

Together, Advancing Data-Driven Government

Guiding Principles to advance culture which data:

- **Drive Decisions** – data is integrated into policymaking and other processes to inform direction of mission.
- **Fosters Collaboration** – data is a mechanism within agencies and across the government to breakdown silos and bring diverse thoughts and perspectives across mission priorities.
- **Informs and Engages the Public** – data is a government resource made accessible to civic and tech communities for spurring innovation in other sectors.
- **Increases Capabilities** – data is an enterprise asset which is responsibly managed, accessible, and leveraged to improve efficiency and effective.
- **Facilitates Product and Service Development** – data is used to facilitate the delivery of products and services to **internal and/or external users**.



Data-Driven Culture

Mission

Responsibly unleash the power of data to benefit all Americans

Challenge

To meet our nation's greatest economic and social challenges, the federal government must leverage their data as a mechanism for engaging with other agencies and the public.

Agencies

Maximizing the value of data and ensuring it is responsibly accessed in the most meaningful ways.

- **Mission imperatives** – Identify data needs against mission priorities (i.e., maturity model)
- **Build data capacity** – Adopt data science best practices to drive innovative culture (i.e., CDO role, data resource management, and the Interagency Open Data Working Group)
- **Peer-to-peer learning** – Interagency Open Data Working Group listserv & biweekly meetings
- **Public-Private Collaborations** – Federal agencies partnering formally and informally with data leaders in private, non-profit, and academic sectors or other governments

EOP

Empower agencies with the people, processes and practices necessary to build their data capacity.

- **CIO Council** – Principal interagency forum for improving practices in the design, modernization, use, sharing, and performance of information resources; includes Innovation Committee
- **Open Data CAP Goal** – Federal government-wide objectives, strategies and major metrics to increase data interoperability, openness, and discoverability
- **Privacy Council** and the OMB Office of Information and Regulatory Affairs
- **Data Cabinet** – Community of Practice to advance adoption of data science best practices
- **NSTC Data Science Interagency Working Group** – Senior data leaders prioritize the critical science and technology areas of investment to build capacity

The Data Cabinet

PURPOSE

Serve as the principal community of practice for data professionals from across federal government to share proven practices among agencies and critical insights into what’s working “on the front lines”, the Data Cabinet plays an essential role in advancing data-driven management, maximizing the use of the data, and enhancing problem-solving throughout government.

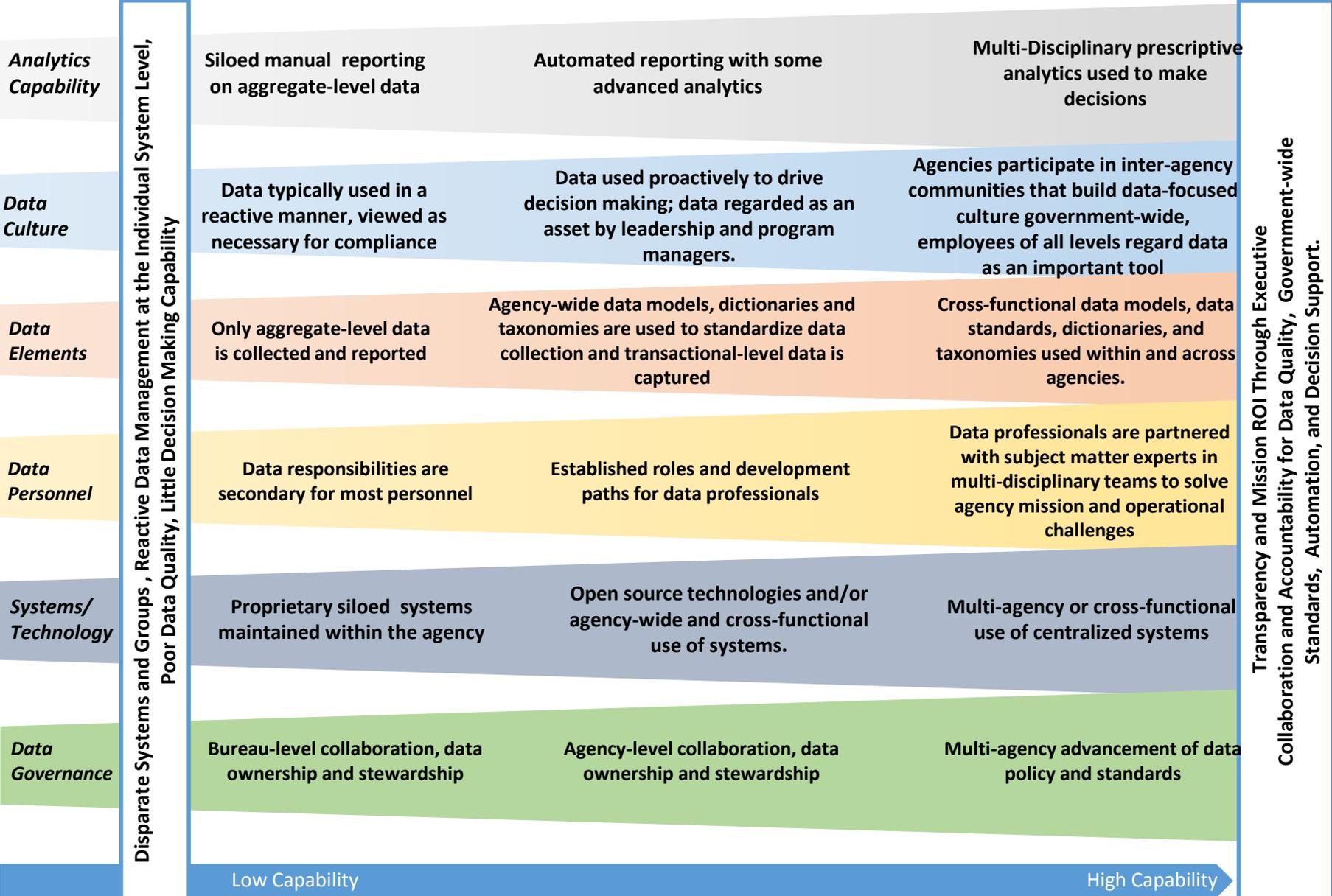
OBJECTIVES

Bring together authorities, case studies, and best practices **to scale data talent capacity** in the federal government through recruitment, training, and hiring best practices. As well as guide Agencies in **adoption of data policies and tools** necessary to ensure data is responsibly gathered, processed, leveraged, made discoverable accessible and reusable in a timely fashion.

- Information sharing and collaboration on issues of mutual importance.
- Pursue solutions at the agency level, including pilot programs and ‘proof of concept’ experiments that apply data science techniques in innovative and scalable ways.
- Inform the development and execution of federal data standards and policies.
- Identifying and scaling promising techniques, technologies, and solutions by facilitating adoption within multiple agencies.



Building Federal Data Capacity — Data Maturity Model



Data Science as a Discipline

Data needs the same dedicated focus that technology has enjoyed if we truly want it to achieve its full potential. Now is the time to embrace the next generation in the data journey that must be focused on how to best manage that abundance of data and put it to work for the business.

-- Cathryne Clay Doss, First Appointed Chief Data Officer (CDO) at Capital One, quoted in Aiken and Gorman (2013).

Building Government Career Roadmap

- What are the core skills for data professionals ?
- How to develop core Data Science skills?

Hiring and Recruiting

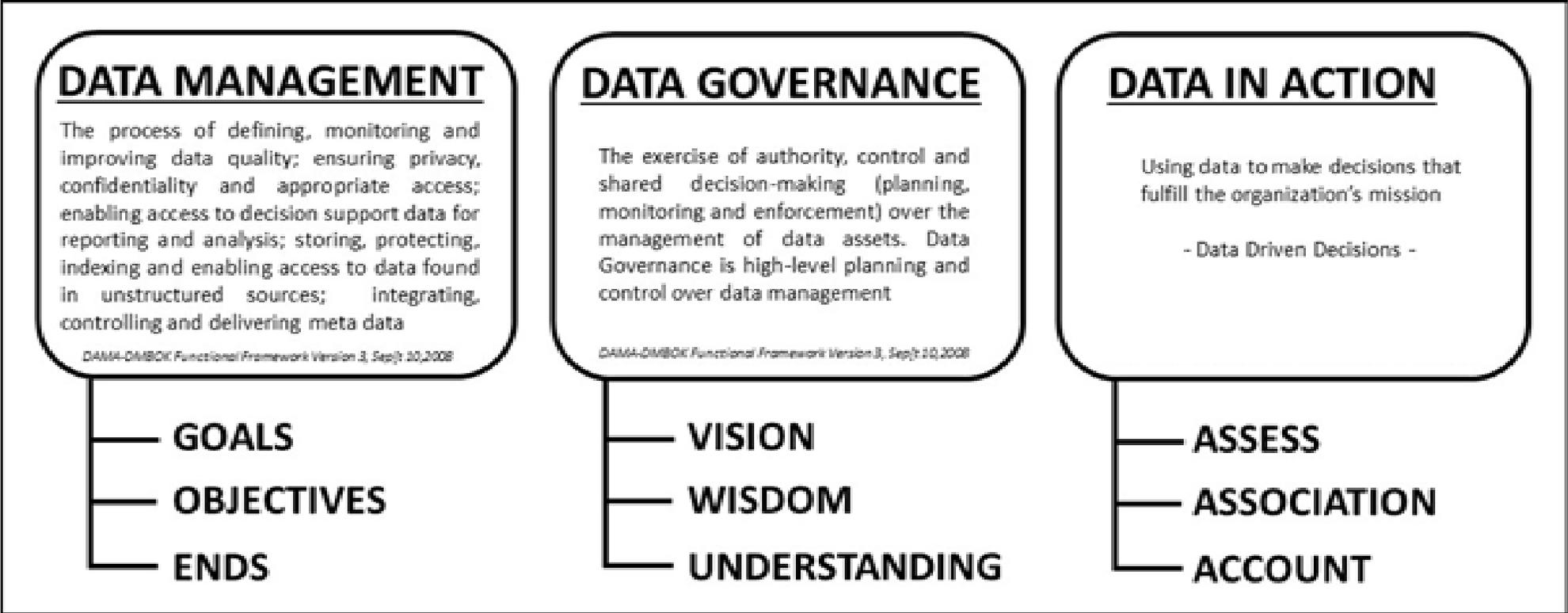
- Hiring Playbook
- Organizational structure
Onboarding (building data community within agency)

Defining Data Science Community

- CDO Role & Responsibilities
- Data Scientist roles and responsibilities
- Other Data roles/job series—
Data analysts, Data stewards
- Certification to Professionalize

Data Cabinet – Data Value Proposition

The value of data lies in the Agencies ability to use it. Raw data adds value as it moves up the pyramid to become the cornerstone of high-level, high value decisions by leadership.



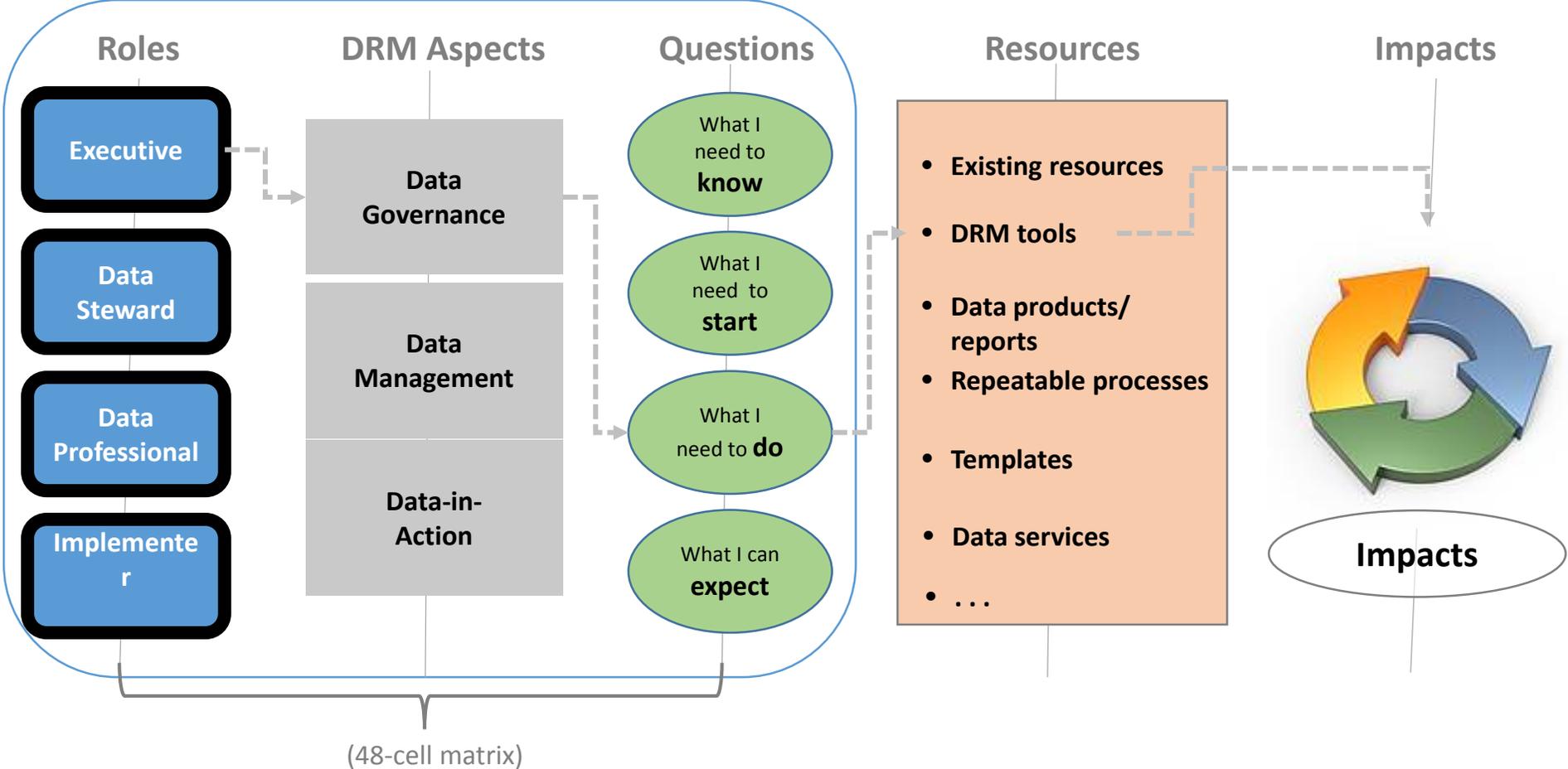
Valuable Data comes from three pillars:

- Data Management leads to high quality data.
- Data Governance ensure the entire agency understand the value and handling of data
- Data In Action is the Value derived from the Agencies efforts

Data Resource Management Playbook

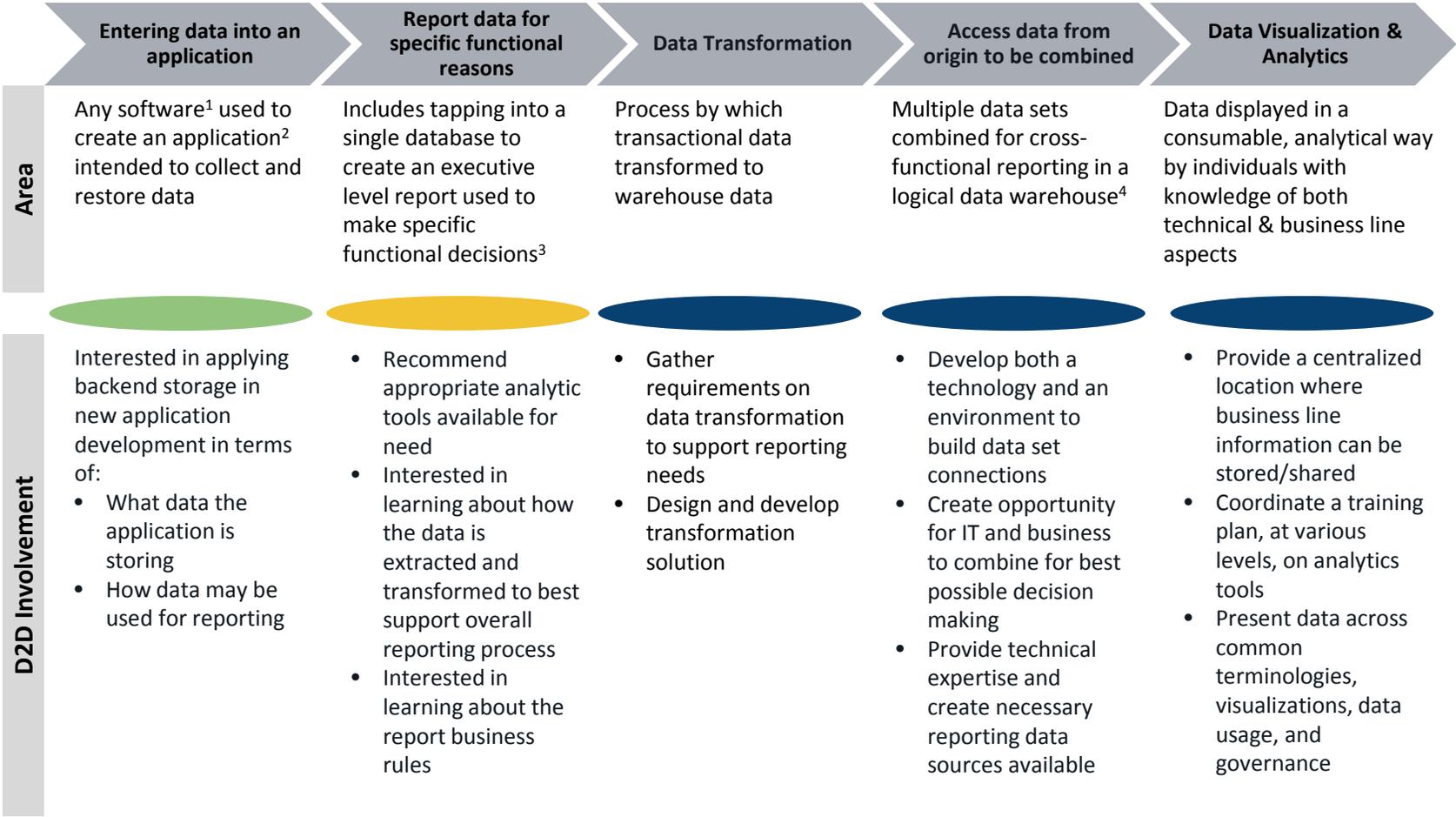
Objective:

- Build an initial repository and a shared place for further development of sustainable, collaborative data governance; repeatable data management processes, and best-practices for releasing data power across the Federal space.



Exemplars

D2D supports GSA across the full data lifecycle



Level of Involvement

- Low
- Medium
- High

GSA-specific examples for context

1 Alfresco, Salesforce, Oracle
 2 CHRIS, Pegasus, GREX, FRPP, GSA Advantage
 3 Financial reports, human capital reports, construction project status, fleet reports
 4 Labor projections, construction project status on cost information

Multiple offices provide support for D2D efforts, including training and change management 1

	CIO	CDO	Data Team	Security Team	HSSOs	Data Stewards
Data migration	Executive Support	Guidance and Approval	Execute dataset migrations	Security Assessment and Approval	Executive Support	Contribute requirements, define limitations, underlying issues
Dashboard pilots	Executive Support	Guidance and Approval	Post finalized dashboards to D2D portal	Contribute security reviews	Prioritize, provide high-level requirements	Contribute detailed specifications; data samples
Data quality	Executive Support	Guidance and Reporting	Test for quality; flag issues	Contribute security validation	Executive Support	Implement improvement plan
Data Technology	Guidance and Approval	Formulate options/guidance	Surface options, pros/cons	Contribute security assessments	Contribute requirements; user feedback	Contribute requirements; user feedback
Training and Change Mgmt	Guidance and Approval	Executive Support	Guidance and Approval	Contribute security perspective	Contribute requirements; user feedback	Contribute SSO perspectives

Final senior approval of work products

Senior-level consultative support

Responsibility for on-going execution

Working level inputs, reviews, consultations

D2D recognizes potential process-related risks and has set plans to offset and mitigate these problems

Risk type	Risk description	Potential mitigations
Schedule	<ul style="list-style-type: none"> Project schedule slips due to increase in scope or other unforeseen events 	<ul style="list-style-type: none"> Weekly CDO status meetings, regular management meetings, close monitoring of task orders and deliverables
Costs & Funding	<ul style="list-style-type: none"> Insufficient funding to complete the project. Uncontrollable out-year costs for operation and maintenance (O&M). 	<ul style="list-style-type: none"> Look for offsets; submission of budget requests; look for funding partners; request life-cycle funding for post-development O&M; re-compete O&M contract for out-years, if necessary.
Technology	<ul style="list-style-type: none"> Requirements not sufficiently clear or misunderstood by the developers. Technological advances may render D2D solutions as obsolete. Understanding of manual vs. automated efforts, risk of accepting all data at the same level of quality 	<ul style="list-style-type: none"> Component-based architectural design allows for the addition and subtraction of components over time Scheduled evaluations and market research to ensure we can deliver and manage the necessary technical capabilities through D2D
Ongoing Support	<ul style="list-style-type: none"> Lack of resources to adequately support the new system and its users once it's in production - a great behind-the-scenes platform that no one knows how to use 	<ul style="list-style-type: none"> GSA has assembled an integrated project team that possesses skills and experience with IT project management and planning that will assess the requirements for ongoing support and include that in our project plan.
Organizational Change Management	<ul style="list-style-type: none"> Disruption to the business due to implementation of new technologies Hesitance to release data, inaction despite data suggesting otherwise, ability to position as "normal work", not as an additional workstream 	<ul style="list-style-type: none"> Regular engagement and communication with users to understand their requirements and demonstrate future capabilities within D2D. Targeted, comprehensive training programs to avoid any business disruptions. Maintaining legacy tools until D2D meets demand

GSA is given the opportunity to fully incorporate D2D through active change management efforts by the team

	Address misconceptions	Feature capabilities	Understand needs/current processes	Propose enhancements
Summary	Agency engagement to level-set on key facts around D2D [e.g. costs, time to develop, dashboards]	Clear expression of D2D capabilities and demonstrations across GSA offices [e.g. contracting data sets, real estate trends visualizations]	Commitment to determine priority goals and needs in overall timeline of D2D progress	Opportunity to leverage & build on existing agency information to make more insightful & data-driven
Examples	<ul style="list-style-type: none"> • D2D is expensive • D2D takes a lot of time to develop a dashboard • Viewing D2D requires Tableau license 	D2D as a data: <ul style="list-style-type: none"> • Repository • Visualization tool • Collection/access point 	<ul style="list-style-type: none"> • Received feedback to incorporate crime, traffic, sustainable use into buildings dashboard • Ability to do so versus necessary steps 	CXO SLAs: <ul style="list-style-type: none"> • Always existed with GSA • Review sessions yielded need for more granularity: now drill down data points/dashboards
Questions for SteerCo	What are those misconceptions?	How can we best convey all of D2D's abilities?	What are the target offices?	What are two or three processes that are open and available for similar developments?

The long process of data-driven decision making

