

Quality in Space Improves Life on Earth

Text JANET ANDERSON / Photos MARCO PROSCH



Thales Alenia Space believes in space as humankind's new horizon, which will enable us to build a better, more sustainable life on Earth.

Mention Cannes and most people think of the international film festival and glamorous movie stars who come to the small town on the French coast of the Côte d'Azur every spring. But just a few minutes down the coast a very different kind of industry plies its trade too. This is one of the locations where Thales Alenia Space produces and assembles the satellites that support our telecommunications systems, navigation, environmental management, and scientific exploration.

On a seventy-five-hectare site directly in front of the Mediterranean Sea, Thales Alenia Space engineers design and integrate satellites. Their work includes thermal control, harness, propulsion, mechanisms, and solar generators sub-systems—from scientific payloads and optical instruments to telecom satellites. Thales Alenia Space is a joint venture between the French group (67 percent) and the Italian company Leonardo (33 percent) and has been building satellites here in Cannes since the 1970s. "A lot of the work that goes on here is actually extremely complex, which is one of the reasons why we have such a highly skilled workforce," explains Mark Manley, Vice President Quality, Lean & Configuration Man-

agement. "The 2,500 people who work at this site are driven by a shared passion for space. They approach their jobs like master craftsmen."

The site includes one of the biggest seamless cleanrooms in Europe, 350 meters long and covering a total area of 13,000 square meters. This is where satellite assembly takes place. There is no disruption to the cleanliness chain.

Looking out for new approaches to ensure high quality in space. Mark Manley on the rooftop of the Thales Alenia Space site near Cannes, France.



"It's all about reducing risk for flight material," says Manley. "The products we make have to operate in the most challenging environments. The stress these components undergo is radically different from that in any other industry." Manley, who brings his extensive experience from working in a range of other highly demanding industries, including defense, nuclear, oil and gas and transportation, should know. "Landing

on the surface of Mars with equipment able to search for life or delivering pressurized modules to the International Space Station orbiting the Earth at 27,600 kilometers per hour—these are not activities that just any company can undertake," he says. "This means that we take quality seriously. Our customers recognize our products for high technology and quality performance."



The space industry today is undergoing rapid transformation. Digitalization, automation, and rapidly changing customer requirements are driving change. Responding to these needs, Thales Alenia Space has introduced innovations in the products it makes and how it produces them. It has pioneered the construction of satellite constellations, for example, and is automating production lines and introducing robotics and “cobotics”—collaborative robots—in production facilities. “The space industry is evolving fast. Our customers are demanding more flexibility because the needs and expectations of their customers, the end users, are changing fast, and the competition is increasing,” says Manley. “It means we have to develop new products quicker and at less cost. This involves adapting and changing the way we work and think.”

This is why Thales Alenia Space has launched its “#QUALITY is what we do” campaign. “We have strong assets in our company, one of which is the expertise of the people who work here. The campaign is about capitalizing on this,” says Manley. With support from the highest level of management, the quality campaign engages every employee. The aim is to help people develop the appropriate mindset for taking decisive action and learn to focus on activities with added value. “This is how we will ensure that we adapt quickly, where and whenever needed, to our customers’ needs,” says Manley.

Engaging the highly qualified workforce is not just about the implementation, but also the creation of the campaign itself, which is critical to its success. “We quite deliberately haven’t set out a checklist of actions that define ‘Quality.’ That’s because the person who is best placed to know what quality means is each of the well-trained individuals that we have at Thales Alenia Space,” says Manley. “Their choices and actions deliver quality. It is an iterative process—we learn as we go, building on our successes.” In part the campaign is, therefore, about empowering employees to rely on their own expertise to drive quality. Supporting this is a rather different approach.

“We are already seeing that the relationship between our development, quality, and production teams is even closer.”

MICKAEL MOREL
Head of Spacecraft Panel Equipment,
Thales Alenia Space



Mickael Morel, Head of Spacecraft Panel Equipment, inspects a weather satellite (large photo). A research satellite is tested in an anechoic chamber (p. 402 above). Engineers work on an antenna reflector in a cleanroom (p. 42 below). Experts in protective clothing assess a satellite platform element (p. 43 below).

With the help of Porsche Consulting, the campaign has now introduced Q6, which offers a considerably more systematic approach to problem-solving and driving improvements. “With Q6 we put the emphasis on efficient execution across the company,” says Manley. “One of the aims is to create a repeatable, robust structure that reinforces the positive effects of standards and reintroduces the best rhythm. The Q6 way of working allows us to better structure our approach during the production phases.”

Getting everyone on board was a key part of the campaign. Before it was launched, Manley and his team visited every site to talk to managers and operators and find out where the challenges were and what they believed the best solution would be. The response has been good. “We are seeing a huge amount of engagement—people are really embracing and taking ownership of the campaign. We ensure they have the tools and we give them support so that they can deliver. Everyone is part of this,” says Manley. The campaign is already bearing fruit. The company is seeing a quicker turnaround of key actions, which in turn has a direct impact on programs: from shorter, more effective meetings to improved adherence to schedules, reduced production interruptions, and more efficient problem resolution. “Our customers will see the difference,” says Manley. The implementation of Q6 has been helped by the hands-on approach taken by Porsche Consulting. “It’s not just their in-depth knowledge that is a differentiator. It’s the way they engage with the workforce,” says Manley. “This has contributed to delivering the campaign in a speedy manner.”

The space industry, like the film industry, has its own glamour and its own big stars. Thales Alenia Space is at the forefront of delivering the digital technologies that are driving transformation. “We work on new technologies years before they are put in service for end users,” says Manley. “Right now, for example, we are introducing artificial intelligence in our products and processes.” Working for a company that delivers high technology solutions for telecommunications, navigation, Earth observation, environmental management, exploration, science, and orbital infrastructures is undoubtedly exhilarating. But Manley’s motivation for joining Thales Alenia Space was not this alone; he was also drawn by the possibilities that satellites offer here on Earth. “The satellites we build here help us understand our world better and optimize the use of our planet’s resources,” he says. “It is about making life on Earth more sustainable—there is nothing bigger than that.”

Q6 AT THALES ALENIA SPACE

Q6 is a quality approach that drives transformation in manufacturing. To introduce Q6 to Thales Alenia Space, Porsche’s consultants worked closely with staff, bringing a combination of strategic thinking and hands-on pragmatism. Q6 reinforces the positive effects of standards by emphasizing strictness, discipline, and rhythm. It also encourages reactivity throughout the company, igniting employee motivation and supporting an ethos of accountability. Porsche Consulting’s aim is to kick-start the process, escorting Thales Alenia Space in building a company-wide program and ensuring that it has the momentum to enable on-going autonomous rollout.

