



Bosch DataMesh.Accelerator

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Problem Definition:

Typically, Implementation and deployment of Data Mesh based Data Platforms for any enterprises takes 6 months for successful completion. This is due to the long timelines associated with development of the Data Mesh from scratch.

Some of the critical challenges most organizations face while dealing with Enterprise data Platforms are:

1. Due to Standardization and harmonization of complex data to be processed from various source systems and the extensive testing needed for the different components and integrations.
2. Expensive and effort intensive.
3. Higher Maintenance costs
4. Data is present in silos managed by different departments which prevents others from accessing and leveraging insights for effective decision making.
5. Data Quality issues at source makes the data unfit for consumption. As part of development, custom modules must be created to handle such scenarios which could prolong the implementation time.
6. To Onboard new datasets from a new/existing source requires considerable effort from support team as the new/existing system needs to be integrated and tested.
7. Legacy data warehouse solutions lack the capability to handle unstructured/semi structured data.

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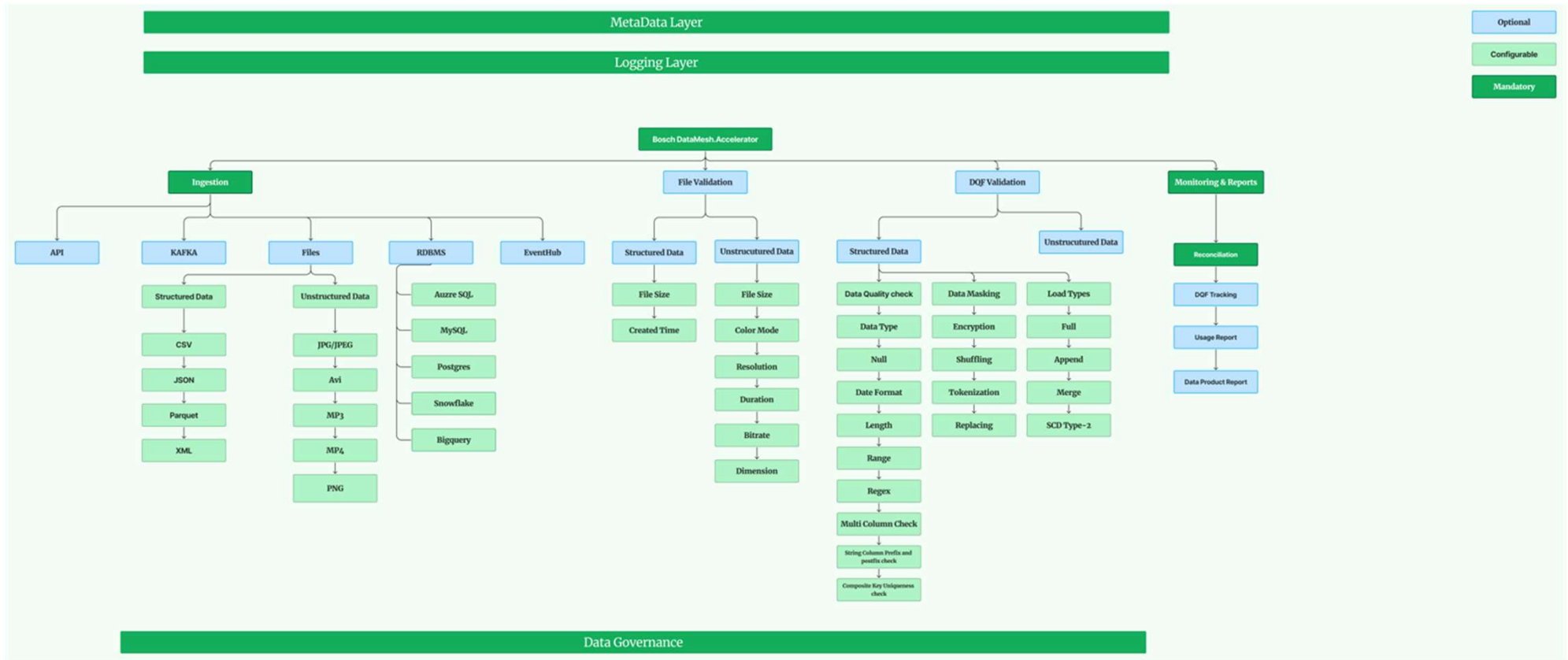
Description:

Bosch DataMesh.Accelerator is a fast-deploying, metadata-driven, decentralized hierarchical data management framework designed to accelerate enterprise data mesh implementation within two weeks using Microsoft Fabric.

Sl. No.	Feature List
1	File Validation framework
2	Data Quality Framework
3	Metadata Layer
4	Logging Layer
5	Reconciliation Reports/Monitoring reports
6	Data Product Management
7	Modularization

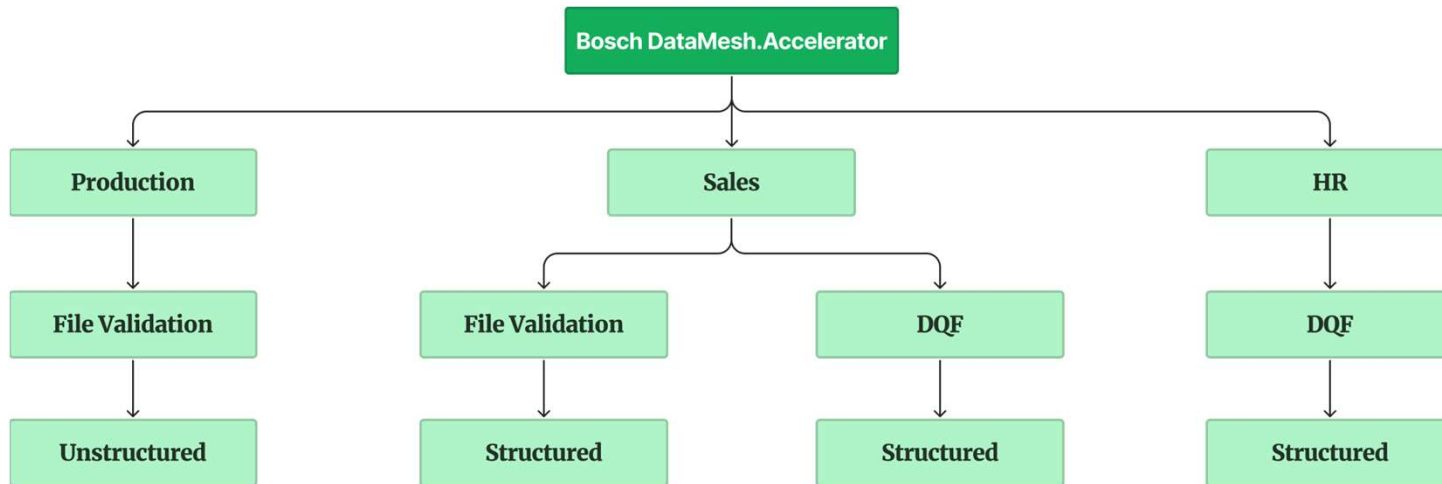
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Code Modularization



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Code Modularization



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Lakehouse, Fabric & Mesh

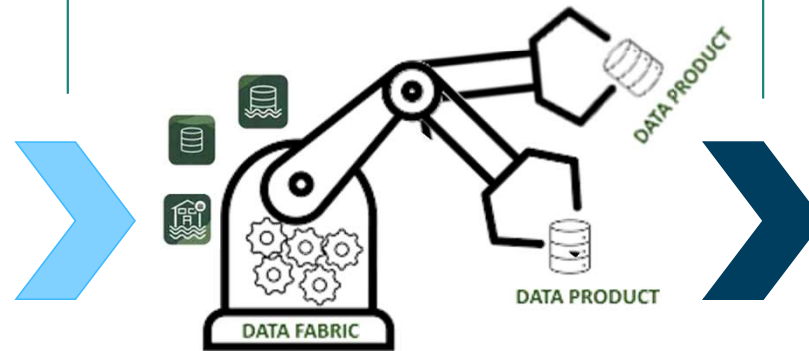
Lake House

Open data management architecture that **combines** the flexibility, cost-efficiency, and scale of **data lakes** with the data management and ACID transactions of **data warehouses**, enabling business intelligence (BI) and machine learning (ML) on all data



Data Fabric

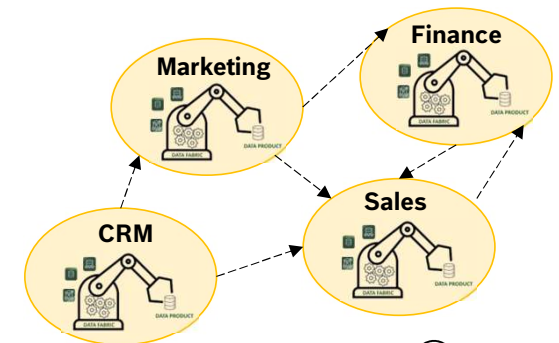
An architecture that facilitates the **end-to-end integration of various data pipelines and cloud environments** using intelligent and automated systems.



Data Mesh

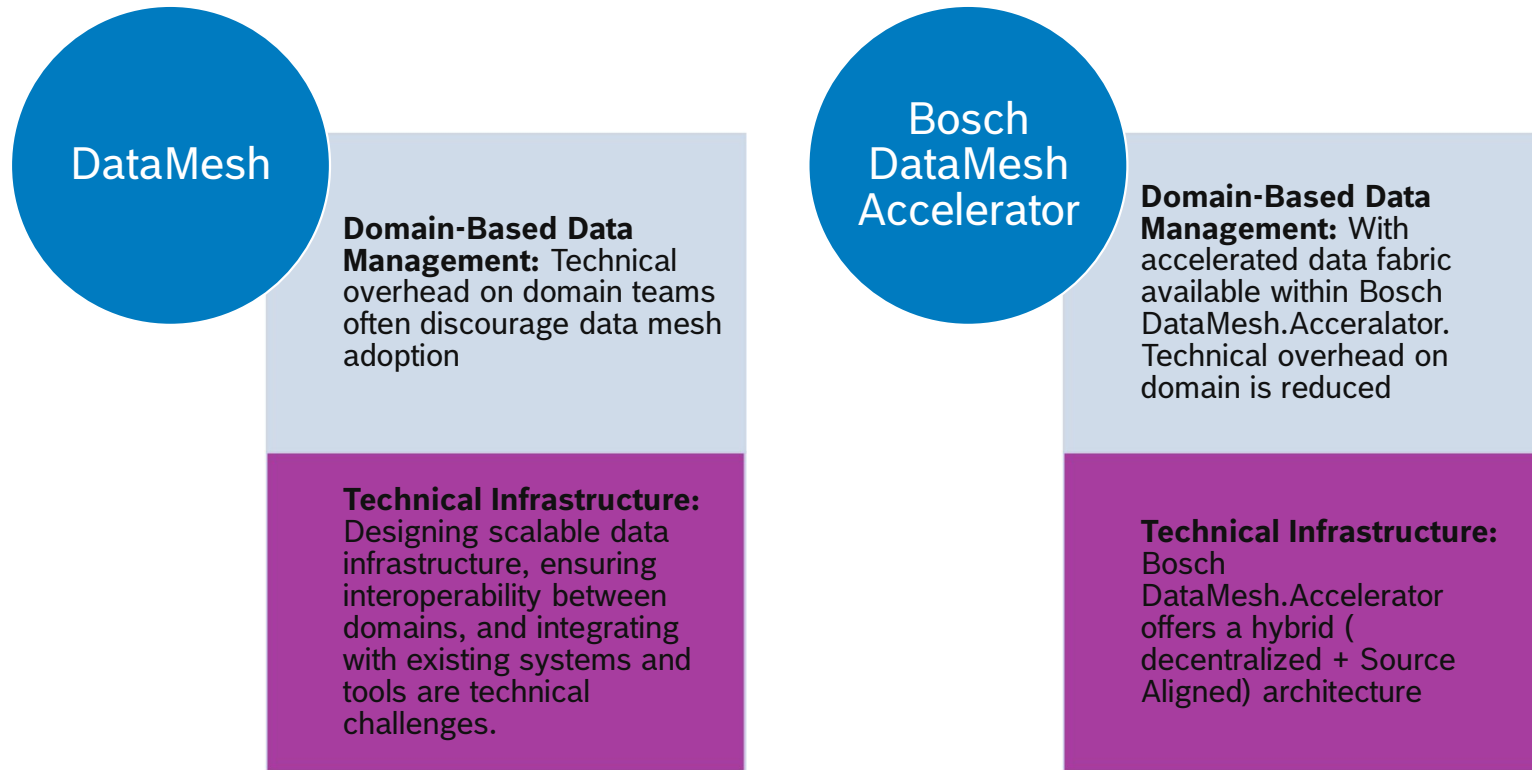
Domain-oriented decentralized architecture for analytical data based on 4 fundamental principles

- Domain ownership
- Data as a Product
- Self-serve data platforms
- Federated governance.



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Challenges of DataMesh and solution from DataMesh Accelerator



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Value Proposition:

The unique value proposition that DataMesh accelerator offers:

Implementation:

Implementation of Data Mesh is in less than 2 weeks which ultimately helps to improve the overall Time-To-Market.

Metadata driven Framework:

It enables users to easily onboard data from different sources, prepare and validate for analytics.

Prebuilt Data Governance dashboards:

Data Governance dashboards with standard KPI's for monitoring health of Data Products.

USP:

Unique Selling Point for Data Mesh accelerator leveraging Microsoft Fabric:

1. Deployment in 2 weeks.
2. Supports variety of data formats (structured / semi structured / unstructured)
3. One click deployment.
4. Single source of truth at enterprise
5. Flexible for scaling in future for Products.
6. Data governance dashboard and monitoring reports.
7. Platform monitoring and reconciliation reports.