



SESAME

ArianeGroup, SESAME project special guest at a one-day COMET event

How - and why - does the SESAME project integrate the human factor into its development process? This is the subject that Fabrice Blondeau, SESAME programme manager at ArianeGroup, tackled during a workshop organised by the CNES-supported COMET network.

COMET, a community of experts

Since its launch in 1998 by CNES, the COMET group of expert communities has regularly brought aerospace specialists together to share their knowledge, feedback and expertise, for everyone's mutual benefit and to prepare for the future. With a focus on new technologies and processes, these encounters help to advance professions and improve working practices. They are also an opportunity to promote exchange and cooperation between the space sector and other sectors of activity.

Today, COMET comprises 20 communities totalling more than 3,000 experts from the academic, industrial and institutional fields. Around 60 days of exchange forums of many kinds are organised every year – think tanks, workshops, colloquiums, visits, good practice guides, discussion with experts, etc.

'Right first time' and the human factor, a theme addressed at the 15 October event

As the space industry faces new competitive and technological challenges, and as new protagonists are changing established practices in terms of both architecture and production methods, the sector must strive to be increasingly competitive and work on ever shorter cycles. In addition to the issue of competitiveness, there is also a technological challenge. Factory 4.0 is therefore shaking up the tools and means of production.

In this context, 'right first time' is what everyone is trying to achieve. Getting results faster in order to boost efficiency and competitiveness is what everyone is seeking today.

But in this race for efficiency and competitiveness, how is the human factor regarded?

The workshop organised on 15 October tried to answer this by looking at:

- frontiers between performance lever and constraints;
- how to make 'right first time' the backbone of industrialisation;
- how to respond to the cognitive effects of the challenge, such as stress, fatigue etc., to promote 'success first time';
- how to create the environment (via ergonomics, training etc.) that encourages 'right on the first attempt';
- human factor awareness necessary for a change in culture.

The SESAME project and the importance of combining 'right first time' and the human factor

Guest speaker at the workshop, Fabrice Blondeau presented the SESAME programme and its stakes, and explained how and why ArianeGroup included the human factor in SESAME right from the start.

Increasingly, being right first time is a required objective for ArianeGroup. Of course, the aim is to be a winner in the space race, which has speeded up greatly in recent years with incredible technological advances, and with the emergence of new protagonists in the aerospace industry. But for ArianeGroup being right first time is also a question of cost. In a project such as SESAME, using artificial intelligence (AI) in processes like friction welding assembly of Ariane 6 tanks should ensure perfect welds from the first attempt. As a result, the Group could make significant savings as tests phases would be reduced.

However, the race for progress and possible savings should not be at the expense of the human factor. For SESAME, where AI plays an important role, it was essential for ArianeGroup to make sure that the human factor was an integral part right from the start. The Group therefore first took time to thoroughly explain the project to the employees, so that understood the role of AI. This ensured the buy-in of the employee population, and countered any apprehensions people might have about machines taking over the production process, by showing that machines would never replace people, but rather that we are heading towards an unprecedented man-machine collaboration. A collaboration in which humans will always retain the power of decision.

ArianeGroup believes that while robots, machines and AI technology are and will be vital to make productivity and efficiency gains, humans must remain – more than ever – the heart of the system. A fundamental attitude which, says ArianeGroup, is a crucial factor for the success of any project.

