

IFC-Bank of Italy Workshop on “Data Science in Central Banking: Applications and tools”

14-17 February 2022

Implementing a multi-tenant big data platform – challenges and approaches taken in the BIS¹

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¹ This contribution was prepared for the workshop. The views expressed are those of the authors and do not necessarily reflect the views of the Bank of Italy, the BIS, the IFC or the other central banks and institutions represented at the event.



Implementing a Multi-tenant Big data platform

Challenges and the approach taken in the BIS

Hiren Jani and Anand Kannan

Why a centralized platform?

Organizational Landscape

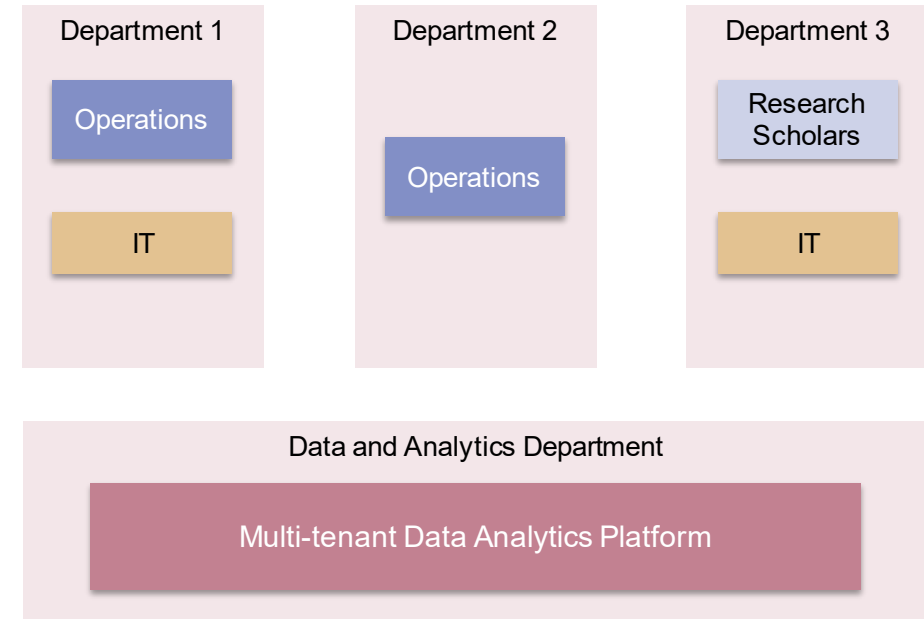
- Various departments in the bank use the platform for their Big Data Analytics needs
- Departments with varying IT capabilities

Our Approach

- Big data platform offered as a shared platform (Horizontal function)

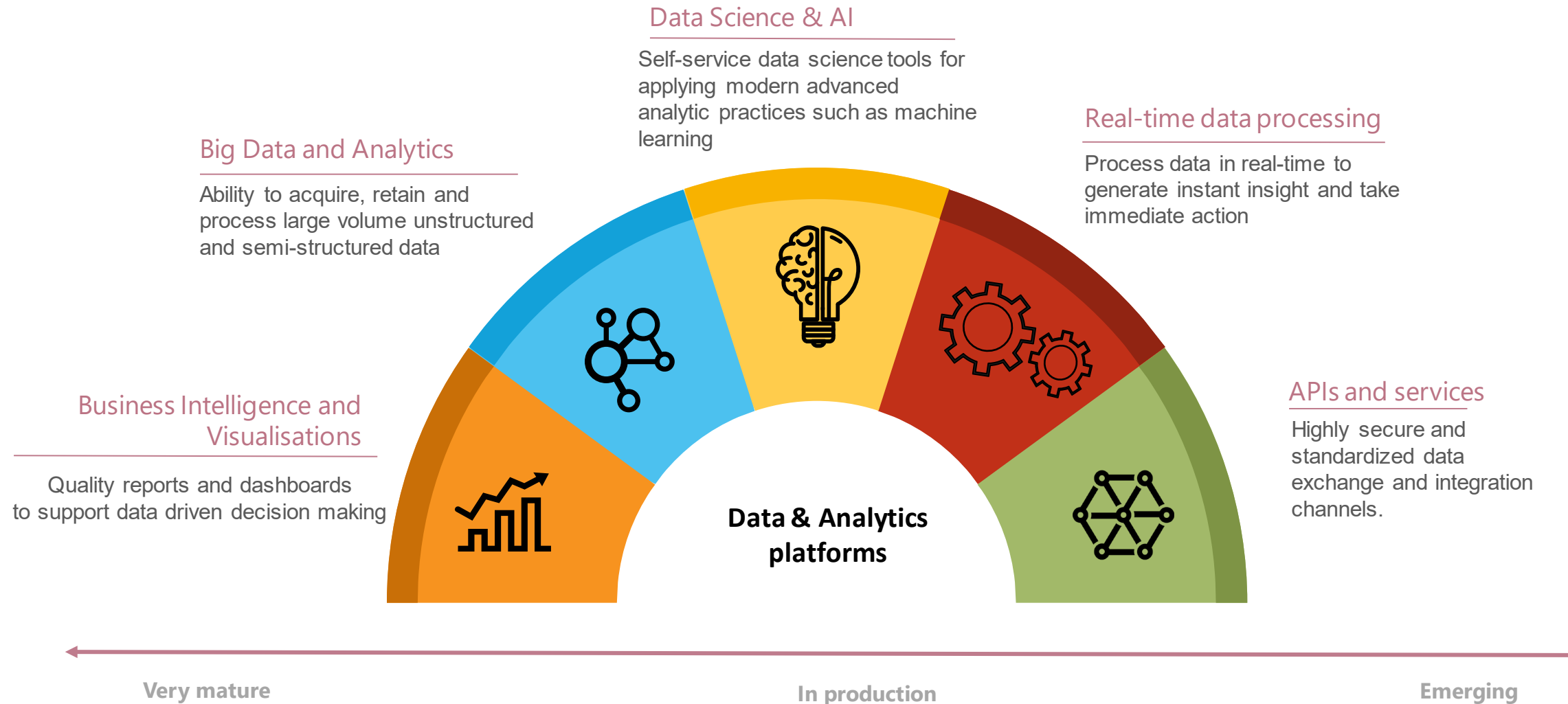
Motivation

- Economies of Scope and Scale
- Ease of Governance
- Enabling self service

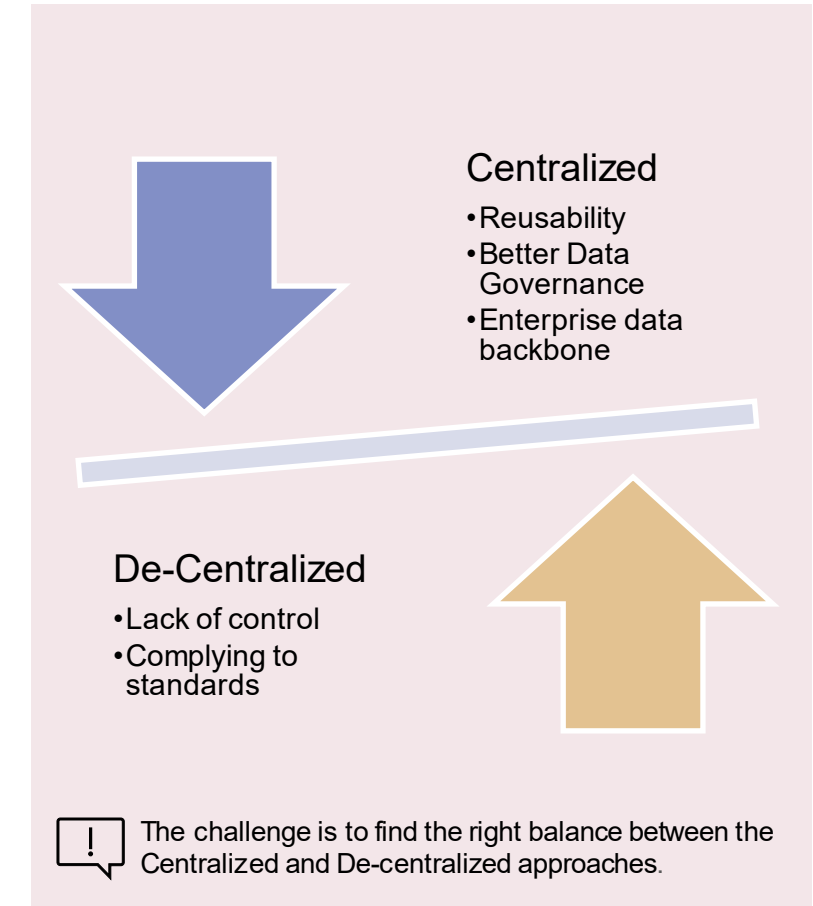
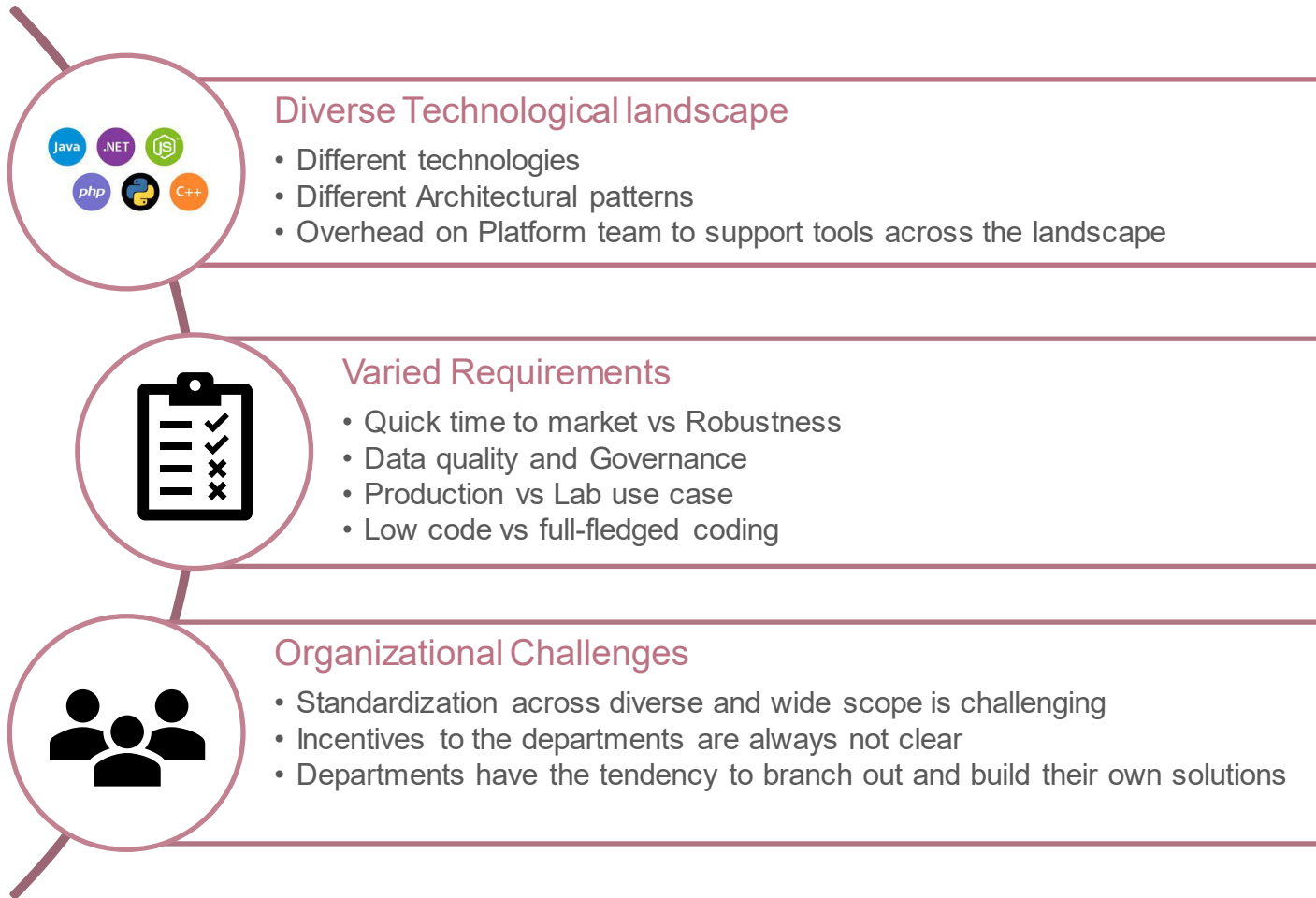


The diverse departments in the BIS and the position of the Data and Analytics as a shared horizontal function.

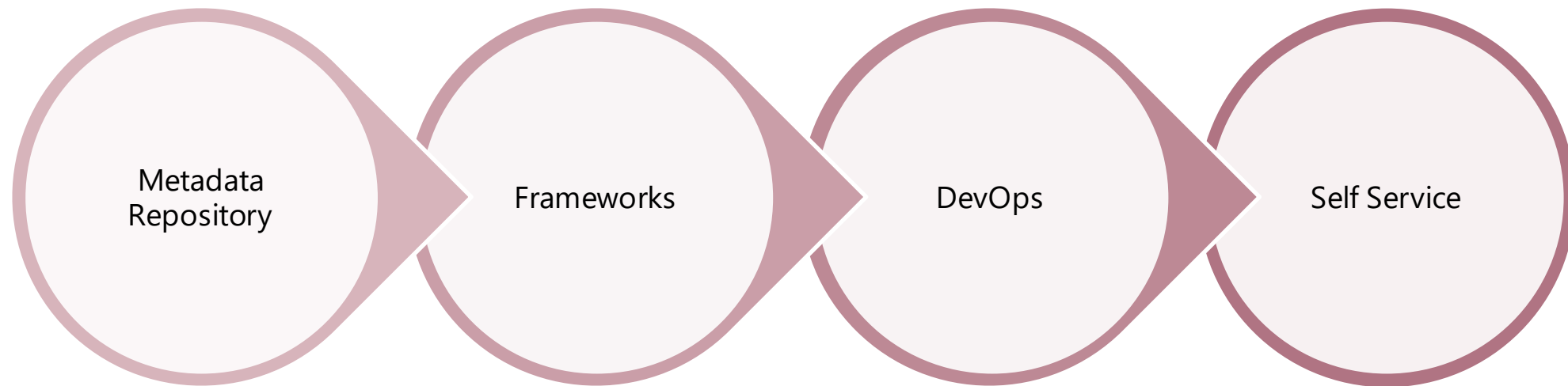
Platform Components



Challenges



Empowerment with Self Service



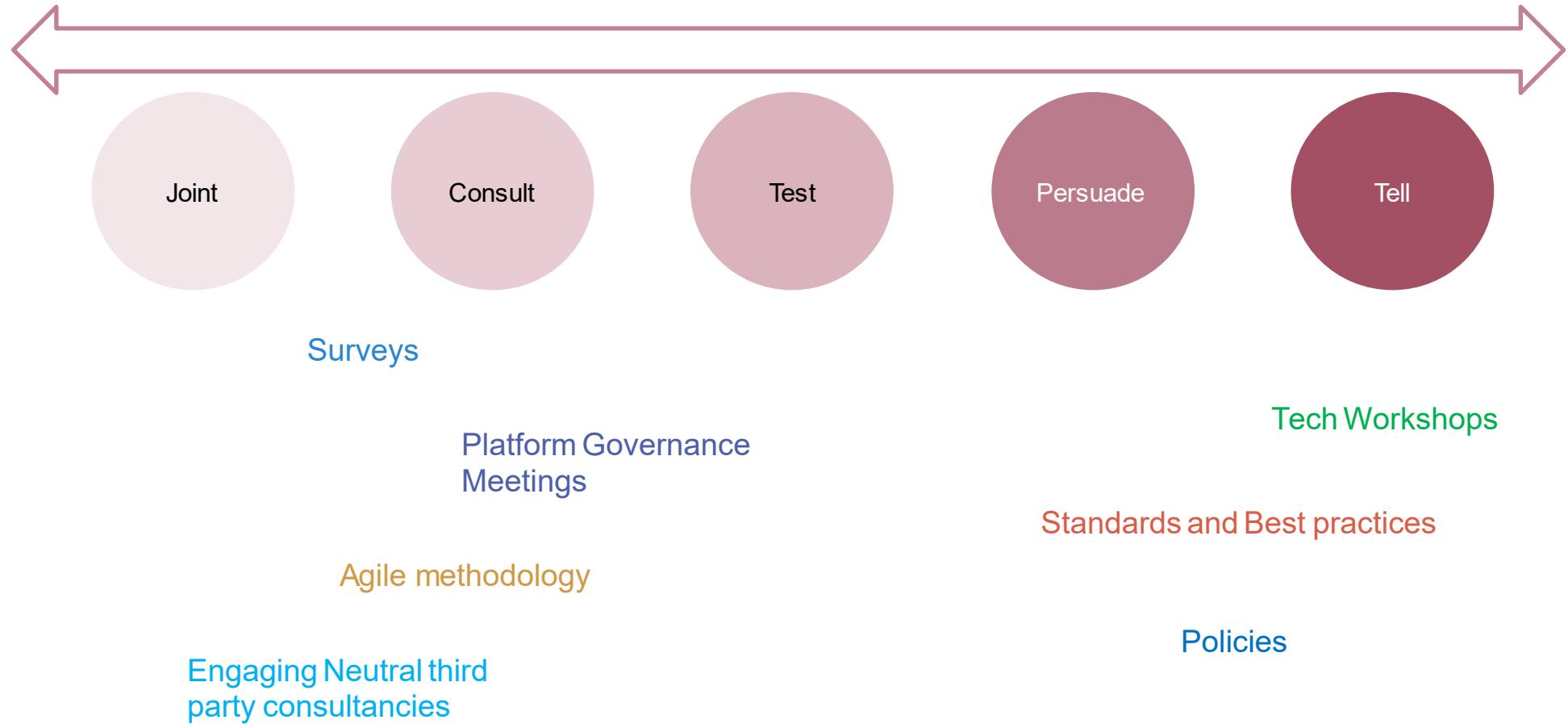
- Data assets generated from metadata (tables, topics, pipelines etc.)
- Define schema for configuration files
- Standard naming convention
- Enforce security

- Data Ingestion (Batch and Real time)
- Data pipeline Monitoring
- Extensible frameworks

- Automated deployment to the platform
- Validation of provided metadata
- Trigger deployment as part of Business Unit release process.

- ✓ Business Units are self sufficient
- ✓ Minimize dependency on platform team to manage and deploy components independently
- ✓ Grant controlled access to Business Units

A Spectrum of Decision Making¹



¹ <https://www.managementcenter.org/resources/modes-decision-making/decision-making-spectrum-3/>

Learnings

- Technology is evolving at a rapid pace – platform team to be cautious when identifying and promoting standard tools.
- Focus on change management from the early stages of the project.
- Operational costs needs to be factored in to planning.



Questions?