Causes, Timelines, Different Repayment Solutions



Complexity is embedded in all layers of the Product



Measure and Manage Complexity of Each Layer to Address Complexity of Users' Needs

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The Survey Approach & Baseline Info

Focus Areas - The 5P Way



Projects

- Team Composition
- RACI
- Definition of Success Criteria
- Gross Margin
- Value Based Delivery



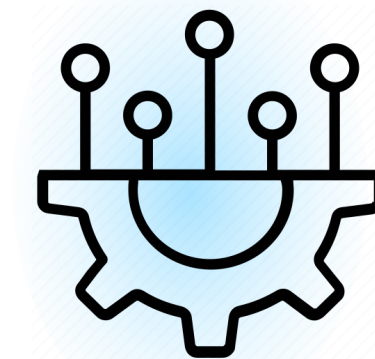
People

- Attrition %
- Utilisation %
- Backfills



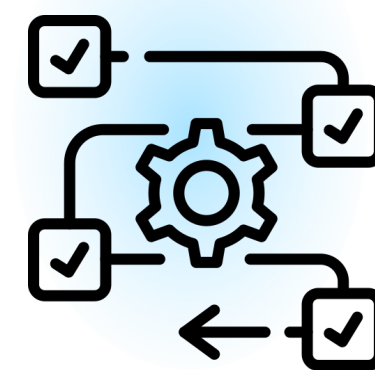
Products

Product / Domain Knowledge



Platforms

- Tech Leadership
- Product Architecture
- Tech Debt & Risks
- Source Control Practices

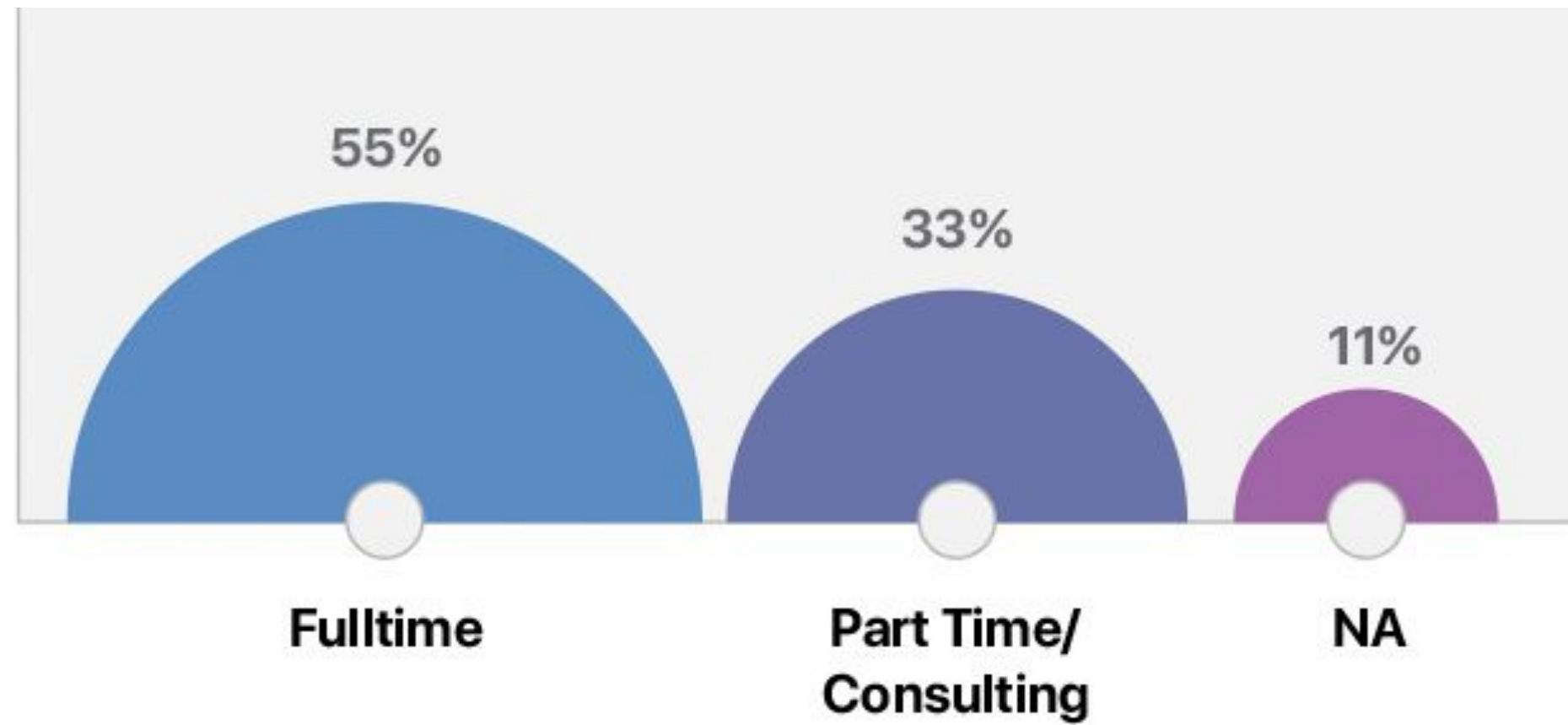


Process

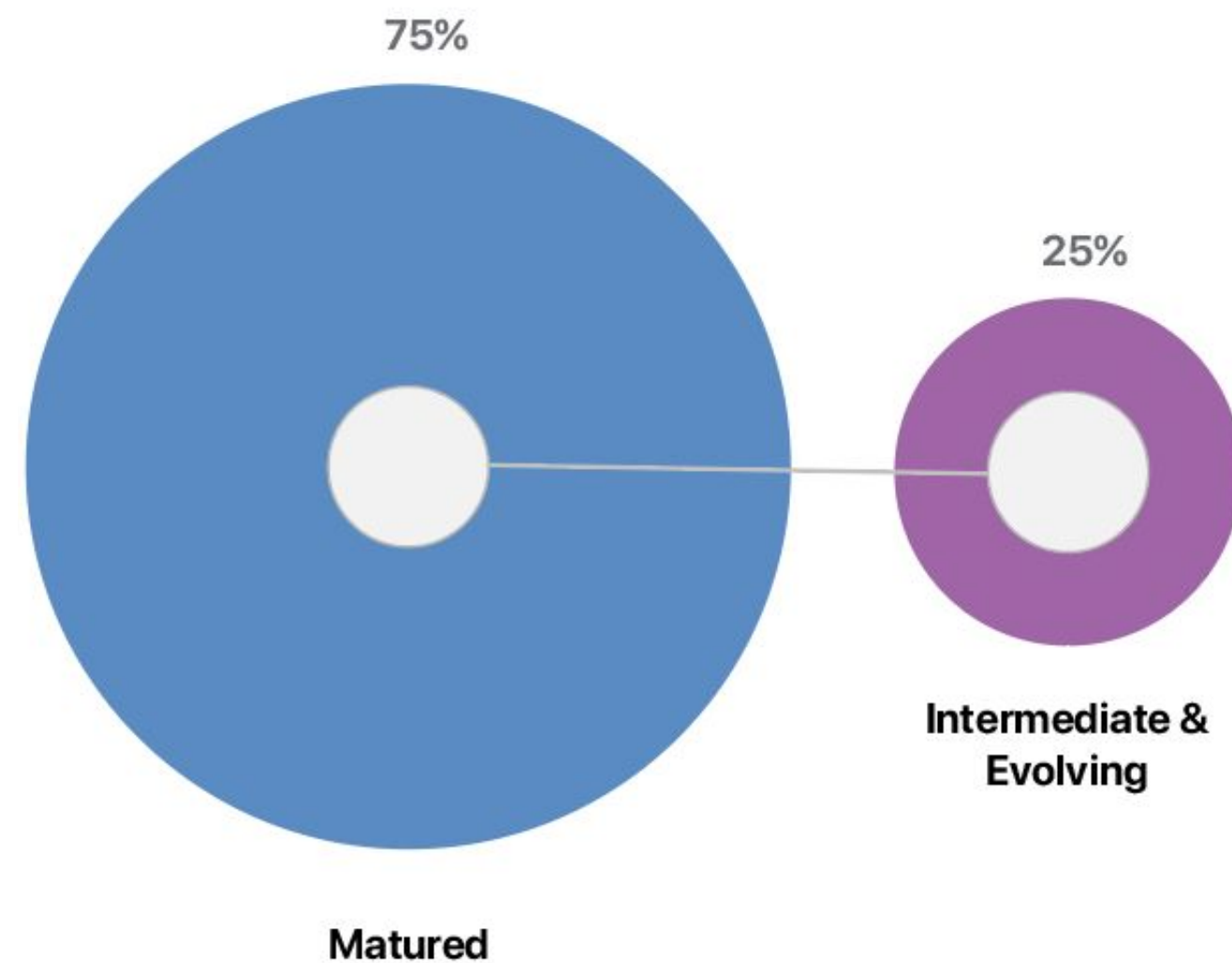
- Process (Agile) Knowledge
- Governance Model
- Quality Engineering

Product & Platform - Maturity Levels

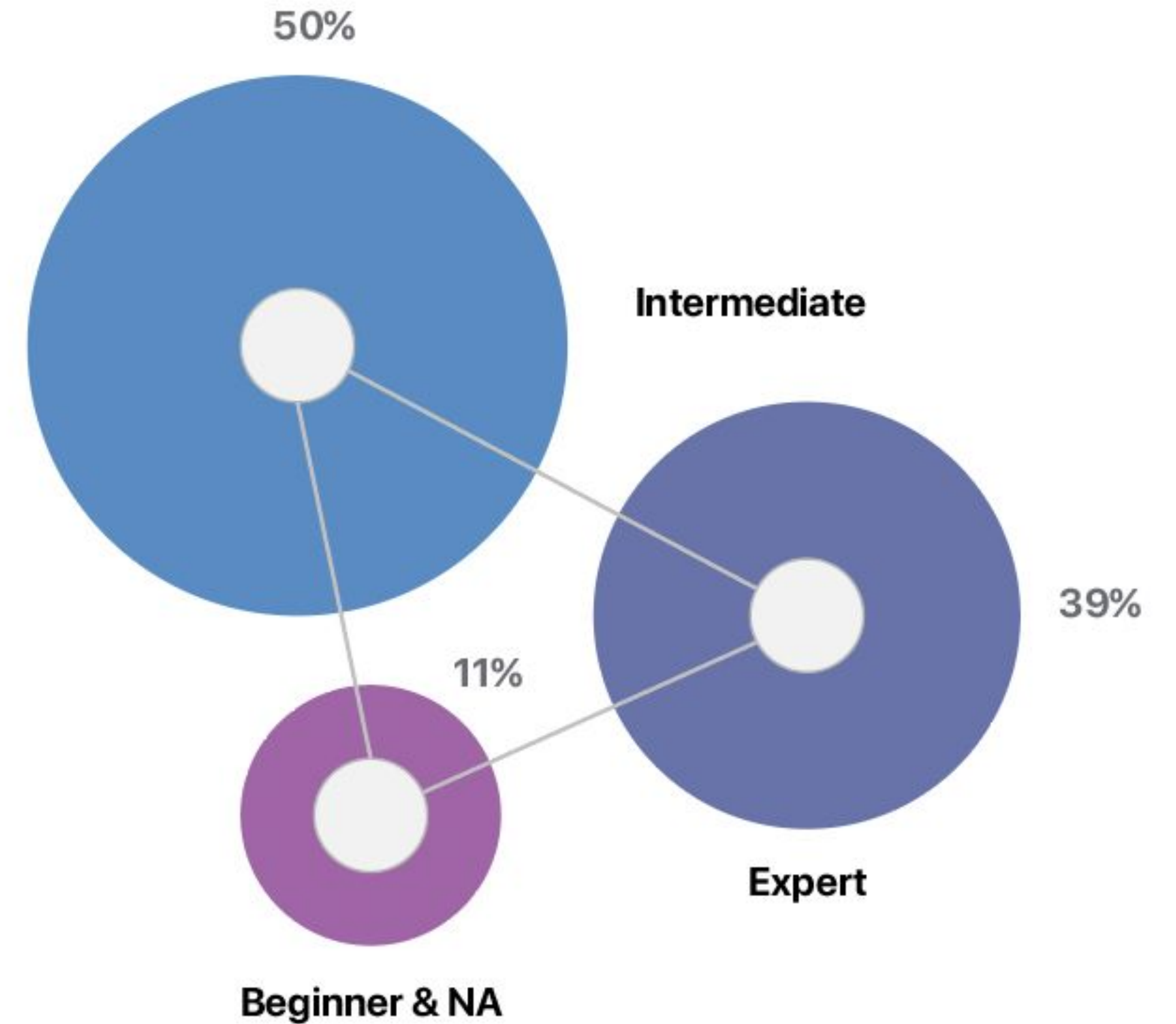
Designated Technical Leader for Projects



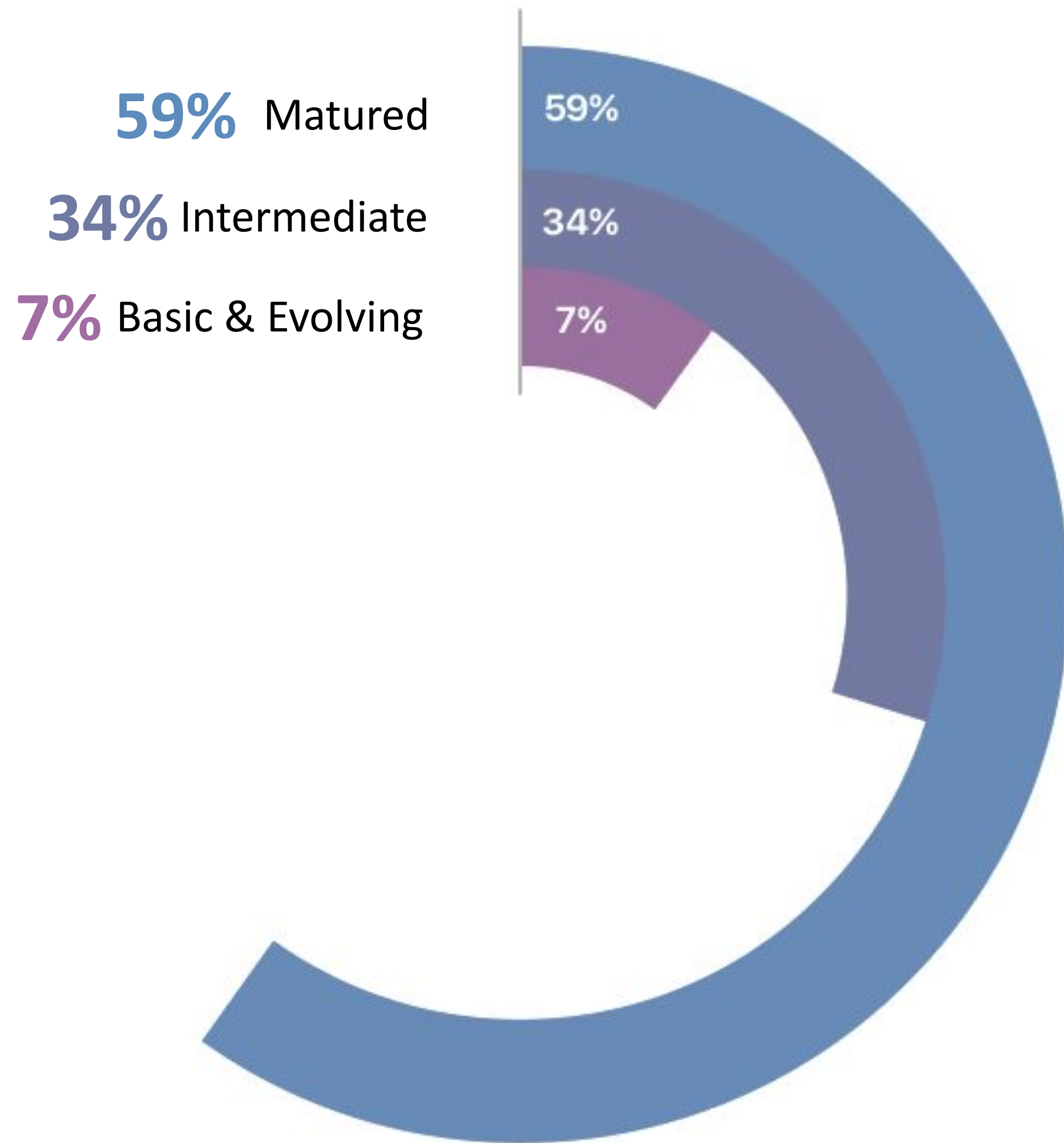
Maturity of source control process



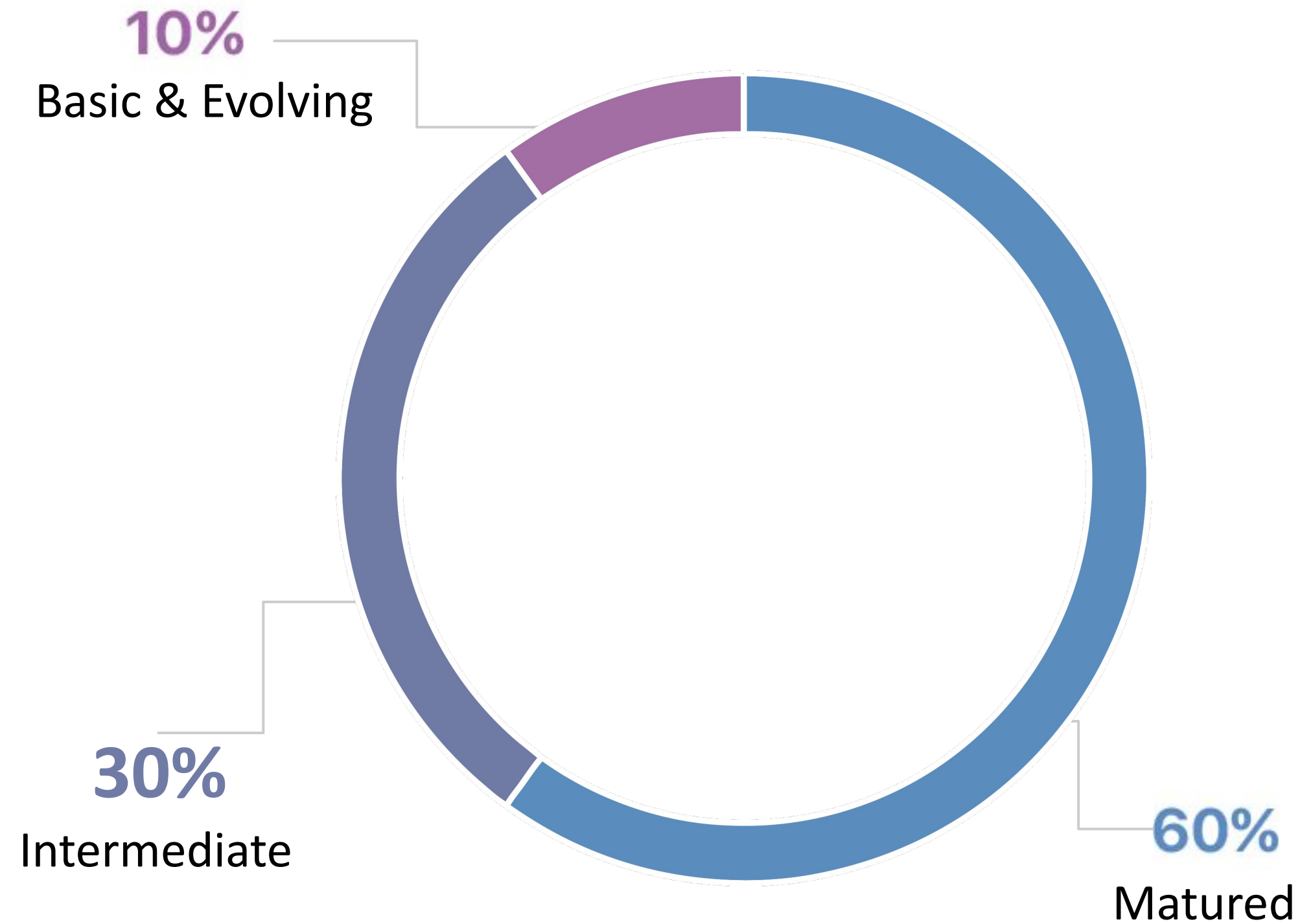
Domain/Product knowledge within teams



Maturity of Agile Process Followed

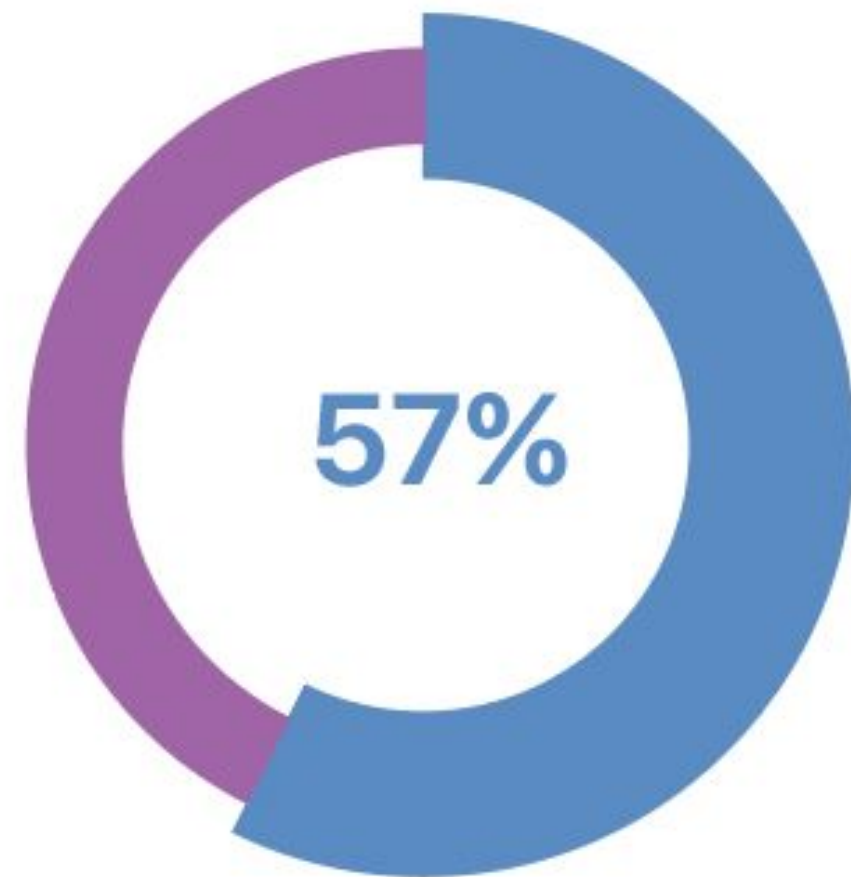


Maturity of Quality Engineering



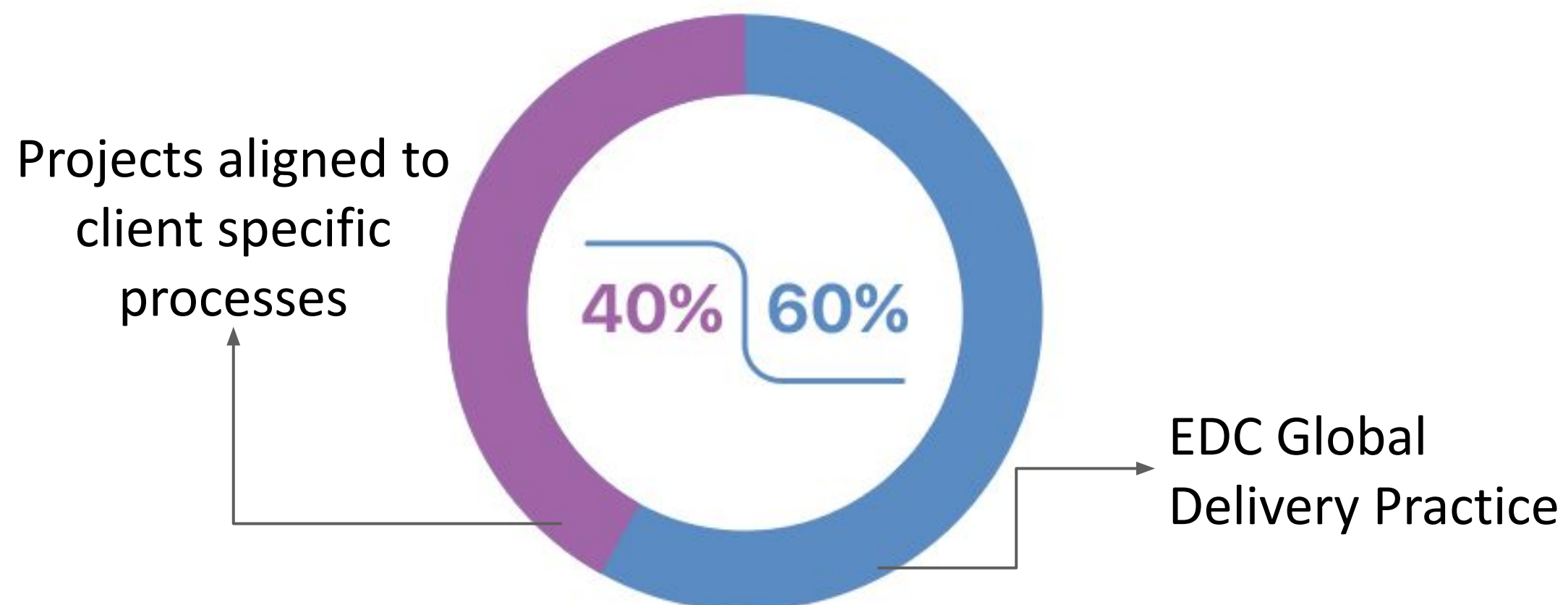
Definition of Maturity: Quality Goals for the project well defined and measured against goals, QA Engineers are well trained on the functional aspects of the application, have adequate skills (Manual and Automation), and predictable outcomes of releases

Quality & Stability of Teams



Projects which are considered stable with less than or equal to 10% change of personnel

Project Governance - EDC Global Delivery Practice

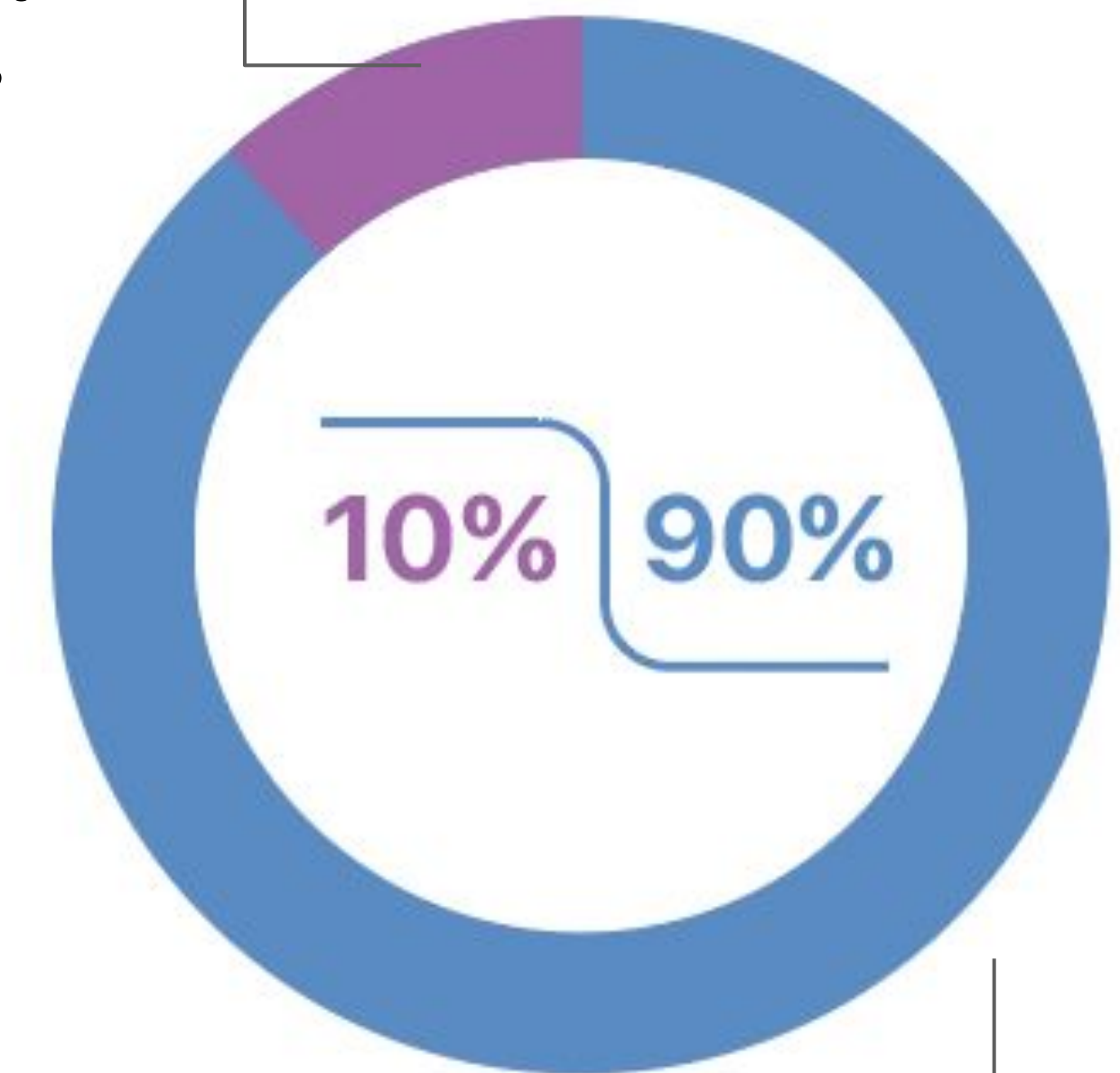


Projects aligned to client specific processes

EDC Global Delivery Practice

True Extensions to Customer Teams

Projects which are not EDCs and also teams that have not aged enough



Teams which have acceptance of the customers as a true extension of their team(s)

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Thank You!

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