

Engineering the NewSpace Era

Expleo is providing space engineering design and NewSpace solutions that will bring new capabilities into the Defence market.



The Challenge

As Florence Parly, French Minister for the armed forces stated, "If space was once a new frontier to be crossed, it is now a "new front" that we have to defend." With many countries turning their attention towards Space, technologies must allow improved flexibility, performance and reliability.

Recognizing the importance of NewSpace development, Expleo started investing in innovative projects of nanosatellites that could offer shorter

time from idea to Launch. Expleo first developed a 1U cubesat Payload that is part of a space weather observation mission, conducted in collaboration with CSUM, CPUT and SANSA.

Building on this first project due for Launch in 2023, Expleo now develops new Payload capabilities that could allow connectivity in difficult zones to provide key services such as Blue Force Tracking (BFT) alternatives (including localization, critical care data...).



Solutions

Bringing together a team of engineers driven by Space ventures was key to building Expleo's NewSpace capability. With Systems, Hardware, Software, Quality & AIT engineers getting together, Expleo developed a team capable of handling a nanosatellite Payload Design. Now being familiar with traditional Space standards as well as NewSpace philosophy, we are now targeting timescales of months from idea to launch of our payloads.

The idea behind these developments and key partnerships is to provide

enhanced benefits to our customers (civilian and defence) when delivering our expertise in engineering services throughout industries. Having customers in many different fields allows our engineers to have cross-fertilization at the center of our processes. We use our knowledge on industrialization in the automotive and manufacturing sectors to provide a relevant approach towards a New Space Agile Factory that will fasten the access to Space to our key Defence customers.

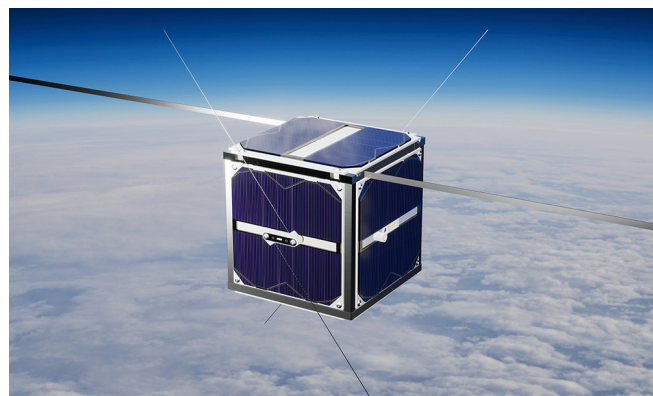


Outcome

Expleo is currently finalizing the Assembly Integration and Test of ENSO's Payload in Toulouse's clean room that will allow a Launch aboard an international rideshare in 2023. Three projects are currently being developed in the NewSpace sector:

- One contract for two 1U cubesat Payload for the HYDROSAT Mission of Djibouti (civilian oriented)
- One R&D project in connectivity and IoT (dual application).
- One development of a generic test bench dedicated to fast production of nanosatellites (dual application).

Expleo continues to identify trends in the Space industry to stay on top of the upcoming challenges and offer its customers unique services and engineering expertise.



Leveraging Expleo's deep sector knowledge and wide-ranging expertise in fields including AI engineering, digitalisation, hyper-automation, cybersecurity and data science for the new space is key for Expleo's mission to fast-track innovation through each step of the value chain...

Frédérique REBOUT, Global Head of Space, at Expleo