UA Summit®
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Hosted by Entergy
Building Strong and Insightful Data Foundations to Enable Advanced Analytics
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Topics

01 Data Challenges

02 Shift to Agile

03 Data Foundations

04 Data Governance

05 Data Culture

06 Future

Session Description

Learn how San Diego Gas & Electric (SDG&E) is driving business value by building a strong data foundation across the enterprise by transforming/consolidating our technology stack, implementing data governance, and shifting to agile methodology. This program currently supports 100+ use cases leveraging consolidated data to generate business insights through visualization, advanced analytics and self-service tools across multiple teams.

About SDG&E

OUR MISSION

We improve lives and communities by building the cleanest, safest and most reliable energy infrastructure company in America.

OUR VALUES

Do the right thing | Champion people | Shape the future

3.4M
Customers

~ 3.4M
Employees

1.4M
Electric Meters

840K
Gas Meters

4,100sq.mi
in San Diego & Southern Orange Counties

16.5K
Power Line Miles

45%
Energy from Renewable Sources

Common Data Challenges

Issues Encountered in High Value Advanced Analytics Use Cases

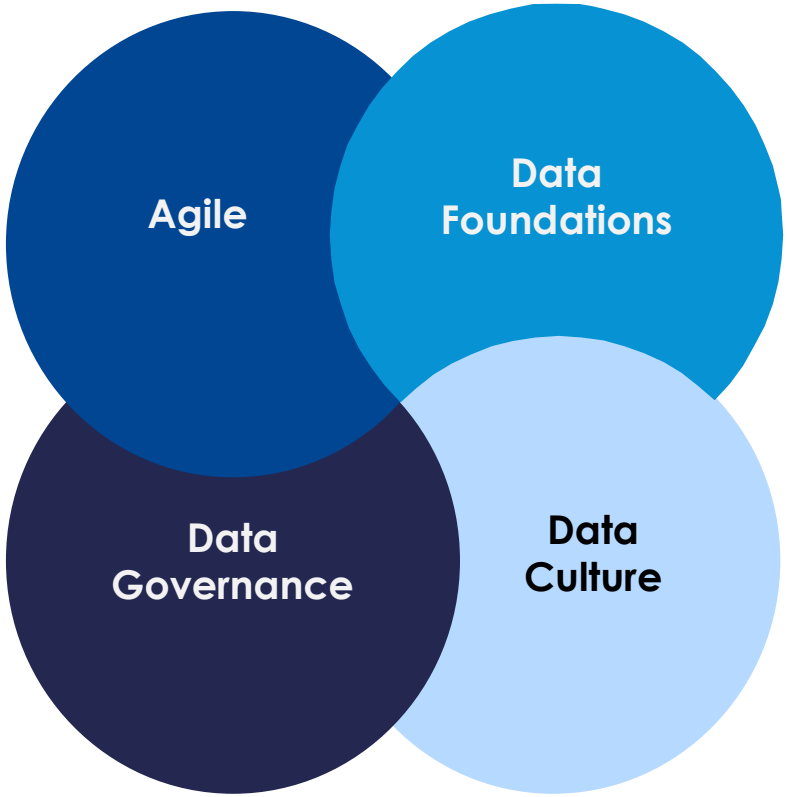
Advanced Analytics Use Cases

- **Safety**
- **Asset Health**
- **Risk Management**
- **Decarbonization**

- **Siloed Data and Duplication**
- **Locating and Accessing Data**
- **Onboarding 3rd Party Data**
- **Data Completeness & Accuracy**
- **Source of Truth for Data Driven Decisions**
- **Data Privacy & Security Concerns**

Transforming to Address Data Challenges

- Product vs. Project Focus
- Client-aligned Persistent Teams
- Quarterly Planning



- Centralize Data Sets
- ELT vs. ETL
- NEW: Data Mesh/Fabric in Cloud

- Data Governance Office
- Governance Council
- Data Quality Management
- Data Library & Marketplace

- Leadership Engagement
- Knowledge & Awareness
- Demonstrated Value

Our Agile Journey … So Far

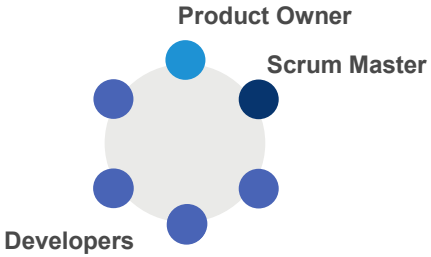
Key Milestones in Our Agile Transformation Journey - Shifting from Project Teams to Product Teams

Agile Shift

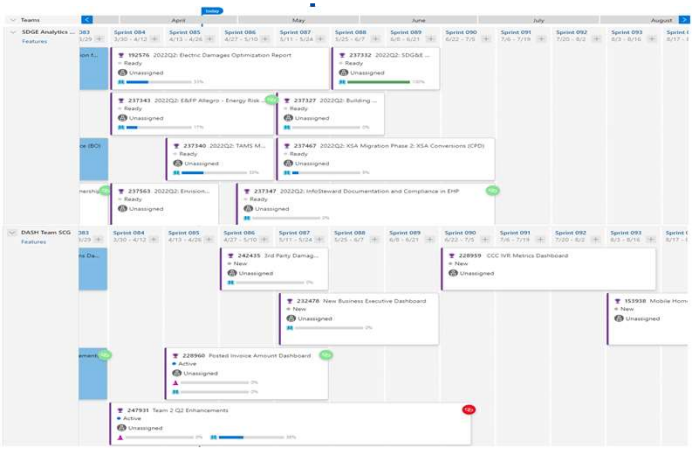
- Client/Data Domain alignment
- Tool alignment / consolidation
- "Product" mentality
  - Iterative delivery
  - Acceptance criteria
  - Prioritization on value

Persistent Teams

Launched 10 persistent teams over past 2 years



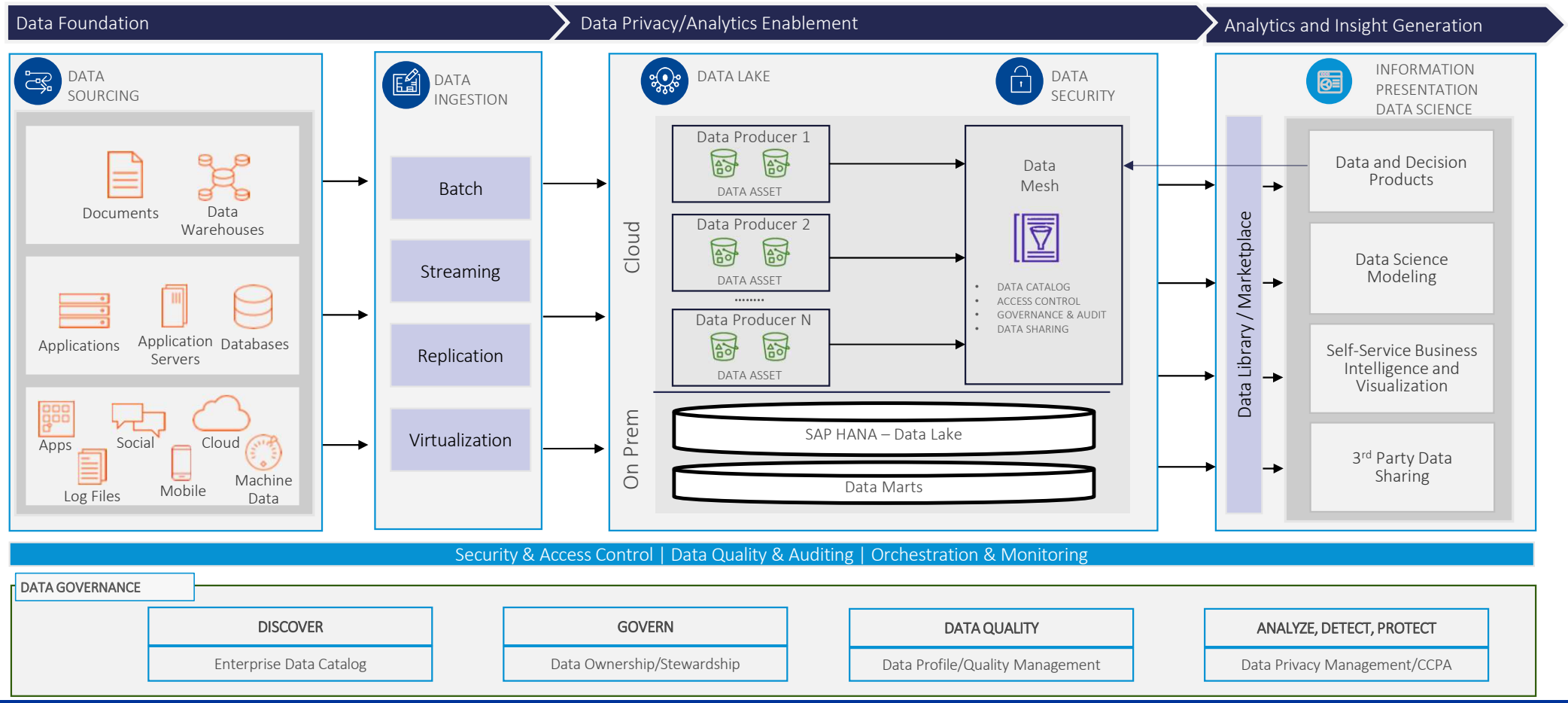
Quarterly Planning



Objectives & Key Results

- Value driven
- Align across organization
- Capacity management

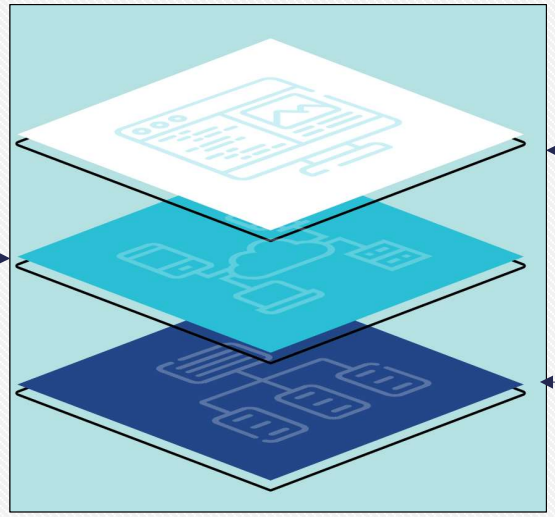
Analytics Framework



Where We are Going – Data Fabric

Exploring, Accessing, and Connecting to Data Products

Metadata Plane (Data Mesh)
- *Manages programmatic access to Data Products across all platforms*
- *Single source for Access Control*
- *Contains Data Product Metadata (Data Catalog)*
- *Data Definitions*
- *Business Data Models*



Experience Layer (UX)
- *Front-end for Data Discovery*
- *Displays information on all Data Products*
- *Search engine queries for Products using information in the Metadata Plane*

Data Plane (Data Products)
- *Storage and Compute layer for Data Products*
- *APIs/data sets/streams/models*
- *Lives across multiple platforms*
- *Data Market Place*

Data Governance
- *Essential guidance for all data product teams*
- *Data owners/stewards drive quality, access*

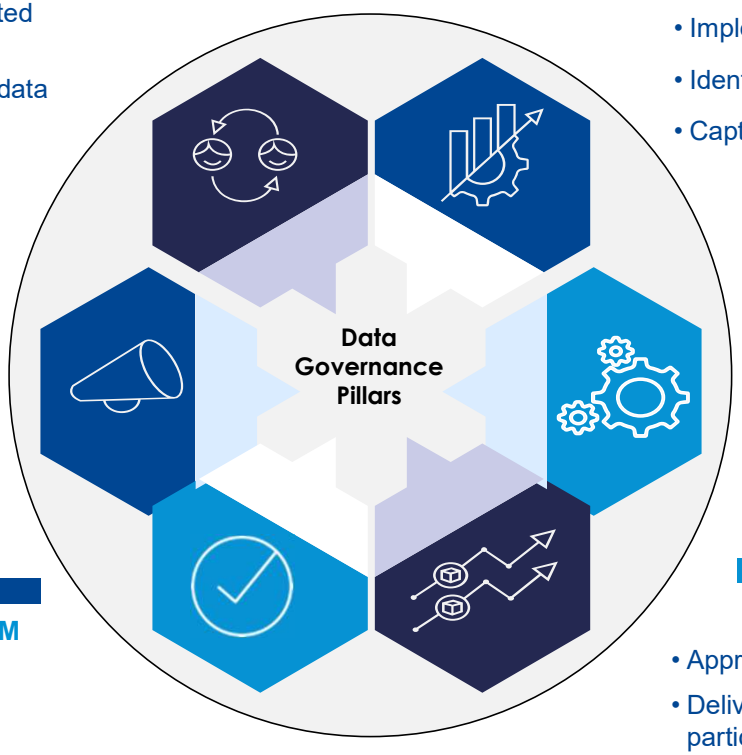
Data Governance Key Actions - 2022

People & Organization

- Complete data domain taxonomy (selected domains to 3rd level)
- Build out operating model for prioritized data domains
- Launch Executive Steering Team

Metadata Management

- Implement enterprise Data Library technology
- Identify critical data elements for selected domains
- Capture and display data lineage



Communications & Change Management

- Create training program for all DG participants
- Complete Data Owner/Steward training for Customer, WMP and Asset
- Empower Data Stewardship execution

Automation/Tech. Enablement

- Enable improved data access through Data Security and classification
- Build and deploy automated DQ scorecards

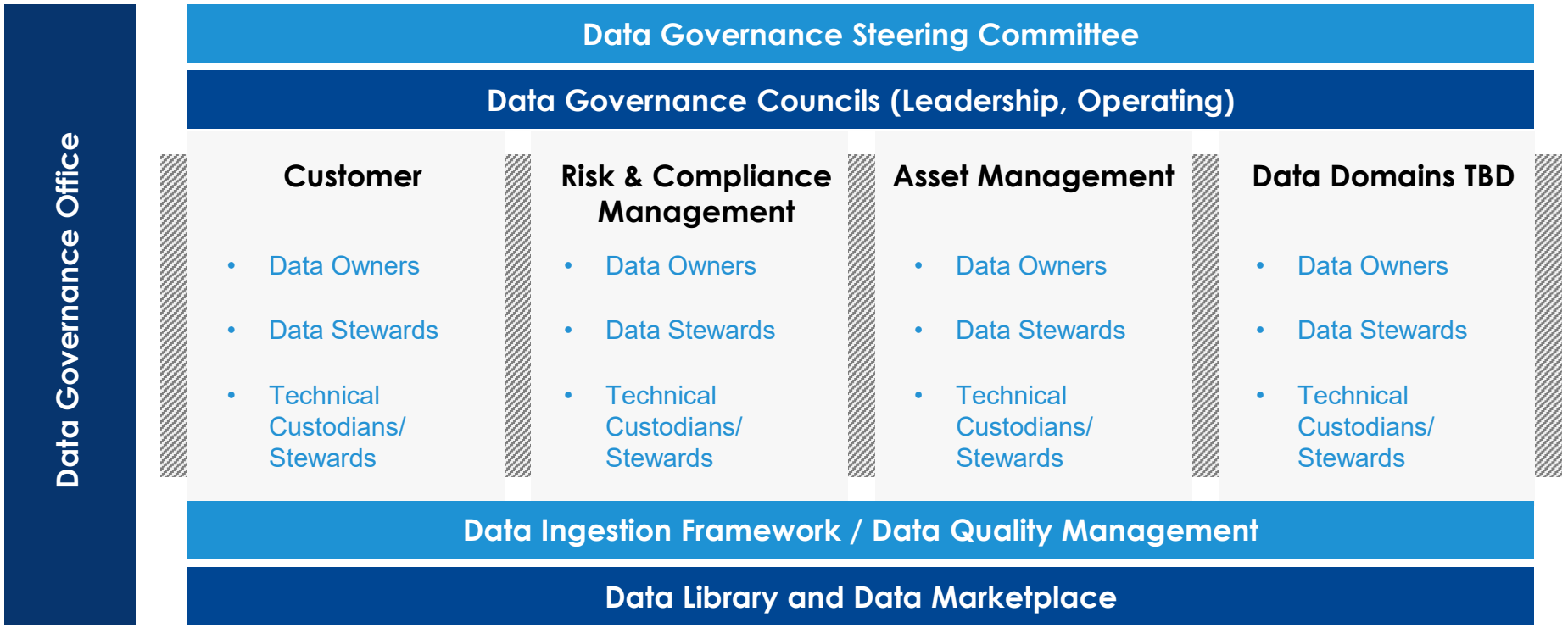
Data Quality Management & MDM

- Scale DQ management across domains
- Refine DQ rules for customer
- Perform MDM Tool evaluation and planning for ECC-S4 upgrade

Process Management

- Approve DG Standard / Processes
- Deliver and monitor DG program metrics for participation, training, data quality, metadata
- Execute Data Mesh process to govern access and security management

Enterprise Data Governance Operating Model



Data Culture

We are Growing our Data Culture through Three On-Going Channels

> **"Data is the fuel that drives digitalization"**
>
> **Kevin Sagara**
> *Group President*
> *Sempra CA Utilities*

Leadership Support

- Executive Sponsorship
- Staffing roles that drive data solutions (primarily business)
- Prioritizing innovation & digitalization
- Data Governance Council

Knowledge & Awareness

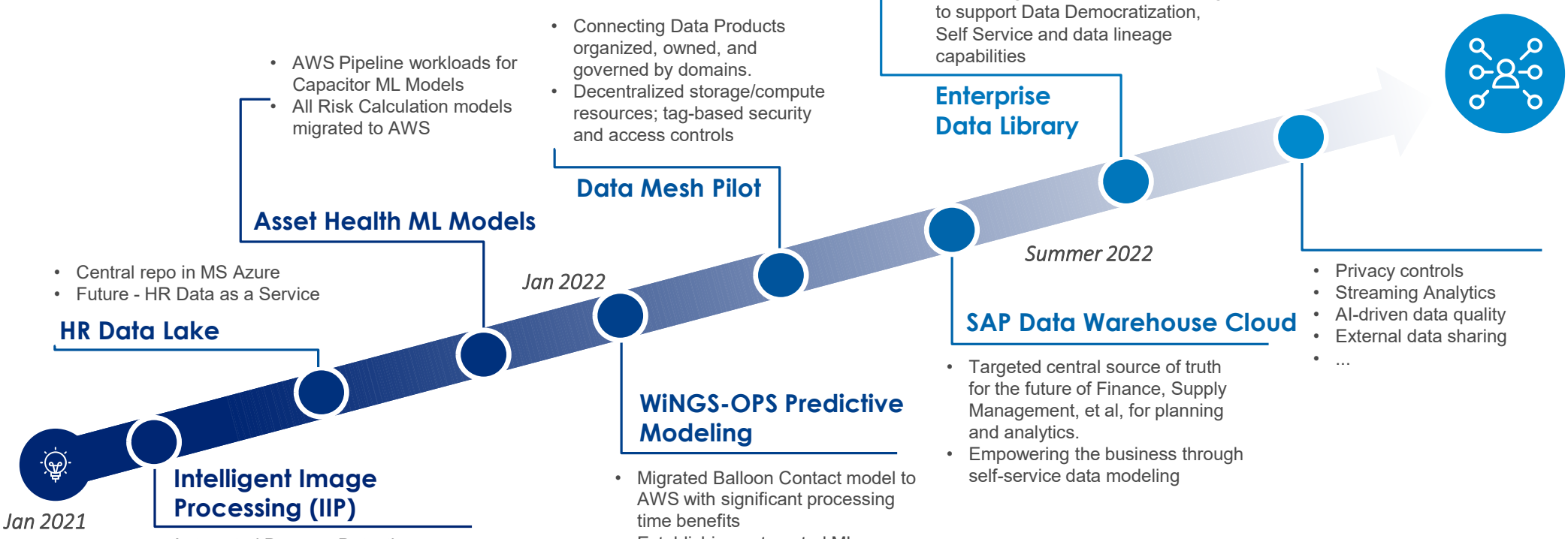
- Communities of Practice
- Governance
  - Data Domain Taxonomy
  - Data Owners/Stewards
  - Data Library
- Active push for self-service
- Increased data transparency
- Data quality dashboards
- Training

Demonstrated Value

- Asset Health ML Models
- Intelligent Image Repository
- Digital Twin - Decarbonization
- Wildfire Reporting
- Enterprise Risk Models

The Analytics Journey to Cloud

So far…



THANKS FOR ATTENDING

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