CAT system

FOR ADR & SERVICING

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SPACE

Capture Payload Bay

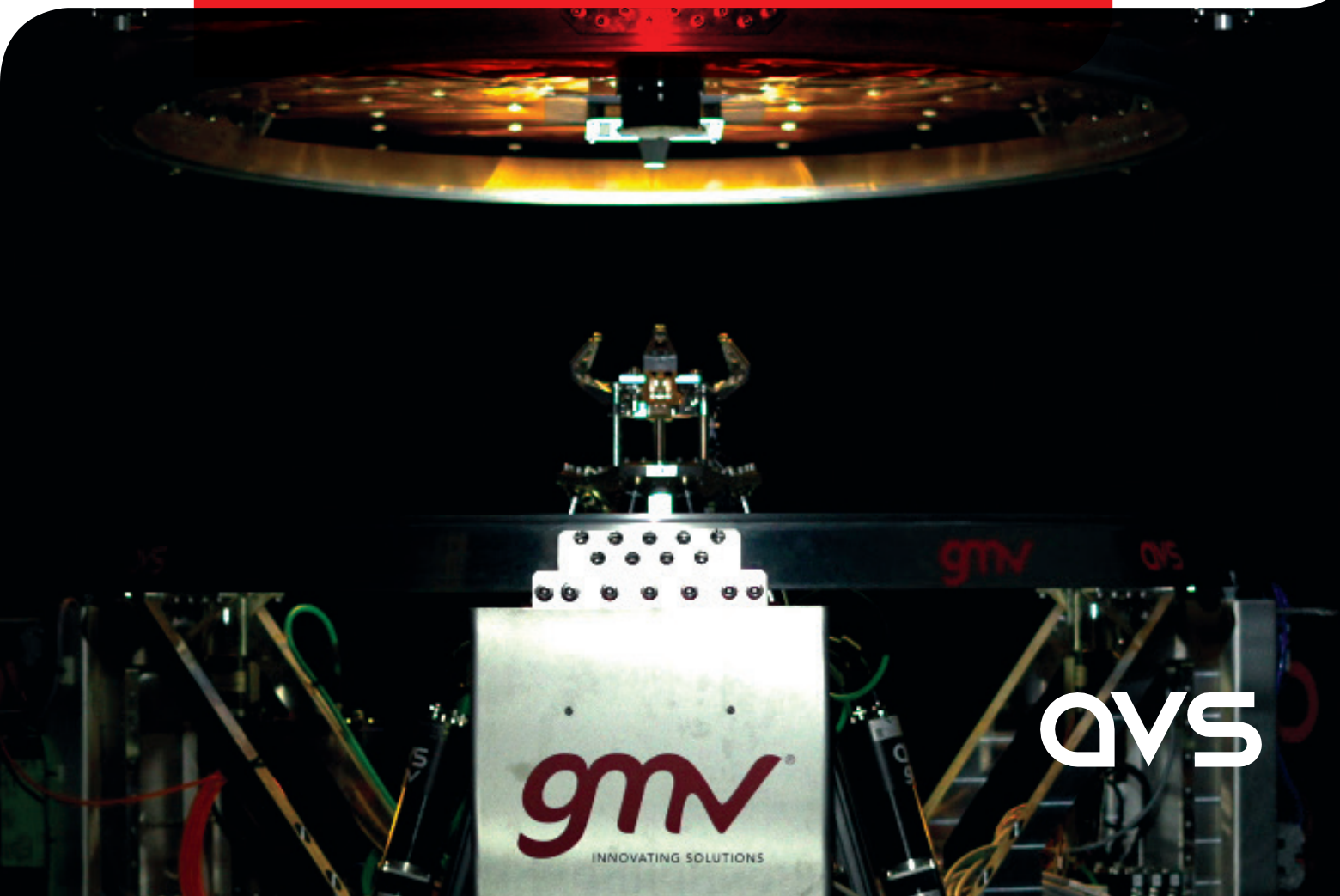*A satellite capture payload for ADR & servicing*

What is *CAT* ?

CAT is an active robotic payload, designed to capture medium and large size uncooperative and cooperative satellites equipped with a MICE mechanical interface:
– Self-contained payload, designed to fit within a Launcher Adapter Ring
– Equipped with an optical navigation system to support Close Proximity Operations
– Able to perform compliant capture, braking, relocation and securing of cooperative and uncooperative targets.
– Customisable to other In Orbit Servicing capture and manipulation tasks

For further information:
If you have an application for *CAT* and would like more information or to discuss your requirements, please contact the team: **robotics@gmv.com**
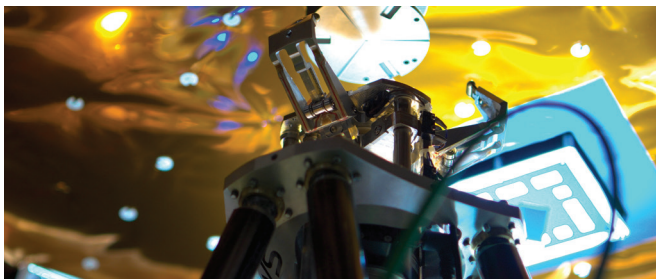
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How does *CAT* work?

CAT is the capture payload for medium and large-size satellites, working either with cooperative or un-cooperative target satellites.

Its robotic assembly (parallel kinematics actuator + gripper) can safely capture vehicles equipped with MICE interfaces. *CAT* avionics and optical navigation system relieve the servicer vehicle from lower-level capture control tasks and provide reliable status and pose estimation information to the vehicle.

CAT is able to cope with capture, rigidisation/braking relocation and securing (by means of clamping devices) phases. It is designed to closely cooperate with servicing vehicle and mission control during proximity operations, target capture and release.

Main features:

- *CAT* system control, monitoring and communication to the servicer vehicle is managed by *CAT* avionics.
- Accurate and robust relative optical navigation in support of capture and Close Proximity Operations.
- Compliant actuation of the robotic assembly for safe contact phases.

Product roadmap

- TRL-6 by Q1 2027.
- TRL-9 by 2028/2029.

Data sheet

Payload Mass	50 kg
Payload Volume Diameter	800 mm
Payload Height	525 mm
Power	300W (Unregulared 28V)
Mechanism	7 DOF active system
Data Interfaces	CanBus / SpaceWire
Payload Electronics	Self-contained in payload
Payload Control	Payload OBC interacts with platform
Navigation	2 cameras with active lighting providing relative pose estimation from 7m to capture

CAT is a self-contained capture payload:

- Able to perform compliant capture, relocation and securing of cooperative or uncooperative targets.
- Compatible with *MICE* mechanical interfaces.
- Equipped with an optical navigation system to support Close Proximity Operations.
- Customizable to different In Orbit Servicing capture and manipulation tasks.

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