

MISSION OPERATION CENTER

SUMMARY

C3S Mission Control Centre (or MOC, Mission Operation Centre) is a complex system of satellite and tracking station management, TC/TM data management, customizable interfaces for third party connection and an integrated on-site satellite test solution.

The core component of the system is a flexible scheduler controlling providers which manage TC/TM data of different protocols, file transfer system supporting chunk-based operation, a complex mission planning system and orbital tasks.

For each mission a specific Satellite Mission Provider is implemented.

A realtime backend system is built on this core, which can be controlled and managed using a web browser allowing multiple users to operate simultaneously. Authentication and role based authorization is implemented at the system core. Access is controlled by a special authorization system. The realtime backend solution allows clients to track and visualize changes immediately. Satellite, tracking station configuration, direct satellite control etc. are available via this interface. A SOC (Scientific Operation Centre) interlink provides connectivity to third party systems to access payload functionality and restricted access to the platform transporting the payload in question. A dedicated provider has to be installed (and often newly implemented) for each payload and related customer. Satellite data (TC/TM/Scientific...) is stored in an integrated, reliable and secure database and can be retrieved any time later.



MAIN FEATURES

- Telemetry and telecommand visualization
- Orbit and Trajectory visualization
- Operation scheduling
- Connectors to ground station, access port and bus tester
- User and permission management
- Activity logging, - monitoring and reporting, alert system
- Microservice architecture
- Containerized modules (Docker)
- Cloud or on-premises deployment
- Real-time backend based on technology used by financial trading and multiplayer game industry
- Development using Continuous Integration & Continuous Quality environments