



TOGETHER, WE DELIVER.

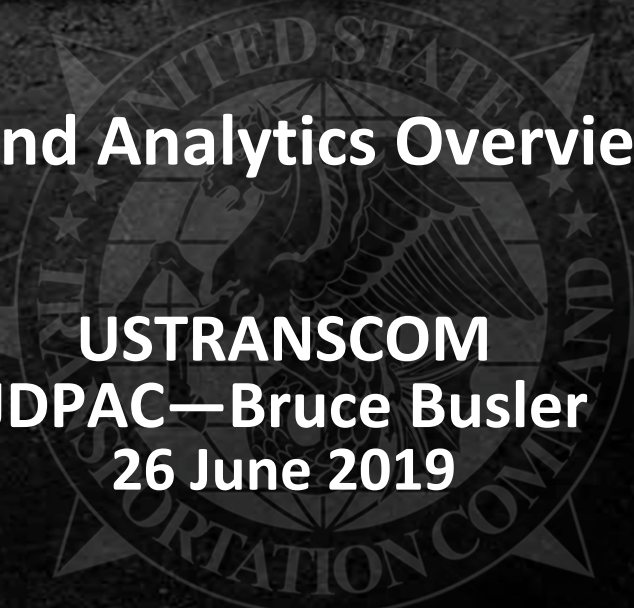
USTRANSCOM

UNITED STATES TRANSPORTATION COMMAND



Data and Analytics Overview

USTRANSCOM
JDPAC—Bruce Busler
26 June 2019





USTRANSCOM Data & Analytics Strategy

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The end-state for the Command is to:

“Deliver performance as a data-driven, analytically savvy organization”

- Pursue an enterprise data environment to improve accessibility and accuracy of our data
- Embrace data volume, velocity and variety; exploiting contemporary data management
- Employ advanced analytical tool suites to examine data sets and discover insights/foresights
- Leverage best-in-class practices from our JDDE partners

Data and Analytics Strategy delivered through four lines of effort (TCJ6 & TCAC leads)

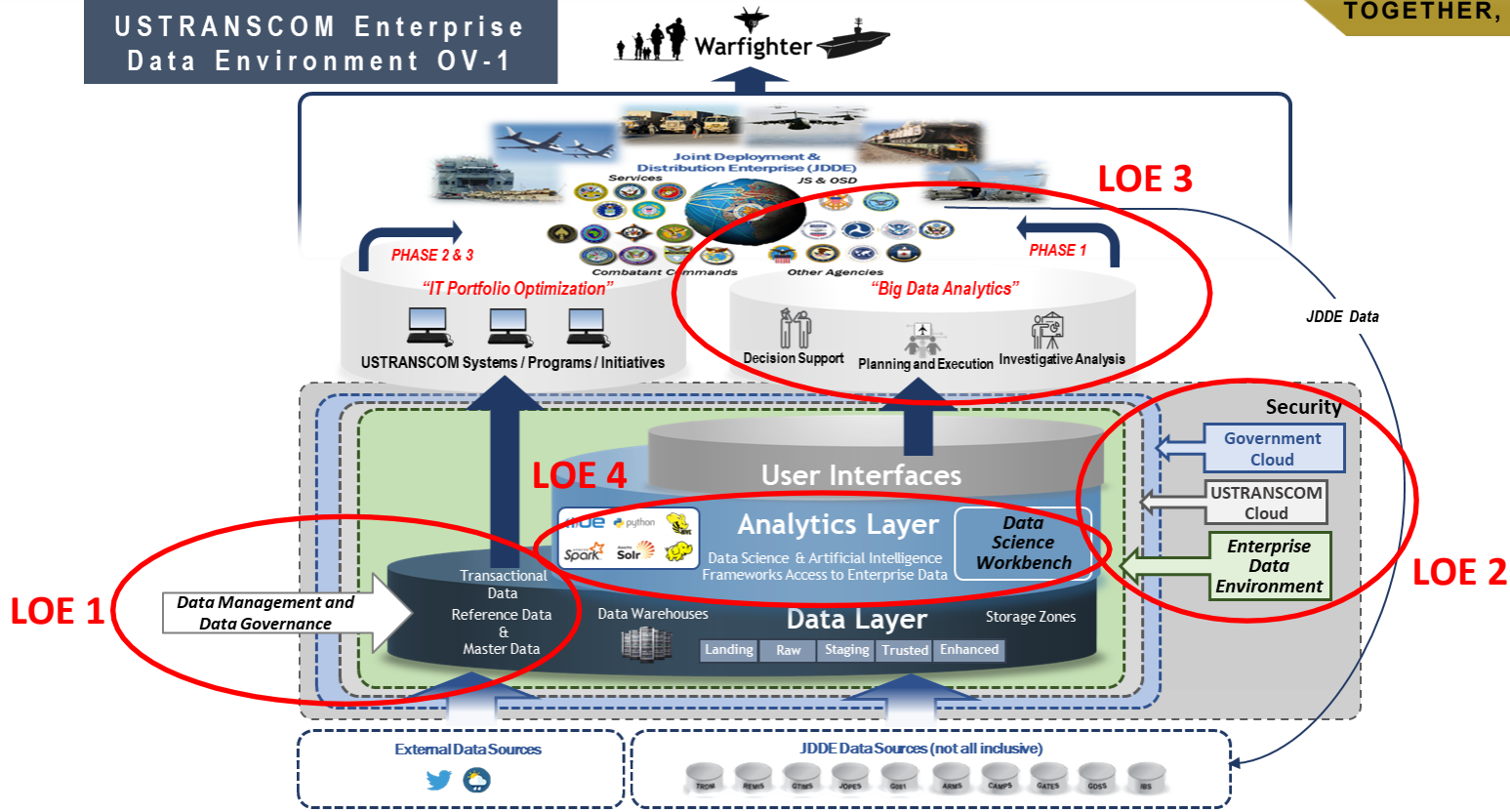
This will require not only leveraging new technologies, but a change in culture... “a new way of thinking”



Data and Analytics Strategy Implementation

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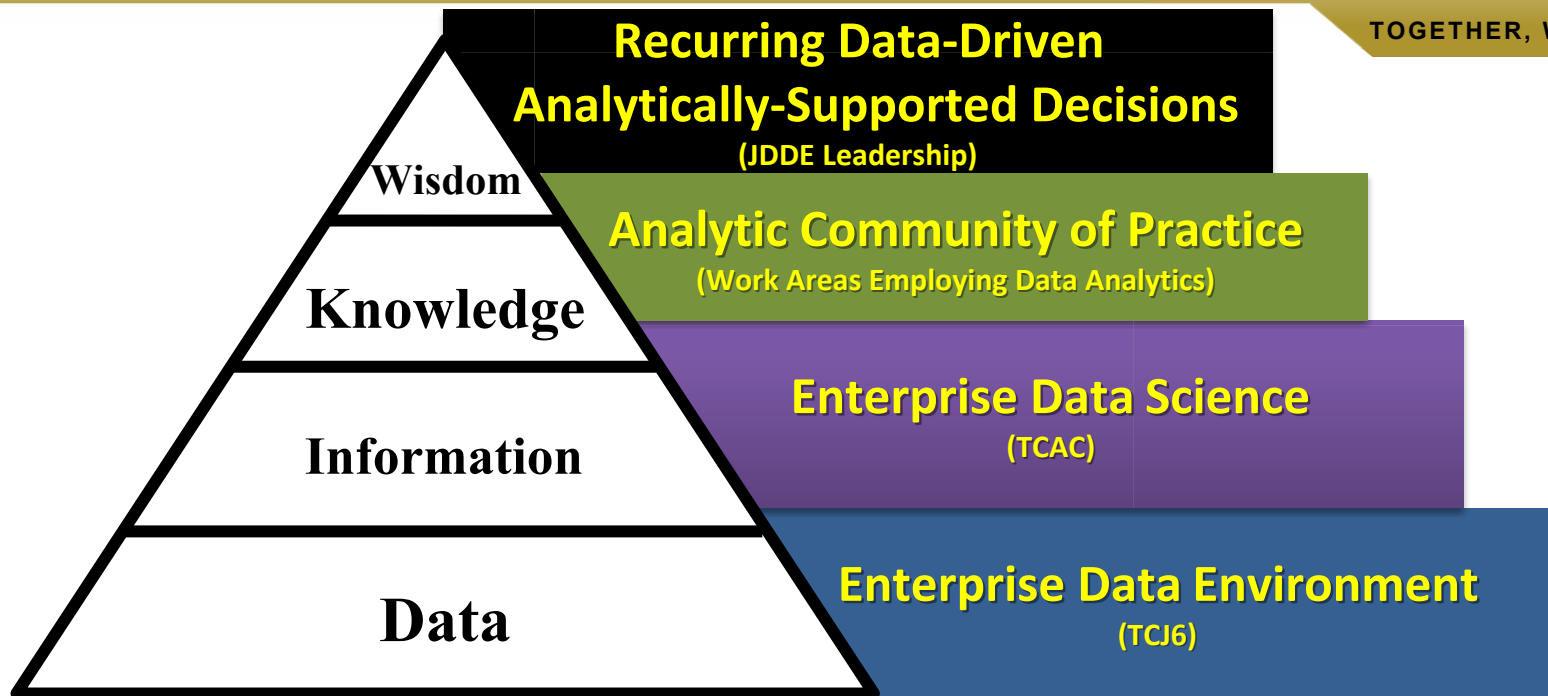
USTRANSCOM Enterprise Data Environment OV-1





Pyramid of Data Analysis Value

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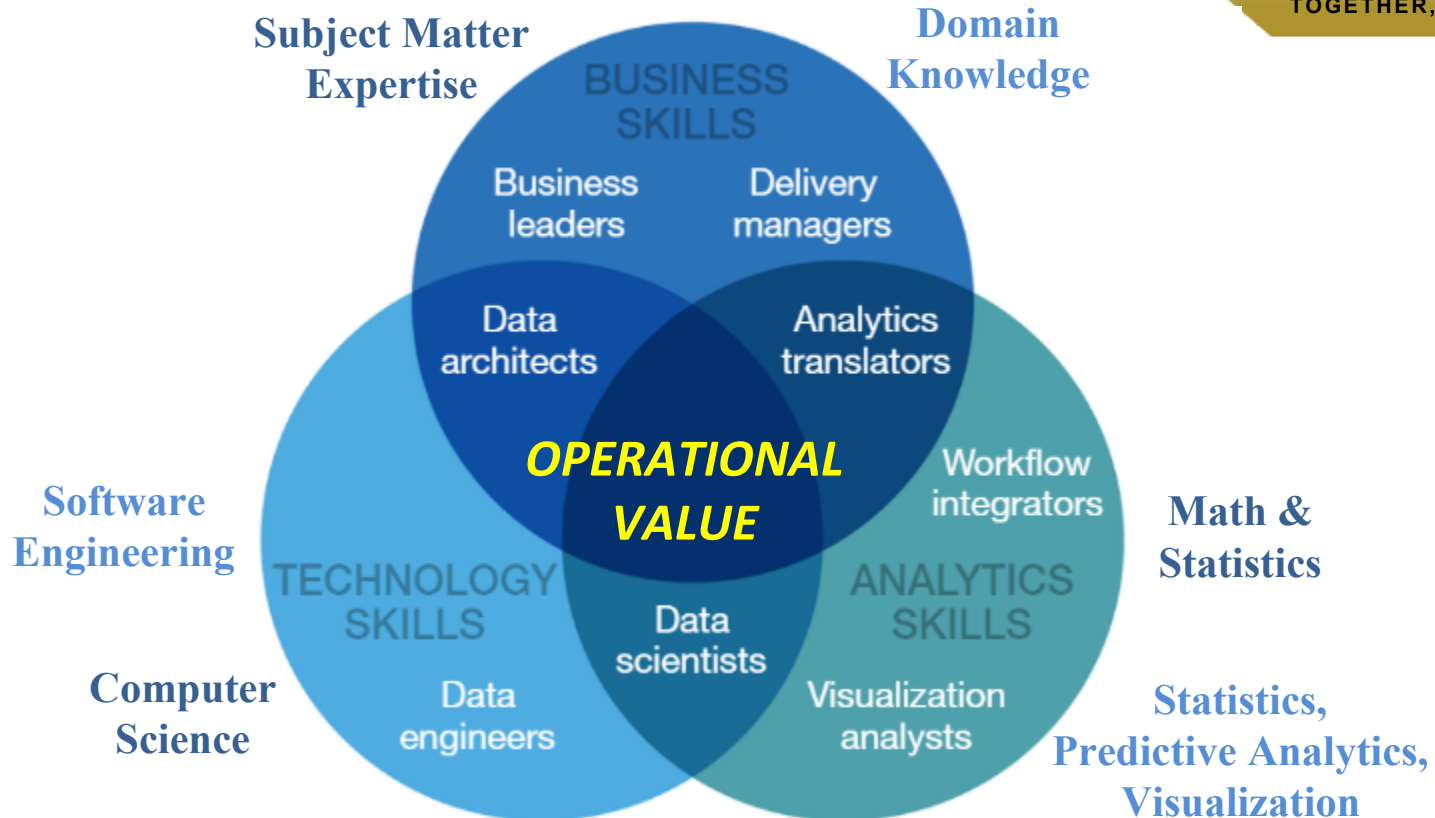


Data and Analytics Strategy -- connects the data and analytic dots



Analytic Components: Defining the Space

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Delivering Analytic Results

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Analytic Elements of Data and Analytics Strategy

Drive Improved Mission Performance

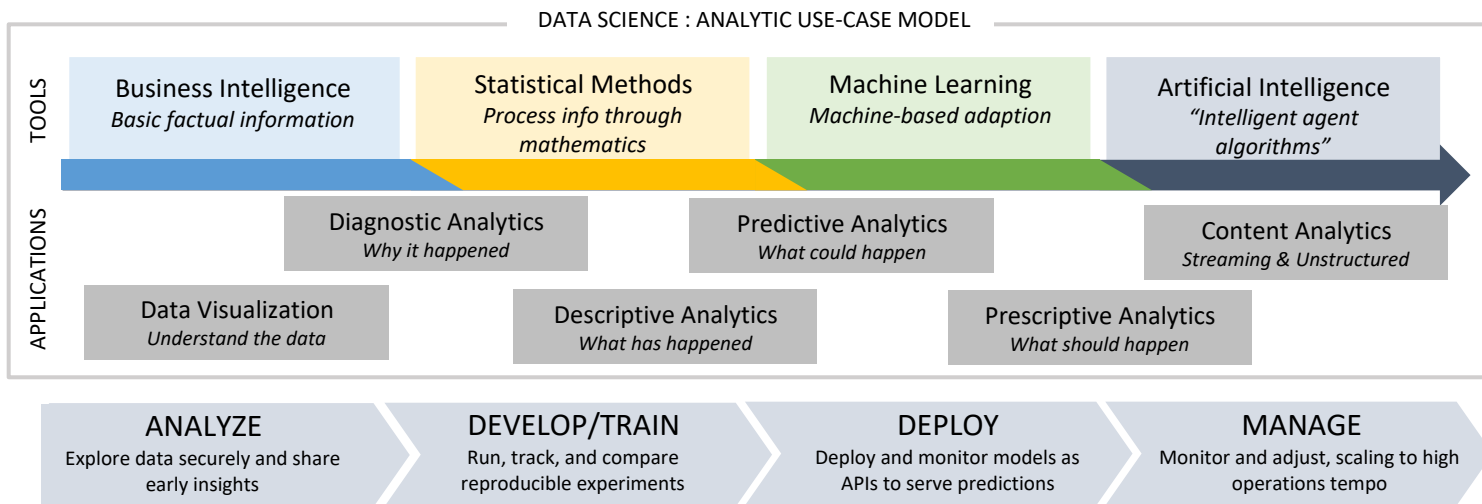
Desired Outcomes:

- Identify operational gaps
- Establish a common baseline analytic capability
- Grow in levels of analytic maturity
- Foster an analytic community of practice

Explore Promising Advanced Analytics

Desired Outcomes:

- Identify shortfalls ahead of time, clarify patterns, and provide the detailed analytics and visualizations
- Foster partnership with Joint Artificial Intelligence Center (JAIC)
- Advance an advanced analytics maturity model





Analytic Components: Data Foundation

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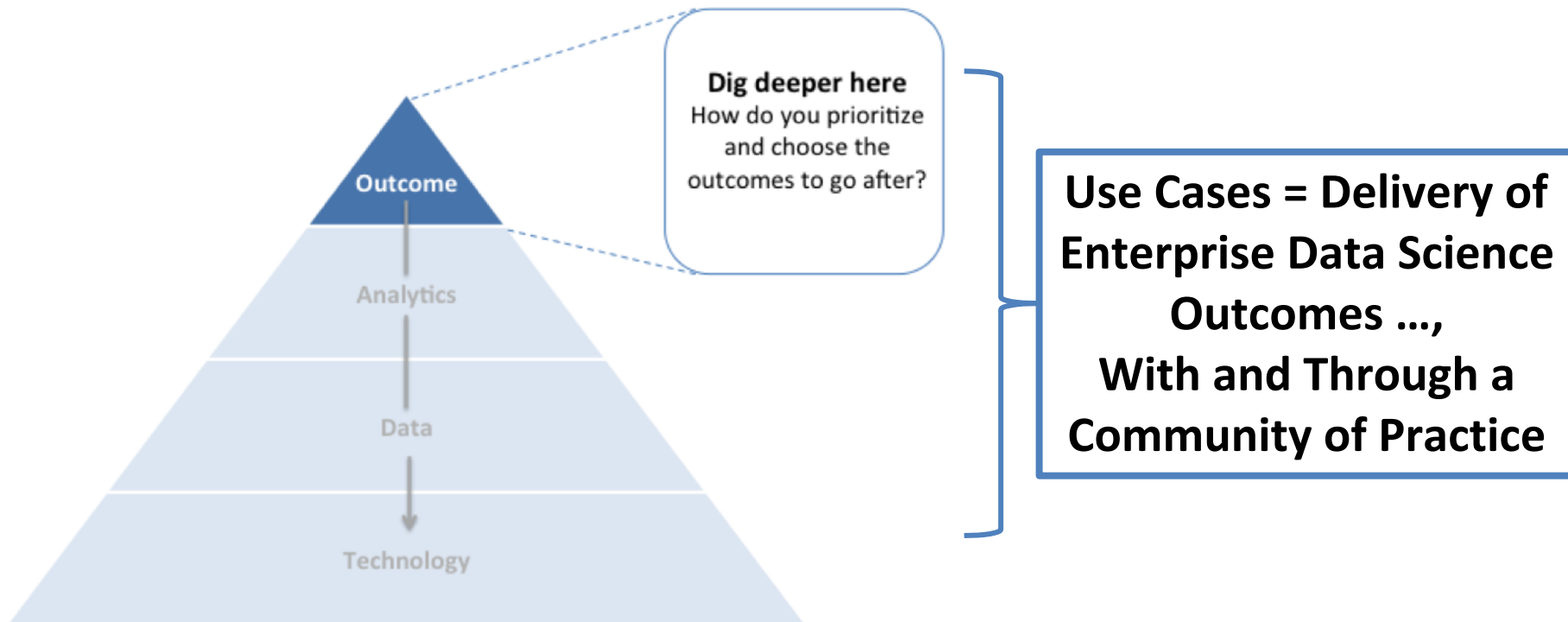


- Data value: driven by operational outcomes
- Data Visualization and Structure: understand patterns, trends, and insights by “seeing” data in context
- Data ingestion: structured foundation to avoid “data swamps”



Use Case Focus – Delivering Outcomes

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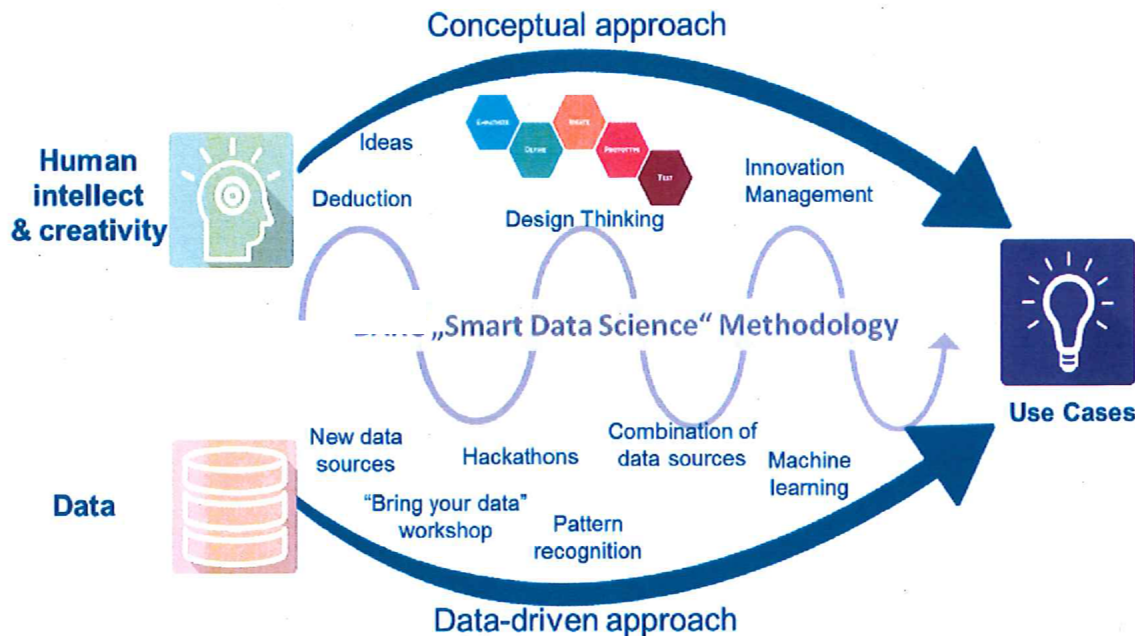


Source: WWT, *For Analytics To Be The Answer, You Need The Right Use Cases*, Yoni Malchi, 2019



Two-Pronged Approach to Use Case Development

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Use Cases: Need Both Approaches To Deliver Operational Value AND New Insights and Foresights

Source: Business Application Research Center (BARC), *Big Data And Digitalization Use Cases: How To Identify and Prioritize*, Carsten Bange 2016



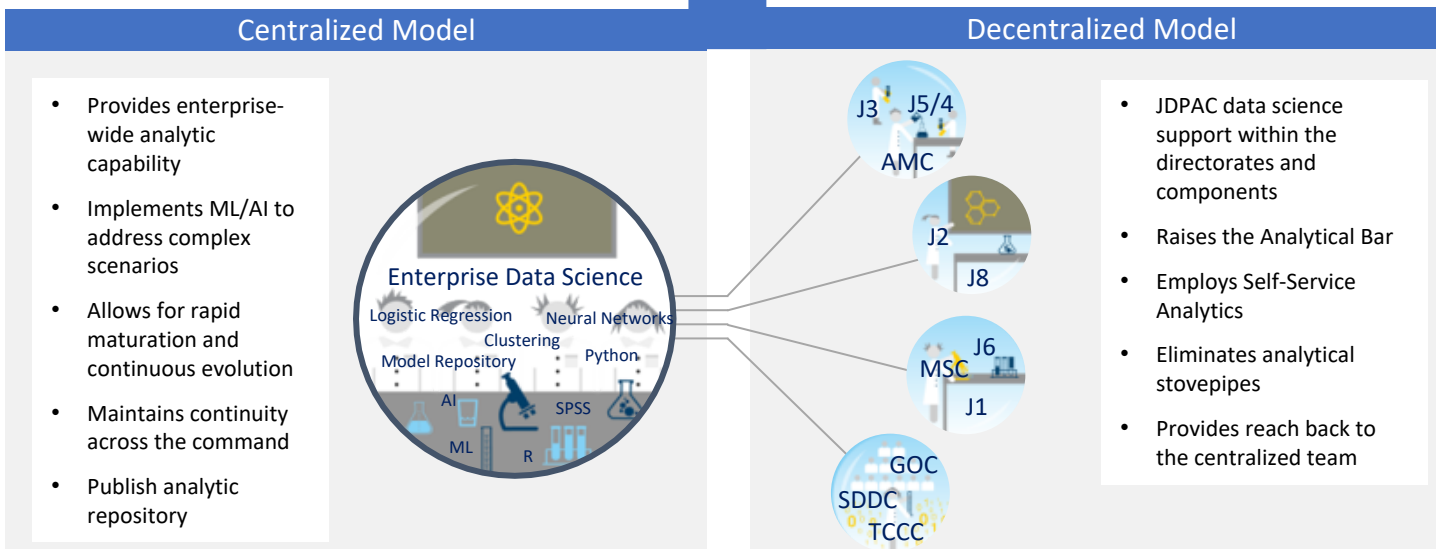
Enterprise Data Science Delivery – Community Of

Practice

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Enterprise Data Science uses a Hybrid Centralized and Decentralized (Diffused) Teaming Model to facilitate EDS capability at the command.

Hybrid Centralized/Decentralized Model Necessary to Advance Full-Range of Data Analytics



Where we are now: For the transportation enterprise -- people, processes, and technology being put in place.
Hard Part -- application/adoption to gain decisive operational advantage



2019 Way Ahead

- **Use-case focus building on existing data platforms**
- **Award FAR-based contract for EDE delivery**
- **Develop foundation for subsequent EDE phases**
- **Mature efforts by/with/through community-of-practice – deliver, apply, refine, and iterate**



Questions / Discussion



Data and Analytics Strategy: Four Lines of Effort

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- ***LOE 1: Implement a data management/governance structure led by COO, CDO with CAO participation as the essential foundation for information needs***
- ***LOE2: Create the Enterprise Data Environment that serves many data needs of the Command (transactional data and data for analytic computation)***
- ***LOE 3: Improve mission performance through Enterprise Data Science to deliver fact-based data driven analytics through a community of practice***
- ***LOE 4: Pursue AI/ML enhancements for next generation of decision-support by partnering with leading organizations to explore and exploit advanced capabilities***



Enterprise Data Environment (EDE) Implementation

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PHASE I

PHASE II

PHASE III

Phase I: Big Data Analytics and Analytic EDE

- OTA Contract – 2 Year
- Required environments;
 - Unclassified Classified

BIG DATA ANALYTICS

\$ Data Science

HOSTING ENVIRONMENT

\$ Cloud Hosting Services

HUMAN CAPITAL | TRAINING

- \$ Civilian – JDPAC, TCJ6
- \$ Contractor – JDPAC, TCJ6

ENTERPRISE DATA ENVIRONMENT (EDE)

Phase II: Migrate Data-centric PORs

- FAR-based Contract for data-centric systems
- Operational EDE + continuous process to integrate and transition data-centric PORs



Data-centric services
Apps (BI, API)
Reference data

Unstructured data
Structured data
Other

ENTERPRISE DATA ENVIRONMENT (EDE)

Phase III: Support Transactional PORs

- Operational EDE + iterative process to integrate and transition transactional PORs from a common EDE



ENTERPRISE DATA ENVIRONMENT (EDE)

Phase I (o/a Dec 19)

- *Big Data Analytics*

Phase II (target FY21/22)

- *Data-Centric PORs*

Phase III (ICW cloud migration/portfolio optimization)

- *Transactional PORs*



Data and Analytics ... Together

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Data is inherently dumb. Algorithms are where the real value lies. Algorithms define action.

- Peter Sondergaard, Senior VP, Gartner Research



Data Tied to Purpose

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Data are not taken for museum purposes; they are taken as a basis for doing something. If nothing is to be done with the data, then there is no use in collecting any. The ultimate purpose of taking data is to provide a basis for action or a recommendation for action. The step intermediate between the collection of data and the action is prediction.

- W. Edwards Deming