

Department of the Air Force

Integrity - Service - Excellence

Air Force Cost Analysis Agency (AFCAA) Data Analytics

NATO OR&A Conference



October 2022



Disclaimer

- **Any reference to contractors, companies, or any other non-government entity in this briefing is for informational purposes only and is not to be construed as an endorsement.**



SAF/FMC Mission /Vision /Goals

Mission

“Provide expert cost, economic and financial decision support to the Air Force, DoD and Congress enhancing Air Force warfighting capabilities and maximize available resources”

Vision

“Air Force decisions empowered by objective analysis.”

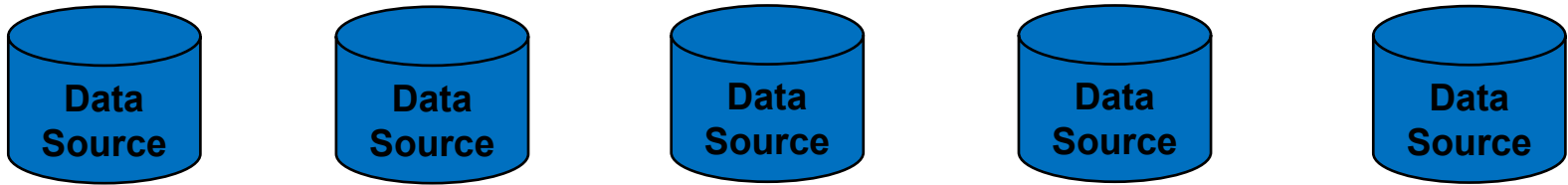
FMC Goals

“Deliver **credible, objective** analysis enabling cost conscious decisions.”





Today



Analysts individually download and store STATIC files/models (local drive, etc.)



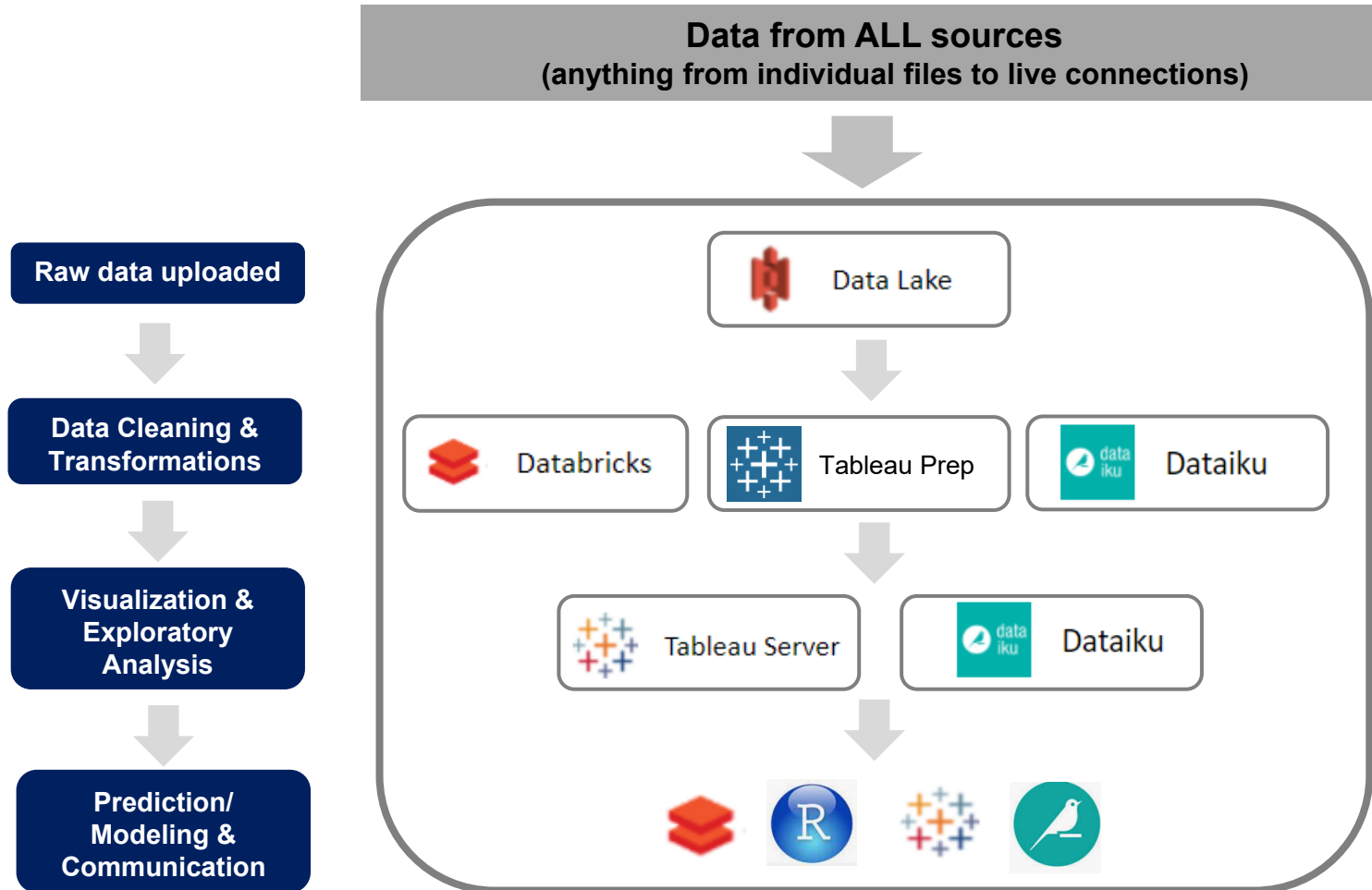
Mostly manual steps from raw data to final analysis which need to be repeated each time data is updated



(Multiply by frequency to keep data current & Multiply by # of analysts)



AFCAA's Cloud Based Model



Turn manual, stove-piped processes into automated, centralized and efficient workflows



Realized Benefits

Legacy

Traceability is dependent on documentation & process used by analyst

Only saved versions are kept- can lose trace to data in certain versions of models if not properly handled

Often have issues with compatibility of desktop versions

Mostly manual steps – not easily repeatable and often not well documented

Extremely difficult to get desktop tools approved on high side

Performance limited to desktop compute

Models are tedious to update and are often several years outdated

Org-wide changes like inflation updates have to be individually updated in each model manually

Power of data science in cost community often limited due to very few programmers in the field

Models built with manual steps tend to be very error prone

Cloud-based

Complete step by step traceability to original, raw data

Insight into who made change & when – and can revert back to a previous version in modeling tools

No compatibility issues with different versions of desktop software once in the cloud

Automated steps from raw data to final product so that it's repeatable on new data that's received

Can replicate environment on the high side (SIPR now, JWICS 2022)

Performance will scale based on compute available in "cluster"- equivalent of groups of machines

Can update models much more easily- often in days vs. months

Have the ability to centralize updates so that analysts can pull them in to models quickly and easily

Data science tools in a no code/low code environment

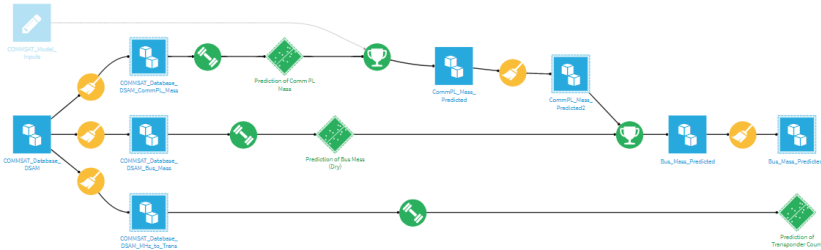
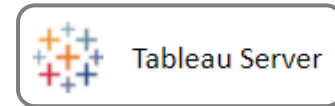
Opportunity for significant reduction of modeling errors

*AFCAA's assessment of benefits



Live Demo

Live Demo of AFCAA activities in the VAULT



Program Overview Dashboard

Program:

- Program Overview
- Technical Data
- EVIM Data
- Budget Data
- Contract Data
- CSDR Data
- SDCR Data

Advanced Extremely High Frequency Satellite (AEHF) is a joint service satellite communications system that provides global, survivable, secure, protected, and jam-resistant communications for high priority military ground, sea, and air assets. The system consists of four operational satellites in Geosynchronous Earth Orbit that provide 10 times the capacity of the 1990s-era Military Strategic and Tactical Relay Block II satellites. The system provides continuous 24-hour Extremely High Frequency Extended Data Rate coverage between 65 degrees north and 65 degrees south latitude. AEHF allows the National Security Council and Combatant Commanders to control their tactical and strategic forces at all levels of conflict up to and including general nuclear war, and it supports the attainment of information superiority.

The AEHF operational system is composed of three segments: space, terminals, and mission control. The space segment consists of a cross-linked constellation of satellites to provide worldwide coverage. The terminal segment includes fixed and mobile ground terminals, ship and submarine terminals, and airborne terminals. The mission control segment controls satellites on orbit, monitors satellite health, and provides communication system planning and monitoring. This segment is also survivable, with both fixed and mobile control stations.

Interactive Scoring

ADD TO COMPARATOR COMPARE (0) ...

Filter...

Design Life (yrs)

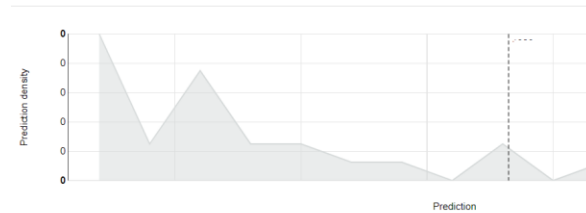
Satellite Class (HBC, MU, Mil, NASA-Exp, HTS, Dual)

Total Bandwidth All Transponders (MHz)

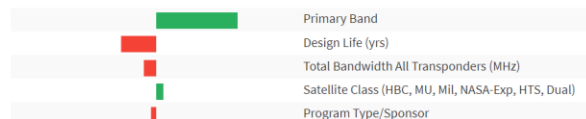
Primary Band

Program Type/Sponsor

Prediction for Total Comm Payload Mass (lbs):



Most influential features for Total Comm Payload Mass (lbs) (ICE)



Timeline



Contract Data Dashboard

- Program Overview
- Technical Data
- EVIM Data
- Budget Data
- Contract Data
- CSDR Data
- SDCR Data

