

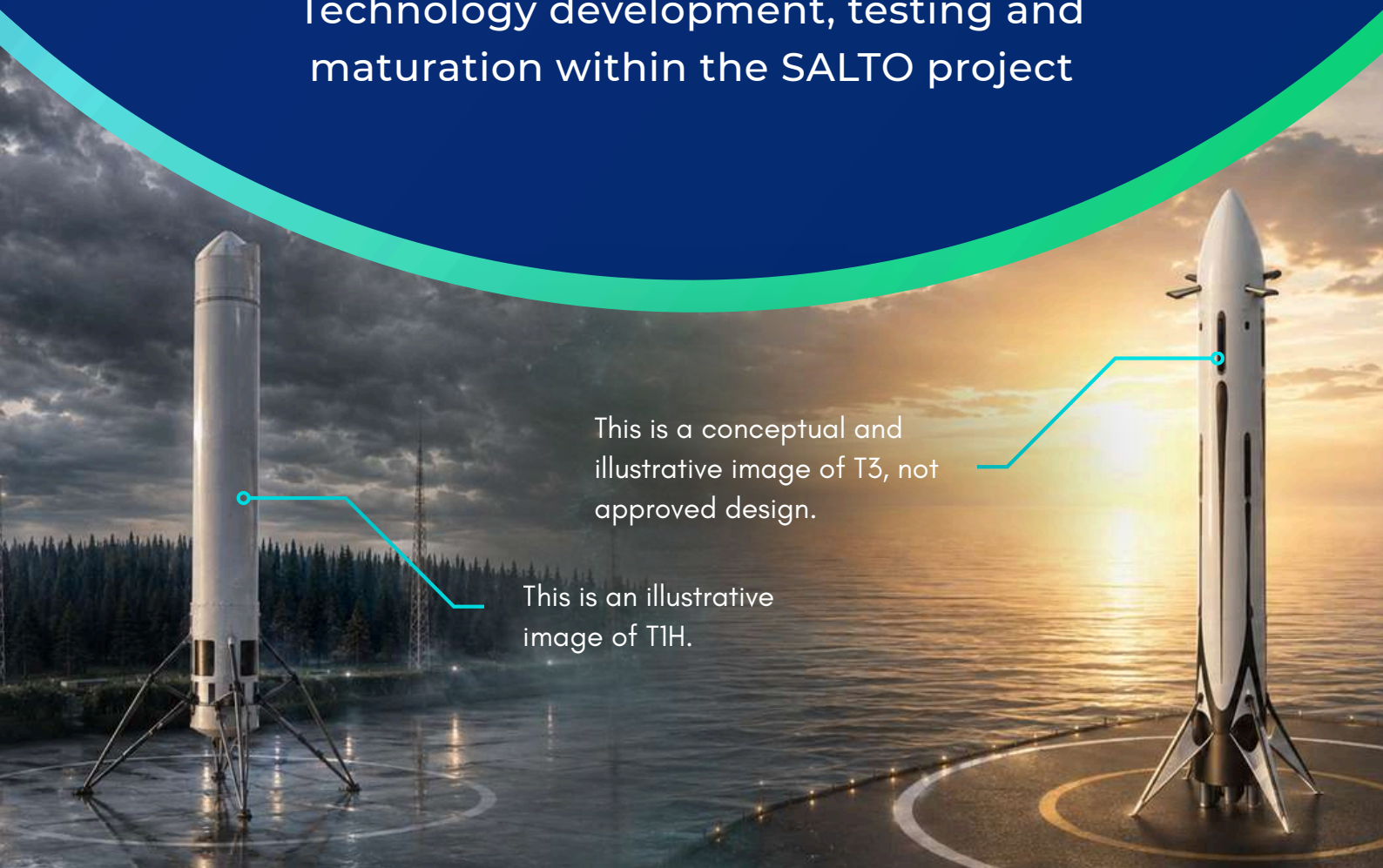
SALTO

reusable strAtegic space Launcher
Technologies & Operations

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Another important milestone has been achieved.

Technology development, testing and
maturation within the SALTO project



This is a conceptual and
illustrative image of T3, not
approved design.

This is an illustrative
image of T1H.



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Milestone reached

Themis reusable launcher first stage prototype conducts two flight chronology rehearsals

July 23, 2026

The reusable stage demonstrator Themis conducted a flight chronology rehearsal. This rehearsal, also called wet dress rehearsal, marks a key milestone in the development of the launch system, comprising the Themis demonstrator and the ground infrastructure deployed at Esrange Space Center in Sweden.

The objective of the test was to simulate launch operations under cryogenic conditions, including pre-flight preparation of the demonstrator and its launch pad, as well as the system passivation that will be carried out after post-flight recovery.

September 29, 2026

The 2nd wet dress rehearsal of the flight chronology contributes to the technological maturation of the Themis system. ArianeGroup teams have achieved new milestones in repeating the “synchronized sequence” (the final automatic phase of the countdown), as well as in exploring the “post-flight” sequence with the use of a fleet of robots designed to secure the vehicle after landing.

These elements mark progress in the operational mastery of the system. Conducting this test has enabled the collection of essential data for the continuation of the SALTO campaign. The teams are now working on defining a window for the next test.



1st wet dress rehearsal

@Mattias Forsberg, SSC Space



2nd wet dress rehearsal

@ArianeGroup/SSC

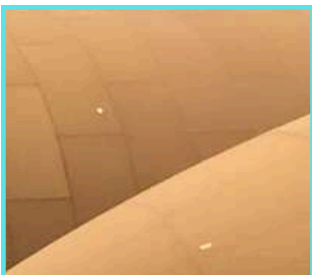
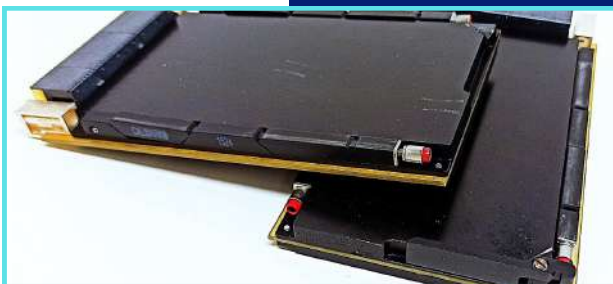
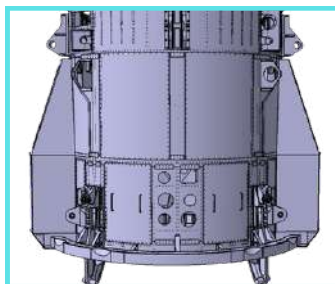
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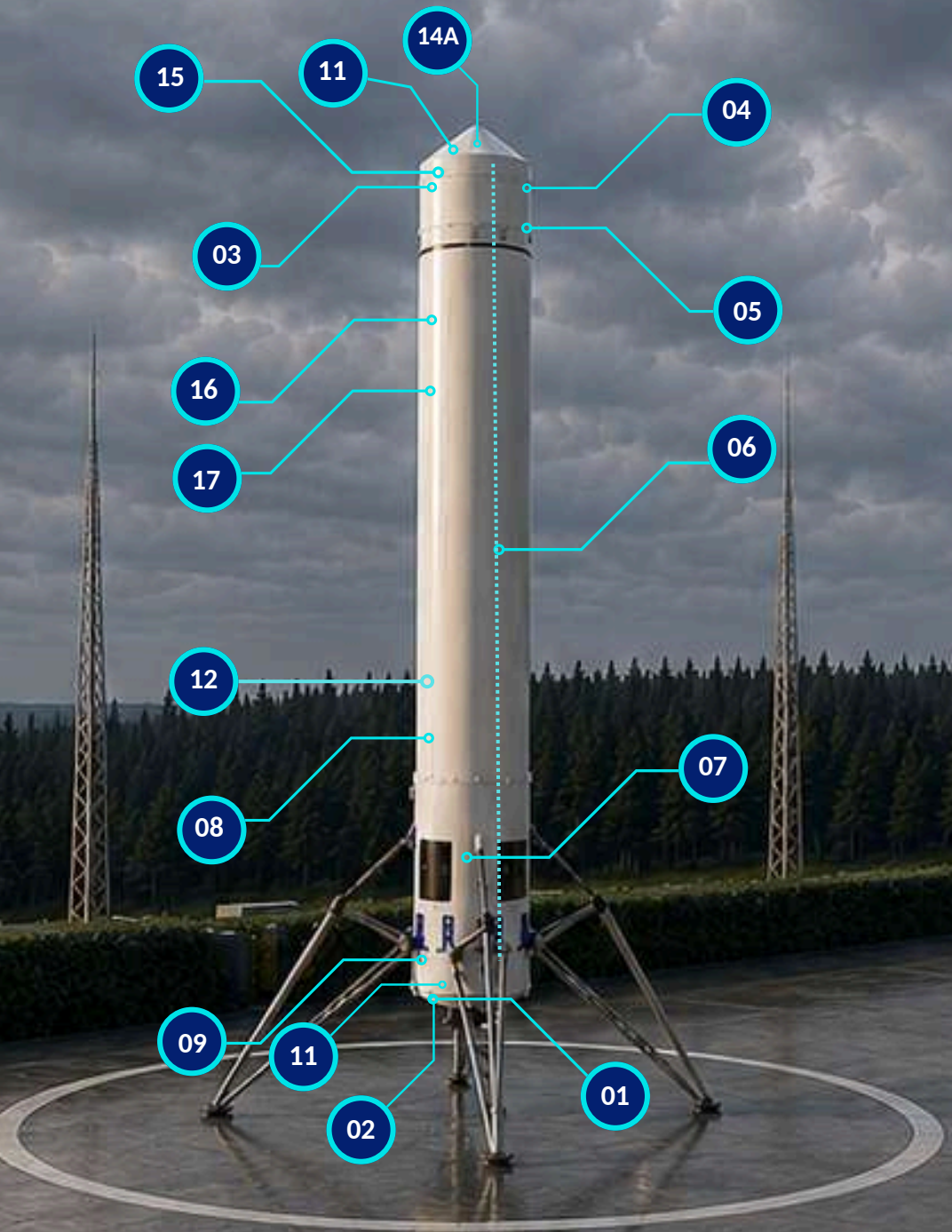
Technologies, developed, tested and matured during the SALTO project

T1H and T3

Alongside the technologies developed and tested for the T1H demonstrator, project SALTO consortium partners are maturing technologies for the more advanced T3 reference configuration and future reusable launchers.



TIH: TECHNOLOGIES DEVELOPED AND TESTED



- 01 Innovative bio-sourced thermal protection system, applied onto replaceable PEEK tiles substrate | Amorim Cork Solutions
- 02 Removable thermal back shield | ID CONCEPTS
- 03 Launcher video camera system development | REALTRA
- 04 Autonomous flight termination system | Thales Alenia Space
- 05 Hybrid navigation system | DLR & Indra Space
- 06 Aerodynamics/ aerothermodynamics & flying qualities | DLR
- 07 Ultra-low cost TVAS (Thrust Vector Actuation System) | SABCA
- 08 Optimized MEB (multi-engine bay) manufacturing & inspection/maintenance | SABCA
- 09 Health and usage monitoring system (HUMS) technologies /Structural health monitoring | ONERA
- 10 Ground autonomous flight safety system* | GTD
- 11 Landing Guidance, Navigation & Control | ArianeGroup
- 12 Multi-engine bay adaptation and equipping | ArianeGroup & SABCA
- 13 Remote operations with robots* | ArianeGroup
- 14A Onboard shipset (CMA + INS) | Safran
- 14B Embedded test experiment - ground equipment, monitoring and antenna* | Safran
- 15 Wireless communication | ArianeGroup
- 16 Post-flight automated evaluation | Indra Space
- 17 Flight Dynamics and Navigation HMS (Health Monitoring System) | Indra Space & DLR

*These technologies are part of the ground segment, supporting launch operations from Earth rather than operating onboard the vehicle.

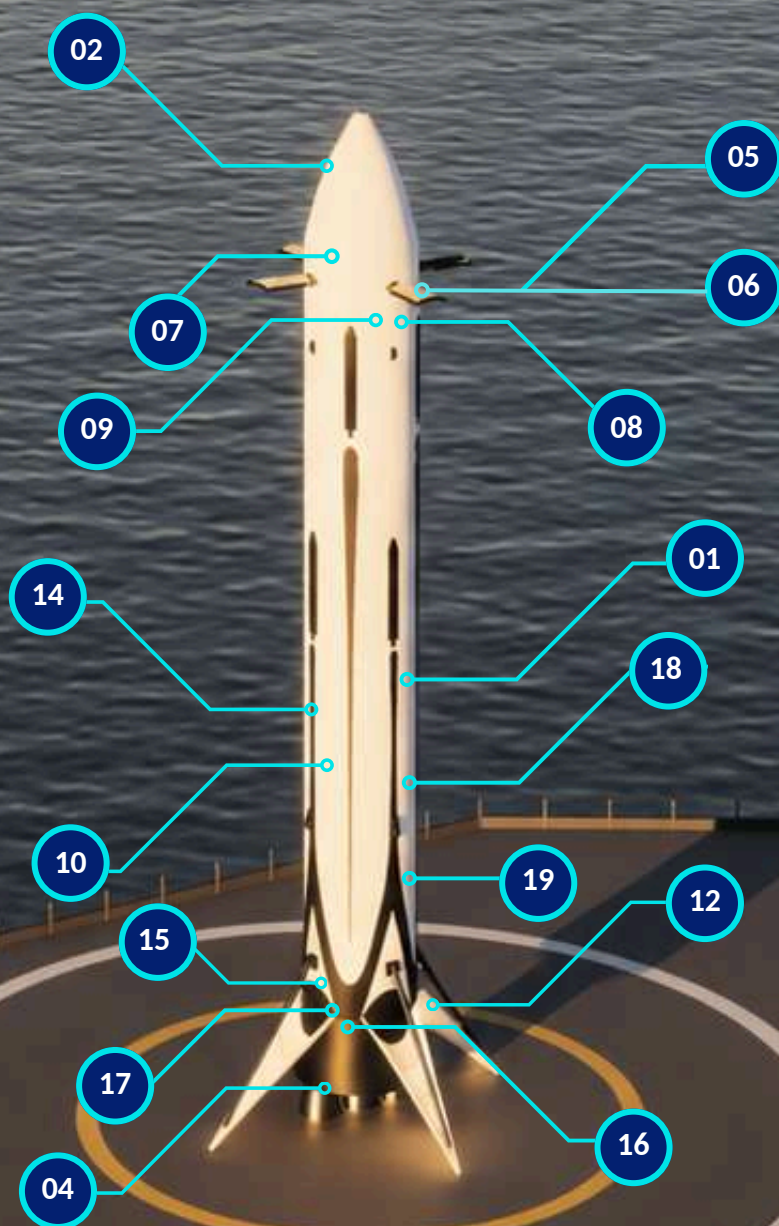
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This is an illustrative image of TIH.



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T3: TECHNOLOGIES MATURED DURING THE PROJECT



- 01 Autogenous pressurization (GOX / GCH4) | Avio
- 02 European VPX board | GL Electronic
- 03 4.0 Launch base mission system demonstration * | GTD
- 04 Removable thermal back shield | ID CONCEPTS
- 05 Low-cost grid fins structure | SABCA
- 06 Grid fins actuator system | SABCA
- 07 Space-based telemetry | SENER
- 08 Green flip control system | SpaceForest
- 09 Green attitude control system | ArianeGroup
- 10 Propellant management | ArianeGroup
- 11 Low cost, innovative navigation sensor suite proof concept* | Safran
- 12 Landing system design evolution from TIH to T3 | MT Aerospace
- 13 Automated launch erector design* | MT Aerospace
- 14 Ultra low-cost lightweight tank | MT Aerospace
- 15 Landing Guidance, Navigation & Control | ArianeGroup
- 16 Multi-engine bay adaptation and equipping | ArianeGroup & SABCA
- 17 Modular power Avionics (MPU) | GMV
- 18 Thrust management functions | Indra Space
- 19 Guidance, Navigation and Control for reusable launchers | Indra Space

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Partner Spotlight: MT Aerospace

MT Aerospace, part of the OHB Group. Its team in Augsburg, Germany, together with other consortium partners has worked on several technology development and maturation in the scope of the SALTO project. Explore its work of MT Aerospace.

About MT Aerospace and its role in SALTO

Meet some of the experts behind MT Aerospace's contributions to SALTO and get an overview of the technologies they have developed and matured.

[Watch the partner introduction](#)

Automated launch erector

Working in close collaboration with GTD, MT Aerospace has developed a scaled demonstrator to test the main sequences of the erector. The article explains the approach, while the video shows the demonstrator in action.

[Read the article](#) · [Watch the video](#)

Landing leg demonstrator

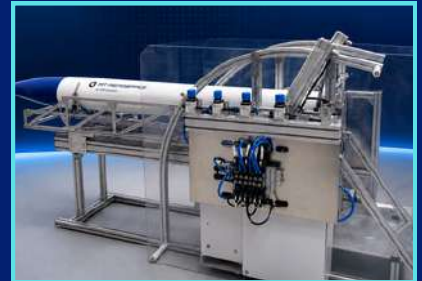
A reusable launcher needs landing legs that are light, strong and able to deploy reliably. MT Aerospace developed a full-scale demonstrator, with thermal protection - delivered by Amorim Cork Solutions. Explore the technical background in the article, then see the landing system's evolution and the demonstrator's development in two videos.

[Read the article](#) · [Watch the landing system evolution](#) · [Watch the demonstrator development](#)

Launcher tank

MT Aerospace investigated materials and design concepts for a reusable launcher tank demonstrator. A short video follows its development, while a webinar takes a closer look at propellant storage, tank functionality and design.

[Watch the development video](#) · [Watch the webinar](#)



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SALTO project consortium partners



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