

INTESPACE NEWSLETTER

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EDITORIAL

Much has happened this year at Intespace. First of all, we have successfully negotiated the extensive testing project on the A350 XWB. This summer of 2014, the ultimate load tests were successfully completed and contributed to certification of the aircraft in September. We are currently disassembling the installations, marking the end of a wonderful adventure: for 5 years, our engineering, testing and DynaWorks® staff have been totally committed, demonstrating great creativity and tenacity. All showed great dedication and I thank them for their efforts. We also worked with great pleasure and in close collaboration with the Airbus teams and our partner DGA Techniques aéronautiques, to achieve a result that was fully satisfactory for everyone.

On a completely different subject, another highlight for Intespace this year is DynaWorks® V7, which is now operational following three years of development. The software designed by Intespace for analysis and exploitation of test data is now up-to-date and meets the needs of engineers in terms of ergonomics, organisation and data display. DynaWorks® V7 incorporates the very latest innovations in the communication technologies and has been available since September 2014.

Finally, the major refurbishment works on the Toulouse site are continuing. I am happy to say that we are exactly on schedule. This means that the Fourier clean room was able to resume working on 15th September, as we had promised our customers, without any disruption to the test schedule. The site will emerge from these works transformed and will offer our staff and our customers a comfortable working environment in premises that are standards-compliant, well insulated and less energy-hungry.

As 2015 begins, I hope that this coming year is ... exhilarating!

I wish you all a very happy new year!

Frank Aioldi

CEO of Intespace



√ SIMLES auxiliary chamber



ENGINEERING

• LARGE ANTENNAS IN THE SIMLES AUXILIARY CHAMBER

How do we offer our customers a pertinent means of testing large antennas? And what high-performance alternative to Simdia can we propose?

Two questions for which the Intespace teams came up with the same answer: the independent use of the auxiliary chamber of the SIMLES space simulation chamber. This question originally arose owing to the site modernisation work, but still remains pertinent now that the work has been completed.

To test large antennas, the SIMLES auxiliary chamber, which contains the pumping device and the solar simulator collimation mirror, is the right size and has all the required characteristics: it can be used to test specimens at very high and very low temperatures, with extremely fast cycles. However, it was an annex of SIMLES and work therefore had to be undertaken for a reversible transformation into a completely independent thermal cavity.

After a study carried out by an in-house team, the technical solution chosen was to put up an inert wall made of MLI – a lightweight material that is easier to use than aluminium – which helps shorten the cycle time. The annex then becomes a sort of large-volume chamber which can take the place of SIMDIA during the work on Fourier. Only six months after the idea was first proposed, the SIMLES annex hosted its first test. It proved to be a rapid and efficient solution, able to accept the largest reflectors, or subassemblies such as solar panels. In the near future, it will even be able to test several antennas at the same time.

Interview with Fabien Cabaret,
Thermal Vacuum Department Manager

TESTS

• EARTHCARE AT INTESPACE FOR THE DURATION OF THE TEST CAMPAIGN

EarthCARE is an Earth observation satellite designed and built in Germany by Airbus Defence and Space. This European satellite, developed by the European Space Agency (ESA) as part of the Living Planet programme, in cooperation with the Japan Aerospace Exploration Agency (JAXA), will monitor clouds, aerosols, atmospheric radiation and will help scientists understand the climate and how it is changing. EarthCARE has undergone testing at Intespace.

What is most striking about this collaboration is that the success of this testing phase is the result of a true partnership. As underlined by Thomas Faust, project manager at Airbus DS, the test campaign is an integral part of the Assembly/Integration/Test process. This is why the Airbus DS team for the EarthCARE project remained on the Toulouse site to work in full cooperation with the Intespace testing team.

In the case of EarthCARE, a rapid answer to the problems was required and technical solutions had to be found almost in real time. It is only by correctly preparing the project upstream, together, as partners, that one can then count on the reactivity of the teams.

This is why the Intespace teams are always highly attentive to the welcome they extend to their customers, who must feel perfectly at home in the test facilities.

Interview with William Baumann
Project Engineer

CSO PM



• THE THRUSTERS FOR THE CSO, THE OPTICAL RECONNAISSANCE SATELLITE OF TOMORROW, UNDERGOING TESTING AT INTESPACE

For the 7th time, Andy Swallow returns to the Intespace test benches for another space project: this latest campaign concerns vibration testing on the modal propulsion module for the CSO satellite built by Airbus Defence and Space. According to its manager, this was a very fine campaign indeed.

One project, one team

For Intespace, this collaboration has been continuous, from the MARECS project 30 years ago to the future CSO today. Furthermore, according to Andy Swallow, Intespace is not simply a good partner but more like a member of his team, and this is certainly what explains the long-term nature of this collaboration. This repeated demonstration of trust no doubt creates a very strong sense of involvement and motivation among the Intespace staff, thereby creating loyalty, what you might call a virtuous circle...

And one site

It must be said that it offers numerous advantages in one place. The quality of the work done, the qualification of the Intespace staff, the physical proximity of the test resources and the incomparable advantage of having all the necessary equipment and human resources brought together on the same industrial site. This test centre configuration is a factor in ensuring that the test campaign is carried out comfortably, but also efficiently. In short, Intespace offers Airbus Defence and Space a complete package focused on the project, ensuring no wastage of time or loss of efficiency.

Project after project, the test results are good, and the CSO thrusters are no exception. Together with the CSO team, Intespace carried out the vibration tests on the propulsion module (2-axis) and verified the propulsion functionalities, including a check on the risk of leaks.

EarthCARE





• TRAINING AT INTESPACE FOR ESA'S AUTOMATED TRANSFER VEHICLE "PILOTS"

They are part of the mission by the Automated Transfer Vehicle (ATV), the cargo spacecraft developed by the European Space Agency (ESA) to supply the International Space Station (ISS). They are members of the team which operates the 'Georges Lemaître' version of the vessel, which flew in the summer of 2014.

For them, the end of the missions scheduled for February 2015 means that they will have to turn to other tasks, which is why some of them took part in training at the Intespace Training Center (ITC).

Training for a successful career change

After successfully completing missions specifically focused on operations, certain members of the ESA ATV team are now looking to follow a career in a new direction, as systems engineers. They then need to acquire new skills, in particular in space environment testing. ESA, which has worked with the Intespace teams for the payload environment tests for Columbus, the European laboratory module on the ISS, then naturally turned to ITC. The training team then designed a tailor-made training course for these individuals.

Transmitting experience

The Intespace training programmes include field knowledge of a subject which is part of its DNA. ITC draws directly on the test campaigns, placing it in an ideal situation to transmit the experience acquired.

The programme was well received by the trainees: the subjects were well chosen and the organisation well thought-out. The ESA training manager in fact appreciated the professionalism at Intespace. This is also why the visits to the facilities, which gave them a real taste of the tests, particularly pleased the future systems engineers. However, they had a little more trouble in comprehending certain parts of the presentation which were too specialised for their general engineering profile. Hence the idea of further increasing the use of examples of actual specifications (Ariane, Shuttle, real payloads) to illustrate the presentation and make it more accessible. This is a recommendation that the ITC teams will be trialling in the very near future.



• 3 MUST-SEE INTESPACE WEB VIDEOS!!!

We are in an airport. The camera films young engineers totally wrapped up in their passion for their profession: tests. Performing crash-tests on a cell phone, endurance tests on a coffee stirrer, and a series of tests on an electric hand-dryer, these young pros leave the confines of reality behind to give free rein to their addiction: their passion for tests. The candid camera feel of these short films is both humorous and unpretentious.

"We wanted to show the curiosity and involvement that our teams display for a fascinating industrial activity. Because, although times are tough, the expertise and know-how are there, and there is an obvious need for them: conducting tests is more than necessary; it's strategic for industrial innovation."

Frank Airoldi, CEO of Intespace

To be continued...

• THE WORK GOES ON

So what's new regarding the major works in progress on the Intespace Toulouse site? The work is progressing on-schedule. With regard to the offices, the demolition work has been completed and refurbishment of the buildings has started. The entry airlock is also under construction... A completely new working environment is being prepared for the customers and staff of Intespace.



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