

Text: Geoff Poulton

LEADING BY EXAMPLE

With CHIRP, SES became the first commercial satellite operator to host a US Air Force payload. As government institutions reassess their resources, the company is in prime position to lead the burgeoning hosted payload sector.

When SES-2 was successfully deployed in September 2011, it signalled a landmark achievement for SES. On board was the Commercially Hosted Infrared Payload (CHIRP), a testing device for the next generation of infrared sensors used to monitor the Earth and the first US Air Force payload to go into orbit on a commercial satellite. With governments across the world forced to cut research and development as well as defence budgets, Rich Pang, Director of Hosted Payloads at SES Government Solutions (SES-GS), believes this will be the first of many such operations, particularly when the cost of CHIRP was just 15% of what it would have been had the Air Force built and launched its own dedicated satellite. “This is set to be a growing trend for both military and civil applications,” he

says. “Spending cuts will mean a greater outsourcing of responsibilities to specialist companies like SES-GS. Not only can we provide a cost advantage, but also accelerated time to launch and frequent launch opportunities.”

The CHIRP project dates back to 2008, when SES-GS, together with satellite manufacturer Orbital, first approached the US Air Force with the proposal of flying one of its development payloads. CHIRP is a new development in infrared sensor technology, which the US Air Force plans to use in future missile warning systems, as well as potentially other civil applications. “This is very much a research and development mission,” explains Pang.

Working closely together with the Air Force brought with it several challenges for SES-GS, says Pang. “We had to make

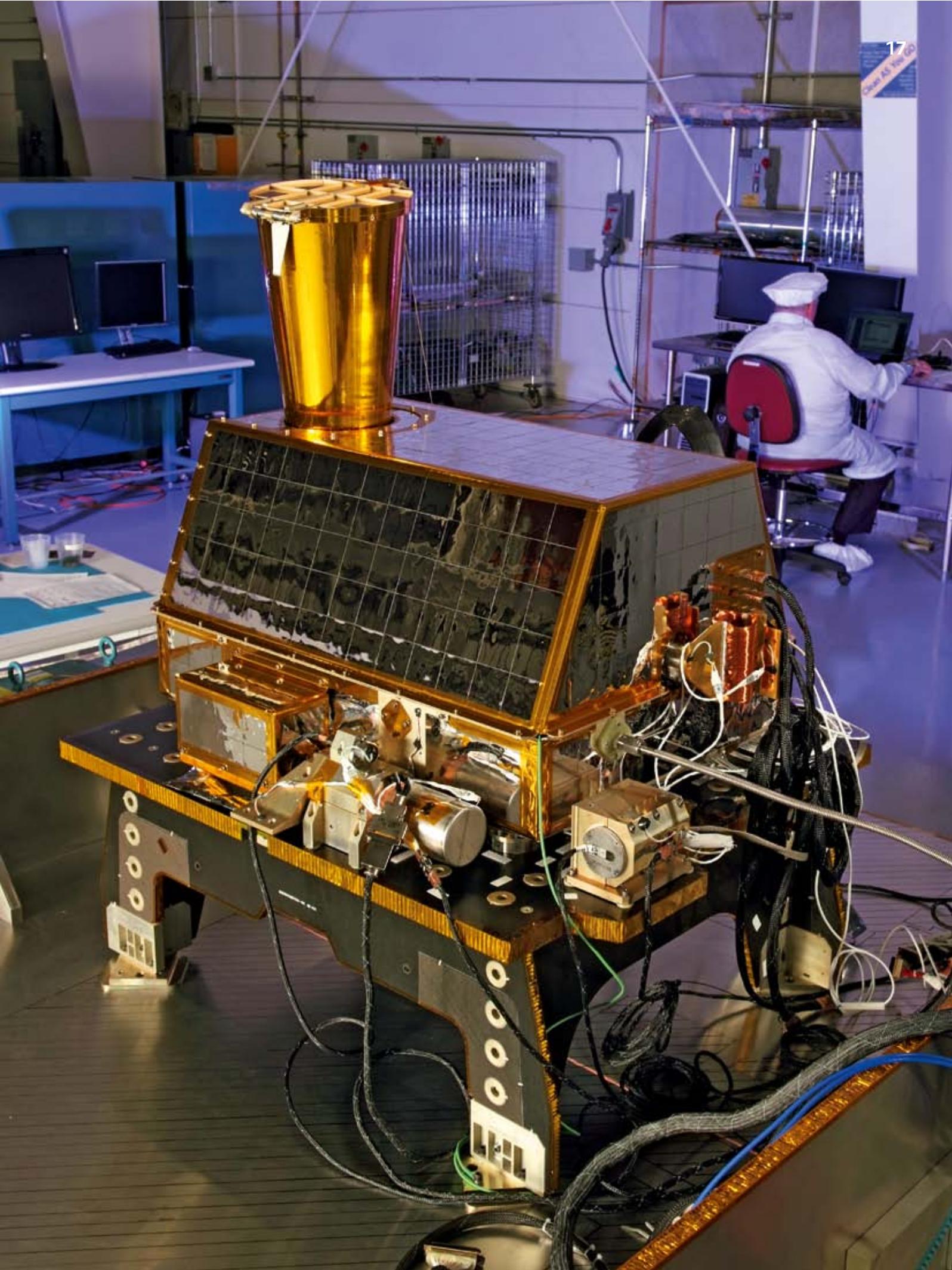
a number of alterations to the satellite to integrate a secondary payload interface, so that the CHIRP sensor was kept separate from the rest of the payload that SES-GS had on board. We have carried US government traffic before, but it was always encrypted and just passing through our satellite. The difference with this project was that the satellite itself had encryption equipment installed on board. We had to have guards watching the satellite around the clock while it was being built.”

Like several of his Government Solutions colleagues, Pang himself spent 20 years as an Air Force employee before moving to SES, making him ideally suited to coordinate CHIRP. “This project represents something of a cultural change for the Air Force, which is used to working with large teams and with ▶

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THE CHIRP
PAYLOAD UNDER
CONSTRUCTION



many different review processes. We operate with a small, lean team and there was a certain amount of guidance necessary on our part to make sure that we were working to the same schedule.” The original plan foresaw a nine-and-a-half-month operating period, which has now been extended by a year to July 2013, when another review will be carried out to determine whether or not CHIRP will remain in operation.

WHILE CHIRP has been a highly successful project for SES-GS, the mission hasn’t all been smooth sailing, as Pang explains. “Last September, we encountered an anomaly that actually caused the payload to stop transmitting data to the ground. There was a component in it that was temperature sensitive and when the satellite entered an eclipse phase, it cooled down and stopped working. After isolating the problem, we had to find a way to heat up the sensor. Fortunately, it was mounted in a part of the satellite that had heaters to support the primary communication mission. After discussions with SES in Luxembourg, they agreed to turn on the heaters and the sensor came back into operation. This level of support was not part of the original brief, but SES-GS recognised the importance of the customer. In fact, we have agreed to keep the heaters on in order to protect the sensor and ensure it remains operational.”

THIS KIND OF SUCCESS has made CHIRP an important reference case as the company looks to continue to boost its profile in the growing hosted

QUICK QUESTIONS NICOLE ROBINSON



The youngest Vice President in the history of SES-GS, it is Nicole Robinson’s job to promote the company’s services to one of its most demanding customers. At the end of 2012, Robinson was awarded a ‘Promise’ award by the Society of Satellite Professionals International, testament to her “potential to play a leadership role in the industry”.

What kind of potential do hosted payloads present to SES? This is a very important opportunity. The commercial satellite industry is being called upon to deliver innovative means of accessing space, at a lower cost than building, launching and operating military satellites. Quite simply, we can offer a faster and more cost-effective solution.

How significant is CHIRP in all this? CHIRP is a real trailblazing example for both government and industry on how this can work in practice.

payload sector. SES plays a major role in the Hosted Payload Alliance (HPA), which it helped form in 2011 together with a number of other leading companies from the industry. Current Vice Chair at the alliance is Pang’s colleague and SES-GS Vice President, Marketing & Corporate Communications, Nicole Robinson [see info box above]. By working as a bridge between government and private industry, the HPA aims to raise the awareness of the benefits that

the government can reap by utilising commercial satellites. “The HPA has already held a number of very positive workshops with both NASA and the Air Force, and they are working on a contract vehicle to pre-qualify certain suppliers to enable a smoother process when it comes to putting hosted payloads on commercial satellites,” says Pang. “The potential here is huge – we have really only just begun to scrape the surface.” ▲



THE US GOVERNMENT MAKES UP 85% OF THE GLOBAL GOVERNMENT DEMAND FOR COMMERCIAL SATELLITE CAPACITY.