



Aurora is a powerful cloud-based mission control software suite designed to control a single satellite or a complete constellation through a user-friendly, fully customizable control interface.

- **Always up to date:** Aurora's cloud architecture enables operators to significantly reduce mission costs by eliminating all the expenses connected to software design, development, testing, deployment, and maintenance.
- **Custom User Interface:** The user interface can be customized to the needs and preferences of individual mission operators.
- **Flexible IT infrastructure:** A web interface enables the use of cheap, commodity hardware to create the desired IT infrastructure. Operators can control satellites from any location through a variety of computer platforms, including mobile.
- **Maximum Flexibility:** Aurora's software architecture is modular, and it can be tailored to support the most common CubeSat mission architectures.
- **On-Demand Global Coverage:** A worldwide network of ground stations, in partnership with LeafSpace and Amazon AWS Ground Station, ensures a global coverage that can be tailored to the needs and the budget of any space mission.
- **Mission Control as a Service:** Operators can completely outsource the control of the mission to D-Orbit and focus on data processing.
- **State-of-the-art security:** The software is installed in a private cloud instance with AES256 encryption 2FA token user authentication, to ensure a state-of-the art cyber security protection. Deployment on a private local server is also possible.

The screenshot displays the Aurora Mission Control Platform interface. At the top, it shows the user 'TEST OPERATOR' and the current time '09 Oct 2019 - 12:19:13 UTC'. The main view is titled 'ION - TST_Overview' and features a 3D globe of Earth with a red line indicating the satellite's ground track. Below the globe are 'CENTER VIEW' and 'TOGGLE GS' buttons. To the right, there are four OBC1 status indicators: OBT 4186, UTC 31203518.34, Stow VCC 1521, and Depl VCC 8. Below the globe is a table of 'Executed Telecommands' with columns for Label, Timestamp, Ground Station, Type, Status, and Response. The table lists several 'Telemetry Get Real Time' and 'Telemetry Get Continuous' commands, all with a 'Sent' status and 'TcAck' response. The last entry shows a 'TcTimeout' response. A sidebar on the left contains navigation menus for 'TEST OPERATOR', 'DASHBOARDS', 'SETTINGS', and 'ADMIN'. The bottom of the interface shows a 'LAST UPDATE' timestamp and a copyright notice for D-ORBIT Portugal.

| Label | Timestamp | Ground Station | Type | Status | Response |
|--------------------------|--------------------------|----------------|------|--------|-----------|
| Telemetry Get Real Time | 2019-10-09T12-05-43.942Z | | Sync | Sent | TcAck |
| Telemetry Get Real Time | 2019-10-09T12-05-43.96Z | | Sync | Sent | TcAck |
| Telemetry Get Real Time | 2019-10-09T12-05-45.335Z | | Sync | Sent | TcAck |
| Telemetry Get Continuous | 2019-10-09T12-03-33.380Z | | Sync | Sent | TcAck |
| Telemetry Get Continuous | 2019-10-09T12-02-57.700Z | | Sync | Sent | TcAck |
| Telemetry Get Continuous | 2019-10-09T12-01-33.517Z | | Sync | Sent | TcAck |
| Uplink UTC Get | 2019-10-09T10-29-05Z | | Sync | Sent | TcAck |
| Telemetry Get Real Time | 2019-10-09T09-45-58.463Z | | Sync | Sent | TcTimeout |
| Telemetry Get Real Time | 2019-10-09T09-45-58.463Z | | Sync | Sent | TcTimeout |

FEATURES



Web interface accessible from any location through a variety of computer platforms including mobile.



Fully **customizable user interface** that can be adapted to the specific needs of each satellite operator, providing a versatile and modular suite of tools to support even the most complex and demanding missions.



Support for telemetry, trajectory updates, telecommand, and downstream through **graphical and command line controls**.



2D/3D Orbit Visualization, with satellite tracking based on two-line orbital elements (TLE) propagation.



Telecommand upload via **manual and database-retrievable telecommand stacks**.



Automatic warnings for predefined anomalies, including emails and messaging.



Scheduled and time-tag **command generation and execution**.



Features telecommand logging, enabling historical analysis and creation of procedures to automate common tasks.



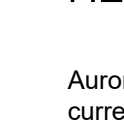
Highly modular software architecture that can be tailored to around the needs of the most common smallsat mission architectures through the support of any spacecraft and any satellite protocol, including the CubeSat space protocol (CSP).



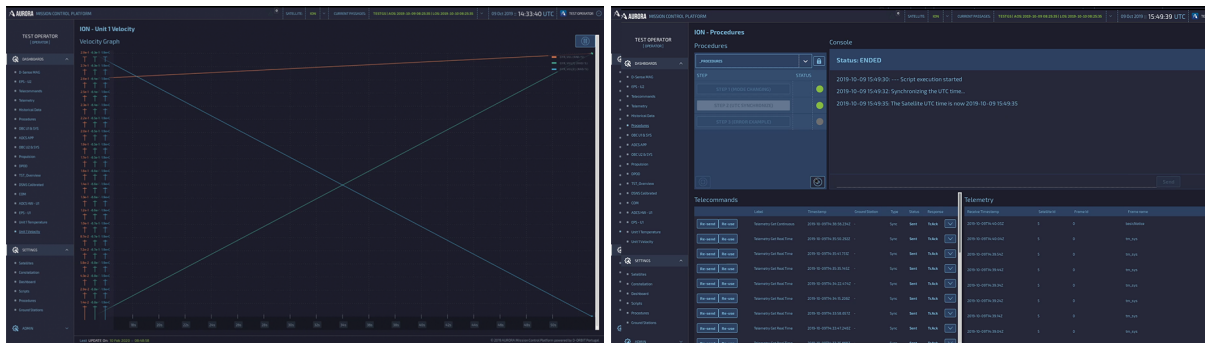
High performance cloud infrastructure, with extremely high reliability and availability.



Private cloud instance with AES256 encryption 2FA token user authentication, to ensure a state-of-the-art cyber security protection.



Worldwide network of ground stations, in partnership with Leaf Space and Amazon AWS Ground Station, to ensure global coverage tailored to the needs and budget of any space mission.



HERITAGE

Aurora was originally developed to control D-Sat, D-Orbit's first mission launched in June 2017. It is currently used as the mission control solution for the InOrbit NOW end-to-end launch procurement, hosting, and deployment service.