

knight of the skies

Satellites changed not only the world, but were influential in inspiring Jean-Yves Le Gall, Chairman and CEO of Arianespace. By KERRY DIMMER

Around the time that the Explorer 6 satellite was launched in 1959, a baby boy was born in France. Jean-Yves Le Gall's arrival occurred just as the space war between Russia and America was becoming heated.

With the launch of the first satellite by the Russians – Sputnik 1 – just two years earlier, imaginations were creatively considering deep space adventure, alien ships and extraterrestrial communication, largely depicted in cartoons.

As people around the world gathered in front of their television sets in 1969 to watch in awe as Neil Armstrong stepped onto the moon's surface, 10-year-old Le Gall's fascination with space intensified. It's no surprise therefore that the only route he could follow, and did, was that of engineering.

With a graduate degree from the École Supérieure d'Optique, followed by a doctorate in engineering from the Paris-Sud University in 1983, Le Gall was aptly qualified to begin his long-awaited career in space, based here on Earth.

As a researcher at the Astronomy Laboratory of the French National Scientific Research Centre, he worked on the European scientific satellite project Hipparcos and ISO. By 1985 Le Gall was employed by the French Ministry of Industry and assigned to the Space Office. In 1983 he had captured the attention of CNES's (the French Space Agency)

Novespace and held consecutive positions as Novespace MD and deputy MD of CNES. By 1998 he was the chairman and CEO of Starsem, a position he still holds today, together with his role as chairman and CEO of Arianespace.

Le Gall has been honoured with numerous awards, including the Astro-nautics Prize from the French Aeronautics and Astronautics Association; the 2005 Satellite Executive of the Year from *Via Satellite*; and a Lifetime Achievement Award from the Asia-Pacific Satellite Communications Council.

Most impressively, Le Gall is an officer in the French National Order of Merit and a knight in the Legion of Honour, an order established by Napoleon Bonaparte in 1802.

The Legion of Honour is considered the highest decoration in France while the National Order of Merit is only awarded to French nationals who have distinguished themselves through either civil or military achievement. The Russians have also not failed to notice Le Gall and have awarded him an Order of Friendship.

It wasn't that long ago that satellites functioned simply as distrusted military eyes in the sky. Today, however, they're much more than that. Without them mobile communications would be non-existent and a continent like Africa would be lagging even further behind the rest of the world in its development.

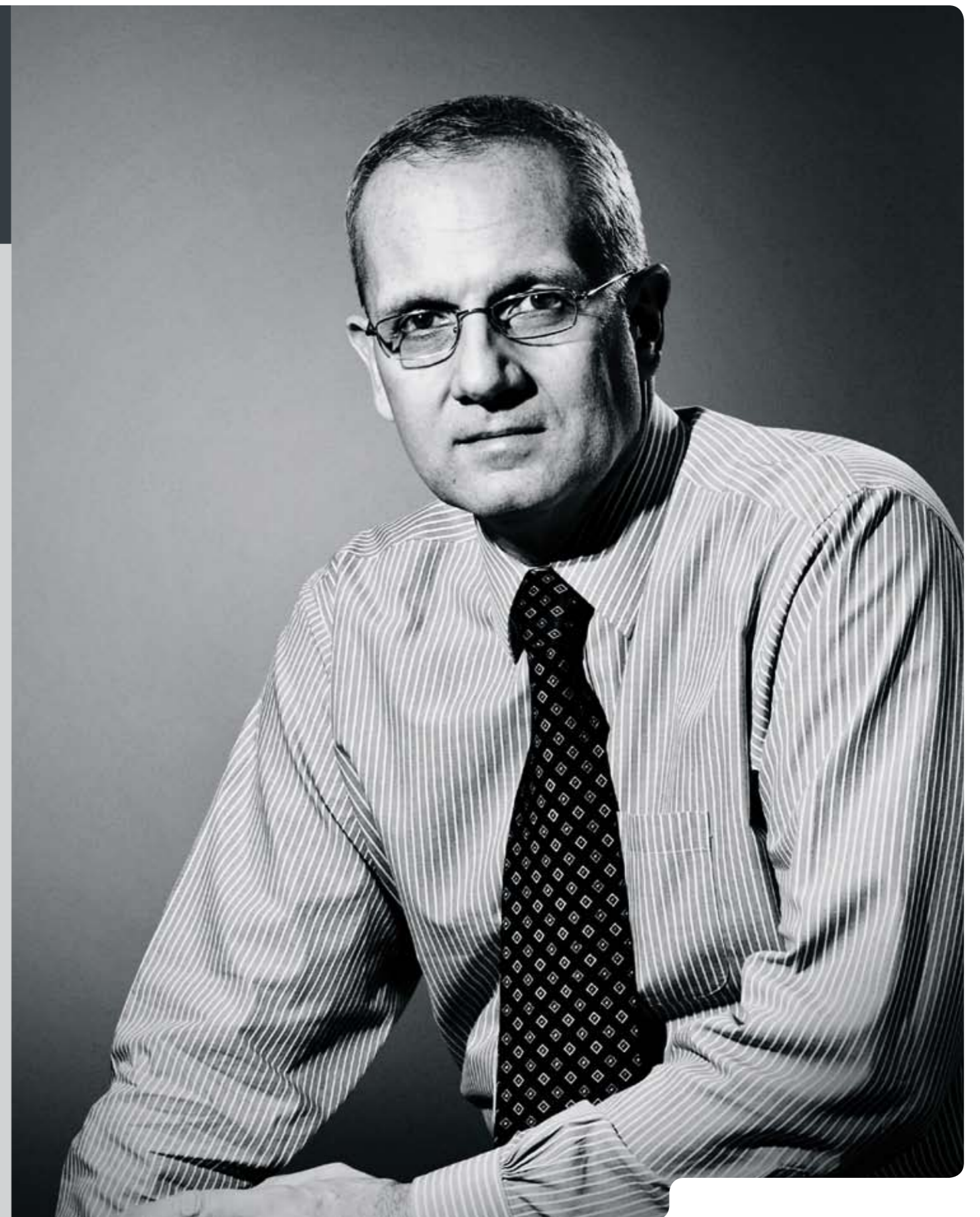
There are several thousand satellites orbiting the earth today, helping to drive the internet, mobile phones and television communication systems, and collecting intelligence and weather pattern data. GPS systems, so widely used these days, are driven by navigational satellites and without them we'd be lost in space, in the air and – in some parts of the world – on our roads.

The images satellites send back to earth are illuminating and provide us with vital information about our world and the universe that cannot be captured in any other manner. They orbit the earth at various heights from a few hundred to many thousands of kilometres, depending on what they are required to do.

Getting satellites into orbit is Le Gall's forte. During his tenure at Starsem he managed 21 successful missions for the Soyuz launch vehicle and so it was, he says, a natural move for him to manage the world-famous Ariane 5 programme at Arianespace.

Arianespace, is the world's leading commercial launch services company for satellite operators worldwide. In its 30 years of operation it has launched 277 satellites for 75 customers.

It has three major launchers, Ariane 5, Soyuz and Vega, which in their various forms and capabilities give credence to the company's motto: 'Any mass, to any orbit ... any time.'



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Ariane 5 is the company's workhorse and flagship. It has completed 35 consecutive launches over the past seven years. Able to carry a lift-off mass of 780 tons, Ariane 5 has a payload capacity of 10 metric tons to geostationary transfer orbit and up to 20 metric tons into low-Earth orbit. That Nasa will entrust this Arianespace vehicle to deliver, in 2013, the replacement of the legendary Hubble – the James Webb Space Telescope – speaks volumes.

'Ariane 5 has hit its stride,' says Le Gall. 'We have no reason to make any alterations to the design of this launch vehicle. We try to keep things as consistent as possible. Our design formula works, and works very well indeed. Instead we are focused on the expansion of our family of launch vehicles and the growth of our spaceport.'

The Arianespace commercial port site is in French Guiana. Being close to the equator means that the Arianespace launch location aids in the optimisation of fuel costs while maximising payloads.

It was from here that Arianespace launched its first Ariane launcher in 1979. Le Gall adds that the spaceport is now an international access point to space for any type of payload.

Further east, Arianespace has conducted a number of missions that directly benefit Africa, and will continue to do so with its current manifest of launches planned for Arabsat 5A, Rascom-QAF 1R, Nilesat 201, Intelsat New Dawn and O3b Networks, all of which will provide the latest cutting-edge telecoms services.

'One of the added-value benefits that we provide for these companies

is that we stimulate the confidence the market has in these projects. The reliability of our launch vehicles and our consequent record for launching payloads successfully, enhances the credibility of our African customers.'

Africa is, says Le Gall, of paramount importance to Arianespace. 'As a continent it is coming into its own as far as telecoms and other satellite services are concerned. We're seeing many new emerging opportunities for satellite coverage over this region. For example, when the Rascom-QAF 1R is launched later this year, it will provide a host of services from direct TV broadcasting to internet access.'

Another 2010 project Le Gall considers of importance for Africa is the O3b constellation of satellites. O3b stands for 'the other 3 billion' which refers to those people around the world unable to tap into the information highway, most of whom live in Africa.

'The deployment of the O3b satellites will revolutionise life in all of Africa,' says Le Gall, 'by providing operators with an easier, faster and more affordable connectivity with long-term sustainability.'

More than 50% of all commercial satellites placed into orbit in the entire world, are undertaken by Arianespace. Proof of its competency and value can be further judged by the company's performance last year.

'We posted a record-breaking seven Ariane 5 launches orbiting 10 satellites and delivery of two space probes for the European Space Agency,' Le Gall says. 'We also affirmed our leadership in the market by netting 16 contracts,

11 for geostationary satellites and five for dedicated Soyuz launches from French Guiana.

'2010 will also be an extremely busy year for Arianespace. Firstly, we have signed an agreement with ESA to launch 10 satellites to the Galileo global positioning constellation, which is the largest European space project to date. These satellites will provide precise timing and location information for users on the ground and in the air.

'Secondly, we will be performing an additional seven launches for Ariane 5 which include the Johannes Kepler ATV mission to resupply the International Space Station (ISS) with items such as food, clothing, propellants, water and oxygen.' The ISS is the largest man-made satellite orbiting earth and is a co-operative venture by numerous countries.

Back on earth, Arianespace's head office in Evry, near Paris, has grown to 253 employees, with additional staff accommodated at the Guiana Space Centre and 11 other localised offices in Washington, Tokyo and Singapore.

At the Pacific Telecommunications Council this year, Le Gall said that Arianespace had launched nearly every platform to nearly every useful orbit. 'But I don't think we've seen it all. Despite tough economic times today, I believe the best is yet to come.'

Perhaps that best will be from (or because of) Africa, given that Arianespace has a backlog of more than 20 Ariane 5 and 15 Soyuz launches equal to three years of business. Perhaps the best is already lying in wait. **AD**