LOFT ORBITAL
FUTURE-PROOF MISSION CONTROL SYSTEMS
LEVERAGING AGNOSTIC DESIGN FOR AUTONOMOUS
AND EVENT-DRIVEN SATELLITE OPERATIONS
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WHAT ARE WE DOING, AGAIN?

Loft is building a space infrastructure
to enable its customers to fly and operate any mission faster, simpler and safer.

UNIVERSAL

Any payload: physical or software-defined.

Support from one-off to mega-constellations.

FAST

Accelerate schedule from design to orbit.

Integrate within days, not months.

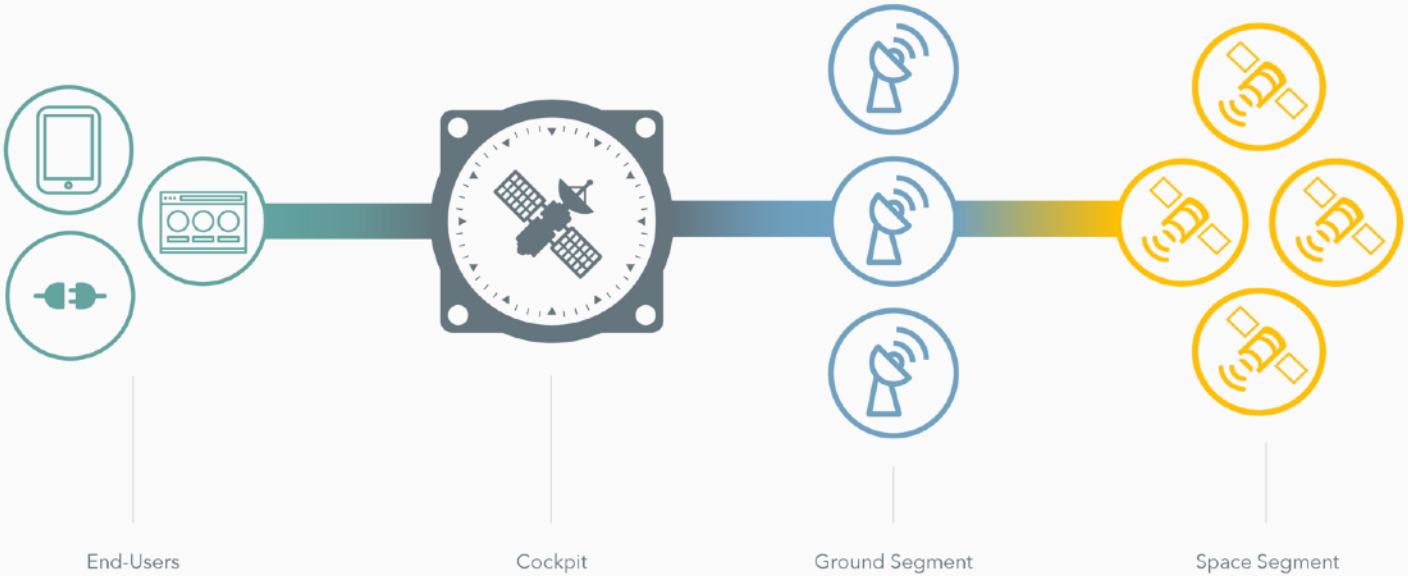
SIMPLE

No specific knowledge required to operate mission.

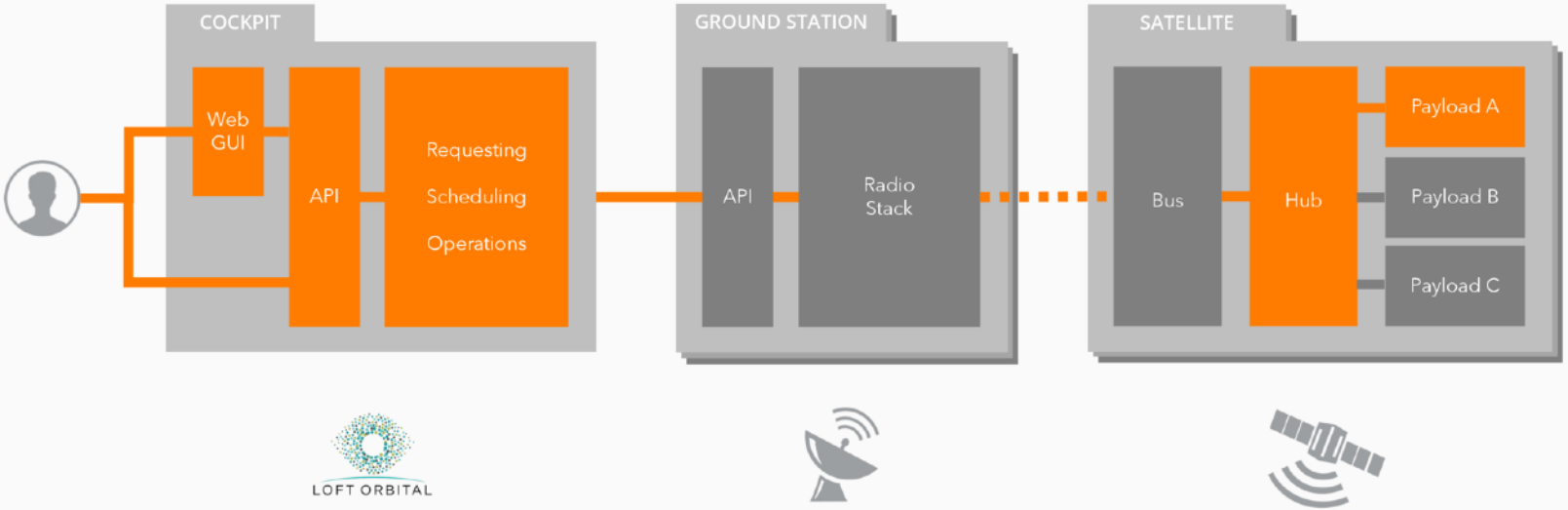
Full automation focusing on scalability and performance.

THE BIG PICTURE

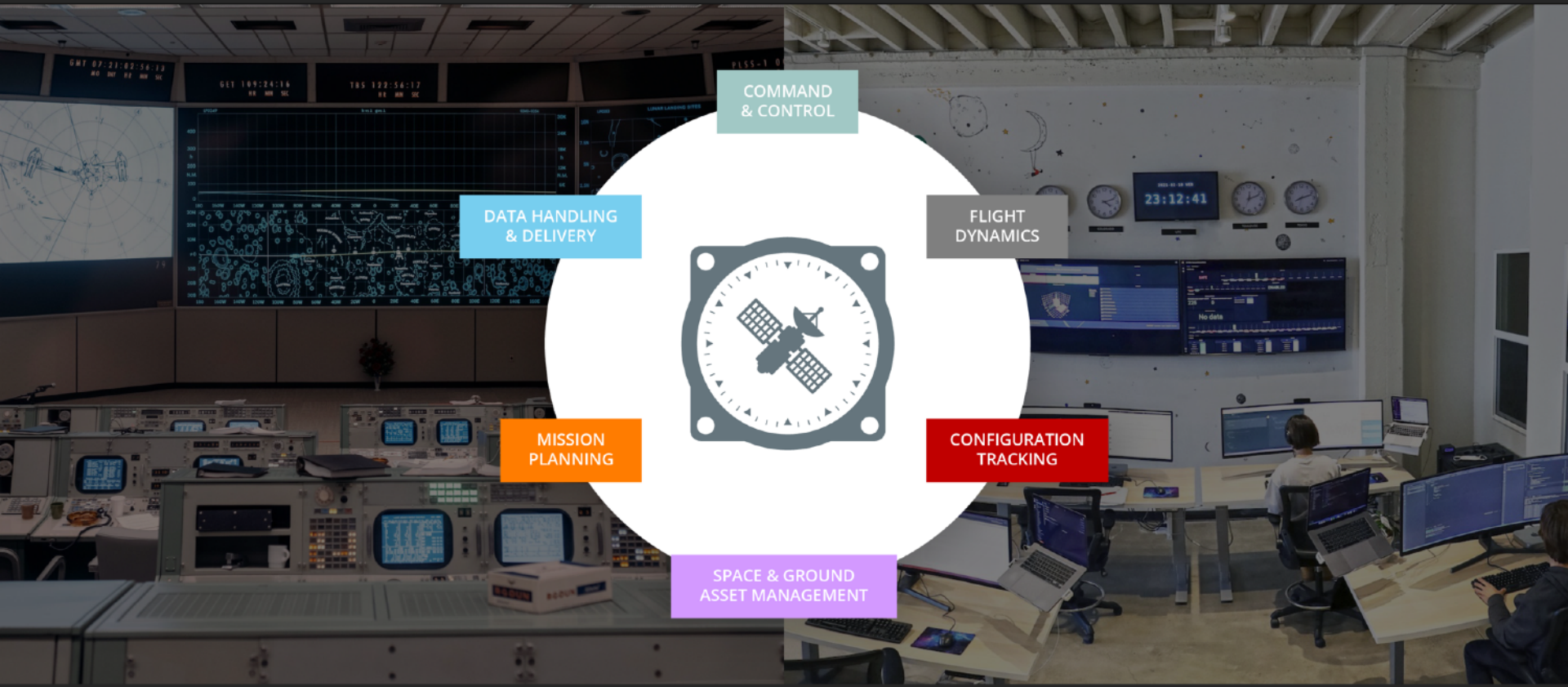
Cockpit empowers end-users with powerful satellite constellation management capabilities while abstracting away the complexity of spacecraft operations.



TYPICAL CONTROL & DATA FLOW

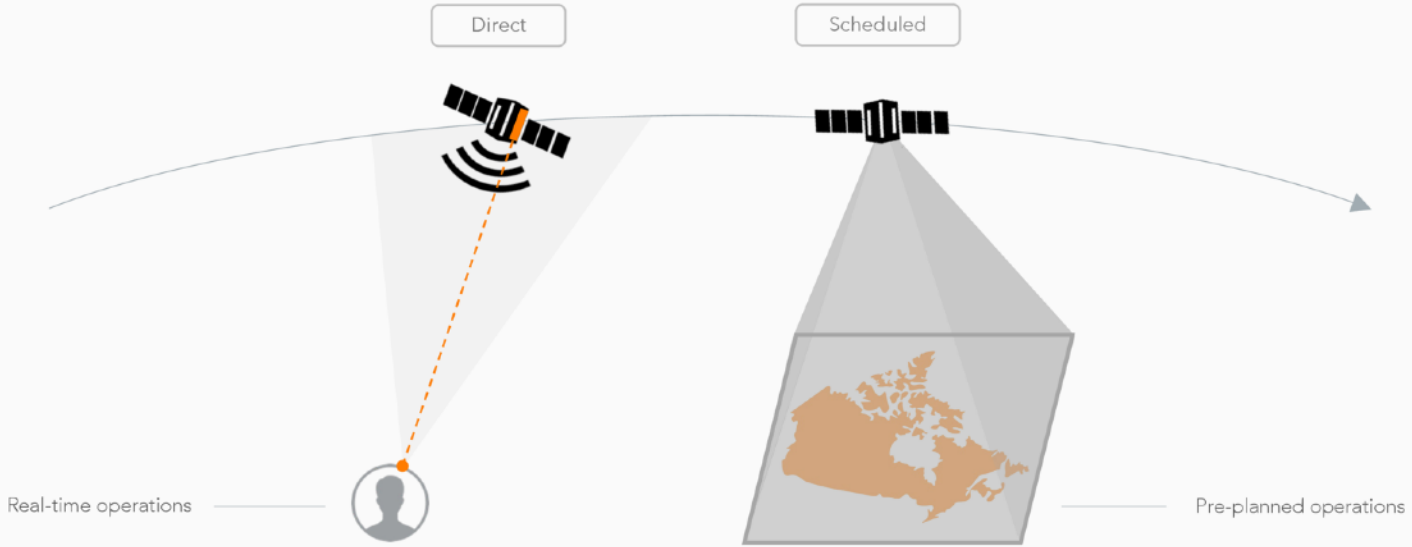


GROUND CONTROL INTEGRATED & AUTOMATED



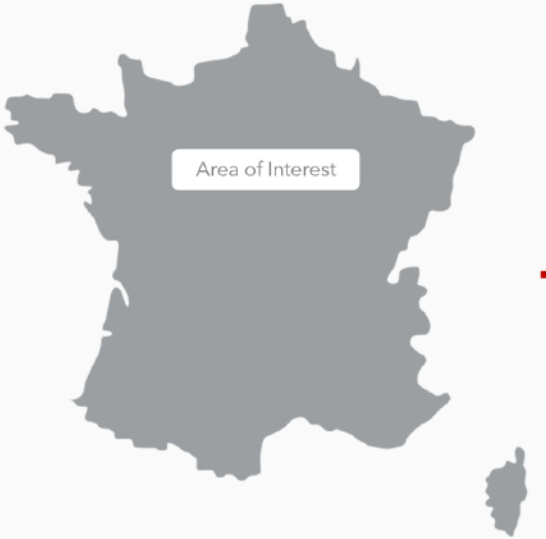
OPERATIONAL CONCEPTS

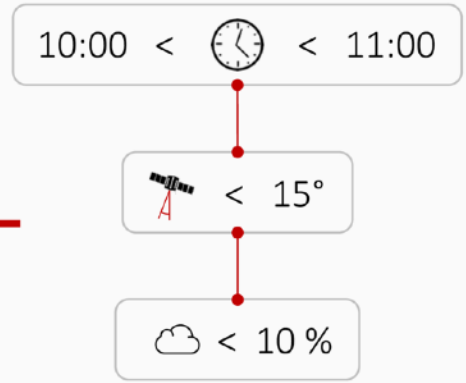
Direct and scheduled mission control capabilities are provided.
Even on a rideshare configuration, payloads can be operated as if they were flying on a dedicated satellite.

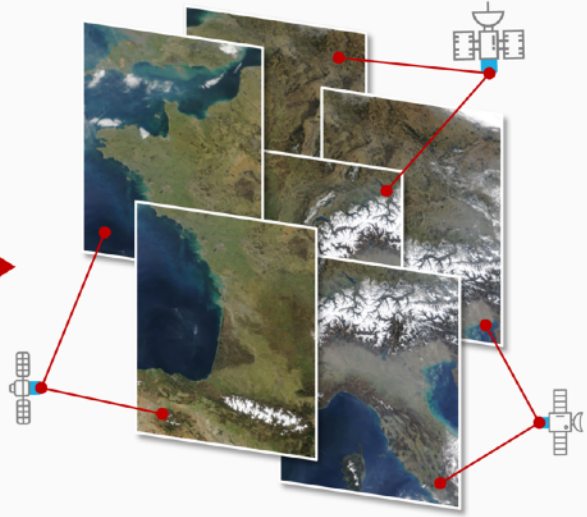


TYPICAL REQUESTING FLOW

Using constrained mission scheduling, optimal scenarios are automatically generated from execution to data delivery.





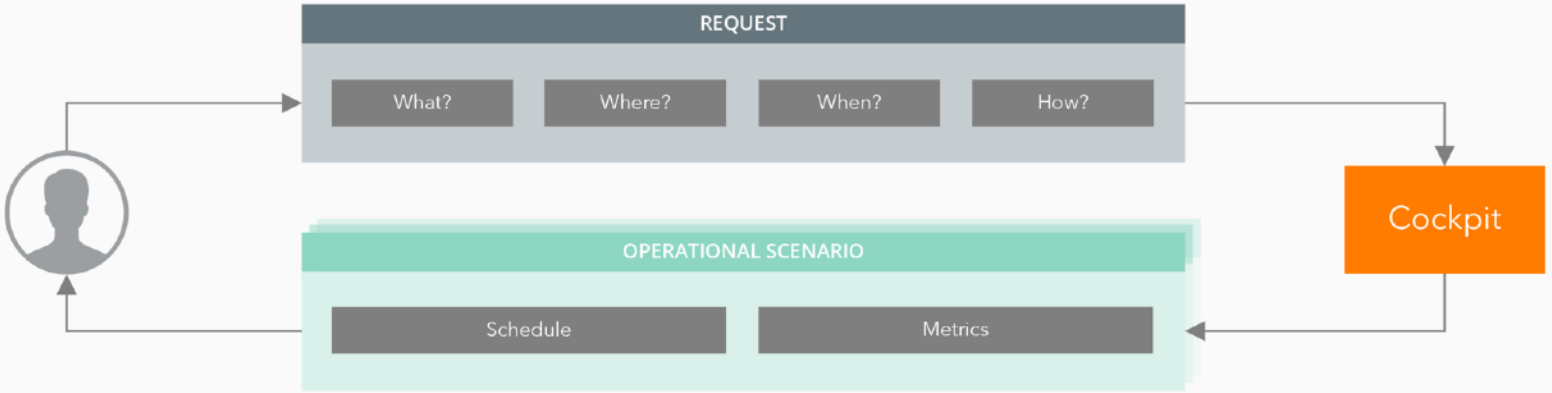


Mission Constraints

Execution & Data Delivery

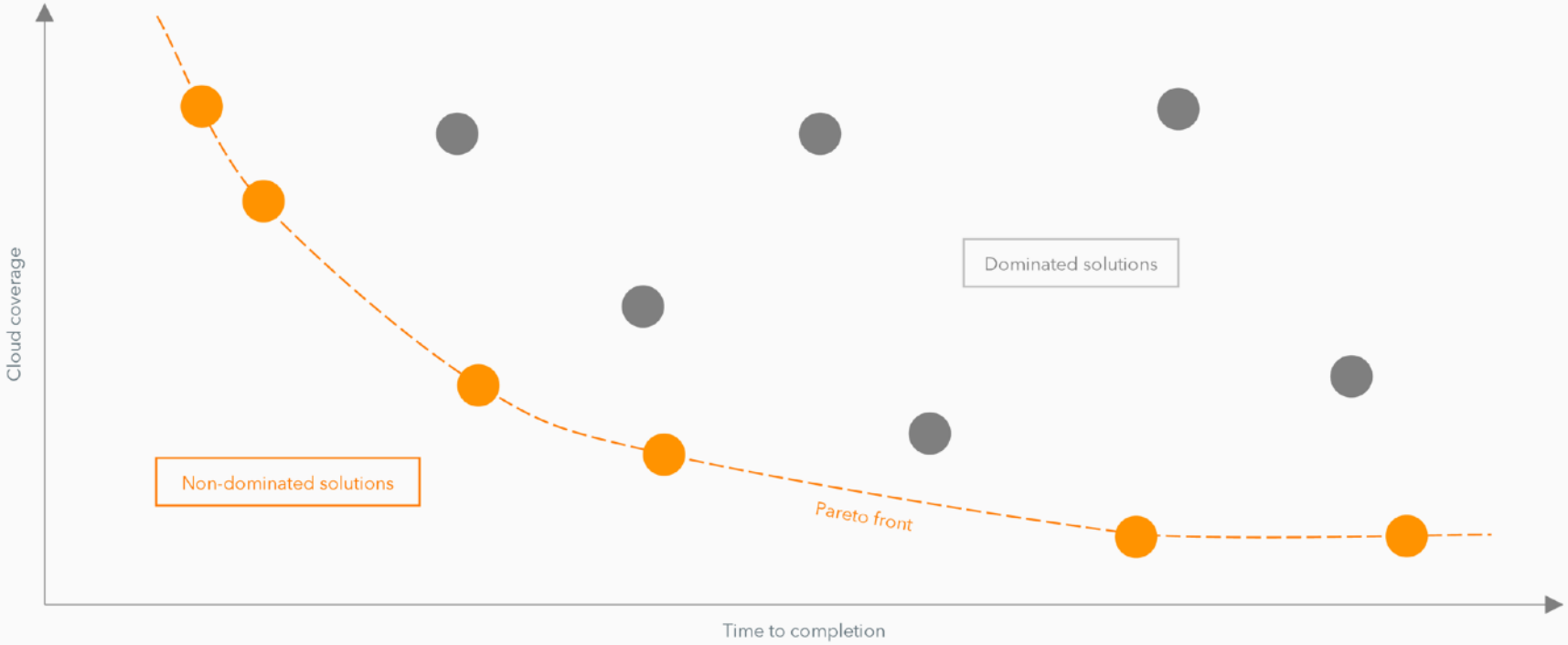
REQUESTING FORMALISM

Mission-agnostic set to gather execution requirements.

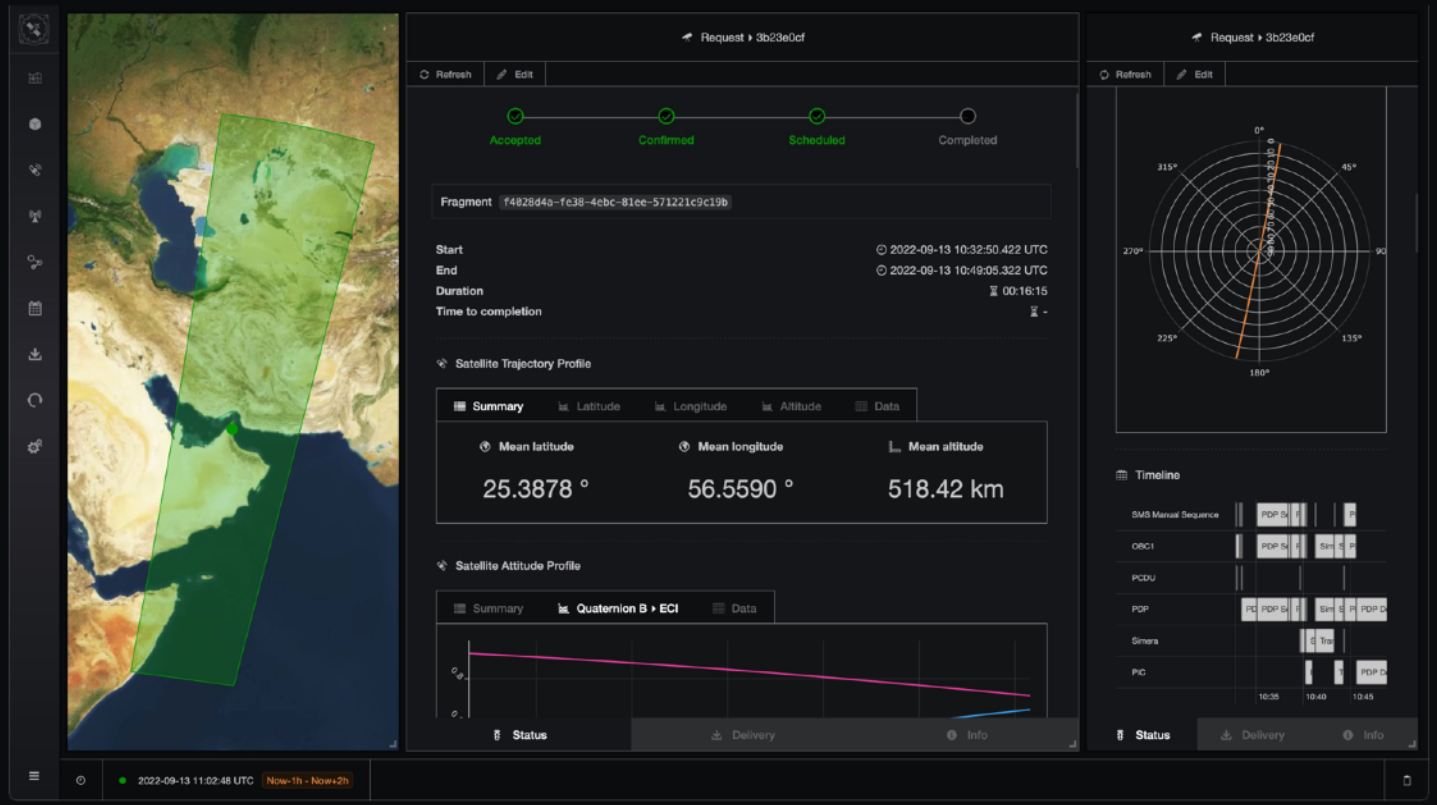


Set of potential execution plans, each compatible with the requirements.

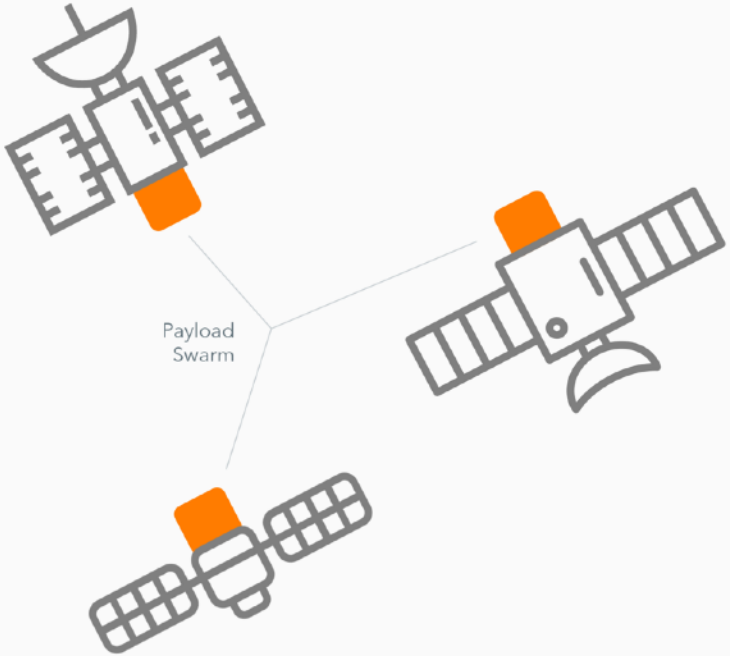
REQUESTING TRADE-OFFS



REQUESTING METRICS



PAYLOAD SWARMS

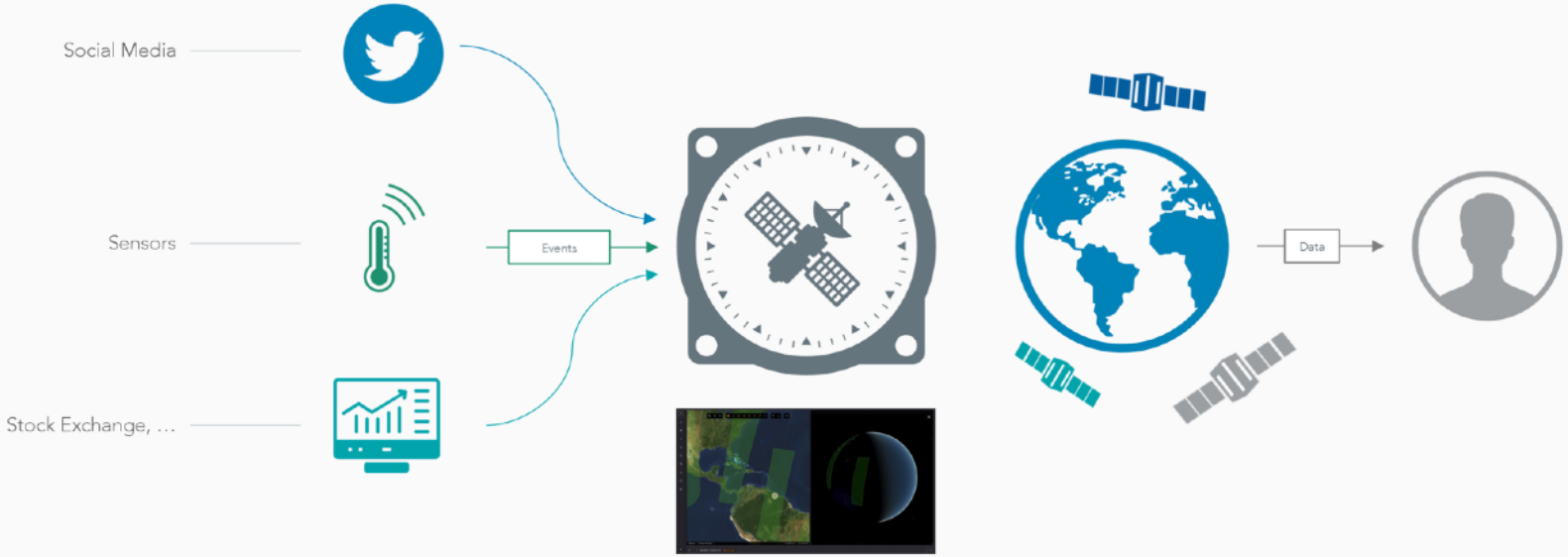


Payloads distributed across multiple spacecraft can be controlled as a single integrated system.

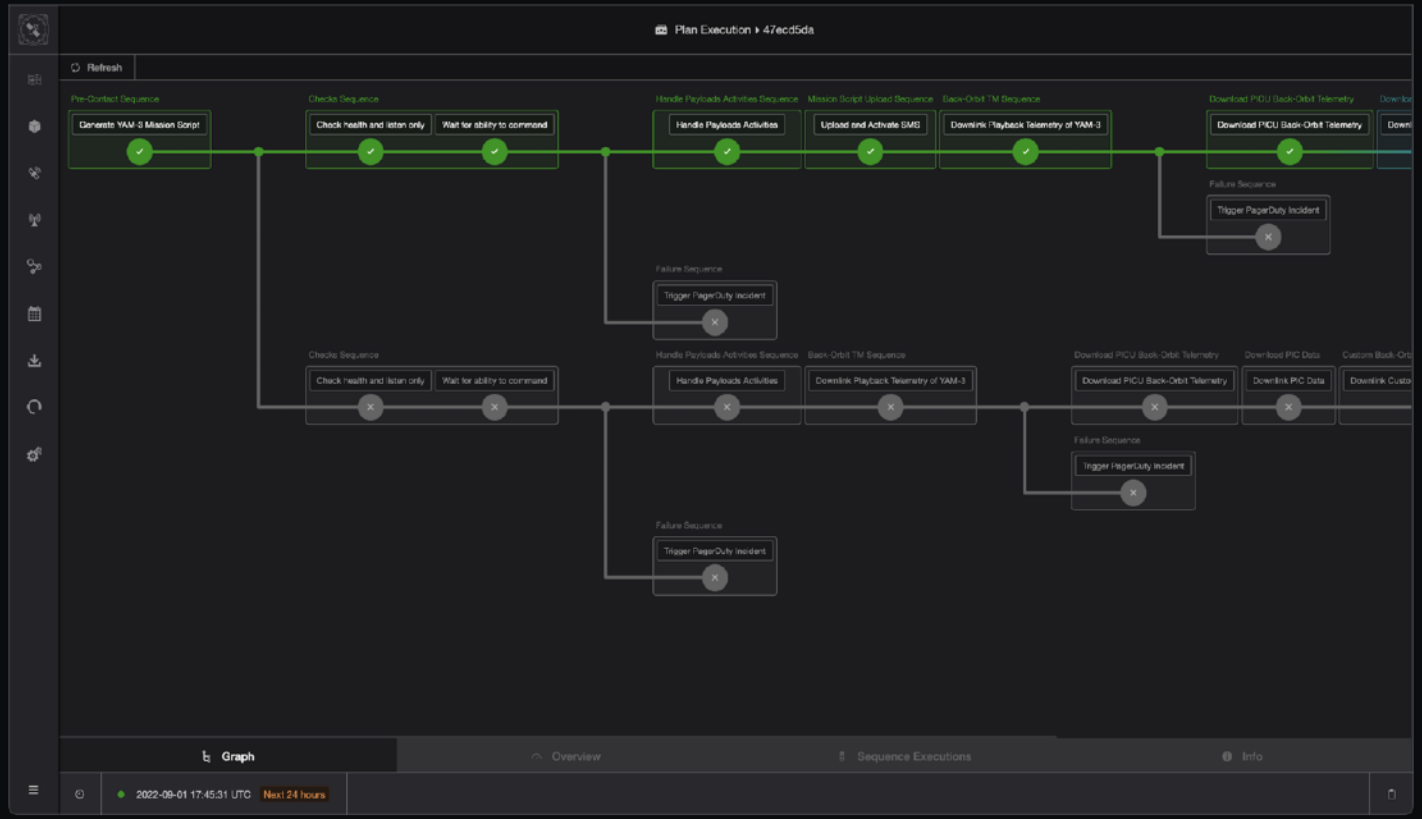
Cockpit automatically dispatches work, optimally leveraging available assets.

EVENT-DRIVEN FLOW

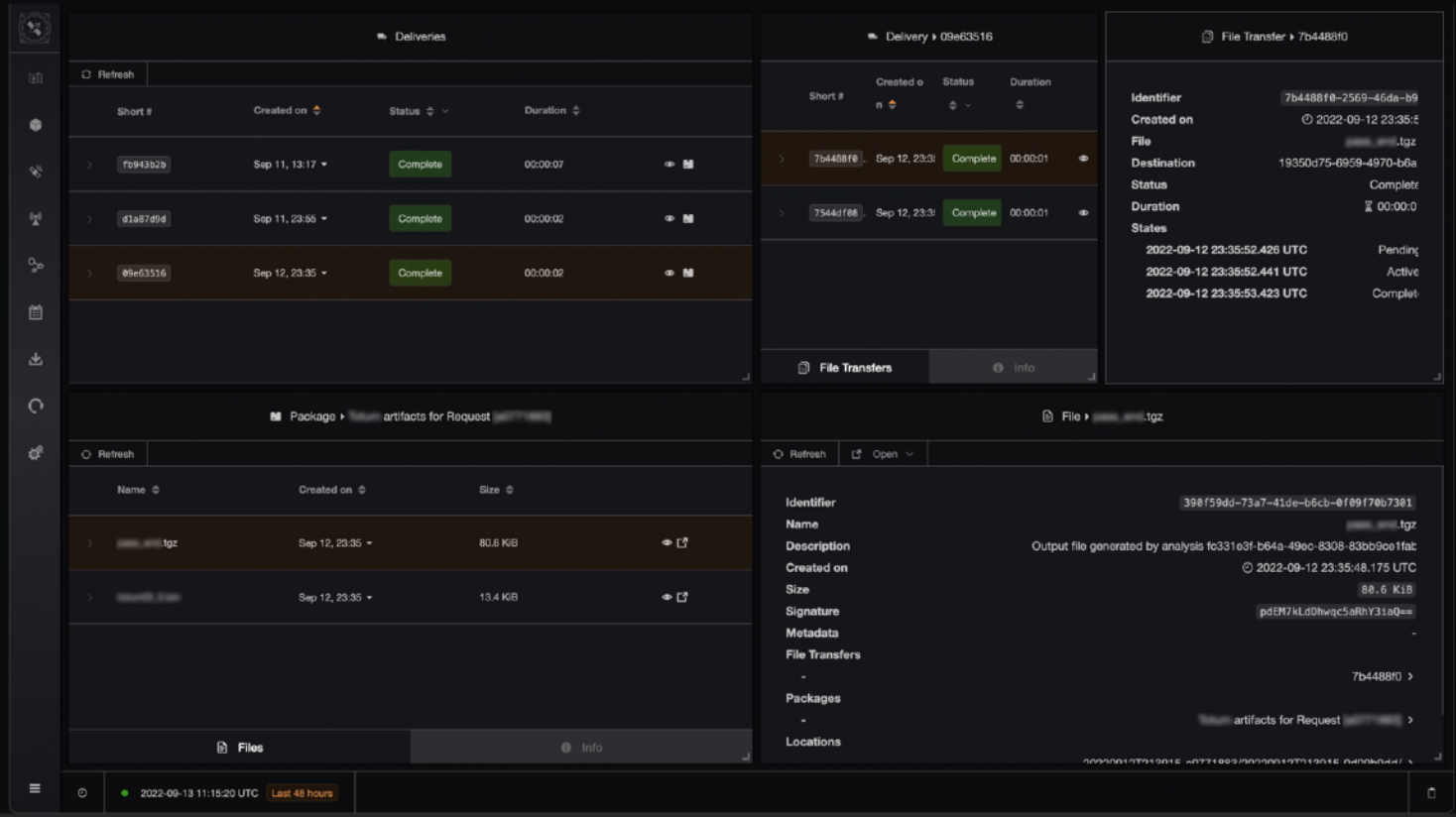
Users can define event-driven pipelines
to further automate their mission execution.



AUTO-PILOT ENGINE

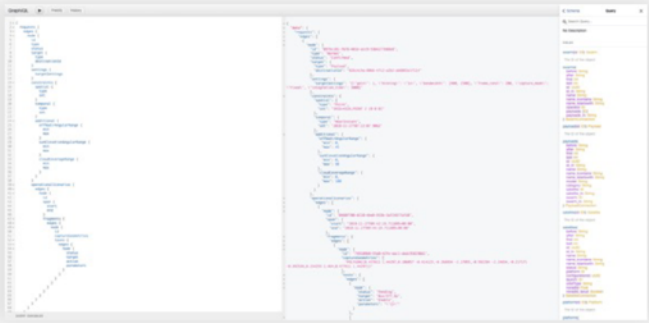


AUTOMATIC DATA PROCESSING & DELIVERY



INTERFACES

Leveraging the latest web technologies,
Cockpit exposes interfaces for interactive and programmatic access.



Graphical Web Apps

APIs

GraphQL

LOFT ORBITAL

THANK YOU!

Space Made Simple.