DATA & ANALYTICS

Make More Efficient Use of Data Management and Analytics Capabilities

The Data and Analytics (DA) CoE assists agencies in **managing data as a strategic asset** by increasing the frequency and quality of data-driven, evidence-based decisions at both the executive and program level. By cultivating a data culture, the team helps drive innovation at partner agencies in data management practices, data visualizations, advanced analytics, and enterprise analytics infrastructure.

The DA CoE helps federal agency partners develop and modernize their data management, analytics and visualization capabilities, artificial intelligence models, and geospatial tools to **better achieve their mission-specific goals and improve operational effectiveness**.

The Data Analytics CoE employs an approach that simultaneously identifies incremental improvements to the present state and **drives towards analytics innovations** that will provide significant advancements in program outcomes and cost savings. The team's methodology addresses a range of agency competencies including:

- Data Visualization,
- Data and Analytics Infrastructure,
- Advanced Analytics; and,
- Data Governance.

The DA CoE has supported improvements across the federal government:

- Established enterprise data analytics services and developed **Mission Area Dashboards to support USDA business decisions** with wide adoption across 6 mission areas.
- Established **communities of practice (CoP)** at USDA.
- Developed a playbook to help USDA mission areas improve their data capabilities and maturity.
- Developed multiple advanced analytics use cases using **Artificial Intelligence and Machine Learning** to improve HUD mission delivery
- Established an **Office of the Chief Data Officer** and fundamental data governance measures to better manage data as a strategic asset at HUD.
- Established an OPM **data governance body** and developed a **data strategy** to address existing OPM data challenges and comply with federal data compliance standards.

DA CoE Service Catalog

SERVICE	DESCRIPTION	SAMPLE DELIVERABLES
Data-Driven Culture and Governance	Assess governance, tools, and process maturity. Establish metrics to measure true program success. Provide analytics maturity assessment and implementation roadmap to a data-driven organization.	• Analytics Maturity Assessment • Enterprise Data Strategy • Modernization Implementation Roadmap • Office of the Chief Data Officer Charter • Data Governance Charter • Performance Metrics Dashboard
Data Infrastructure	Provide a catalog of data sources and elements. Creates processes and procedures to Extract, Transform, and Load (ETL) data leveraging best practices such as APIs and automated data workflows. Supports planning and Implementation for building scalable data infrastructure.	• Scalable, Flexible Data Environment • Comprehensive Data Dictionary • Data Asset Inventory • Automated Workflows
Data Science	Perform data analytics for partner agencies, including statistical, economic, and operations research analysis. Leverage tools including Artificial Intelligence, Machine Learning, and Geospatial analysis to improve mission delivery.	• Artificial Intelligence and Machine Learning Model Development • Predictive Analytics Models • Self-Service Analytics Framework • Operations Research and Optimization Modeling and Decision Support
Data Visualization	Communicate complex ideas and mission execution with clear and precise visuals. Convey context and insights to decisions via online, interactive dashboards and applications.	• Operationalized Dashboards (e.g. Tableau, Qlik, PowerBI) • Visualizations for Decision-Support Tools • Visualizations for Financial Monitoring and Transparency • Visualizations to Communicate and Measure Mission Delivery