

Sky is no limit for new generation of flexible satellites

Thales and Boeing step up mobile market drive amid changing consumer demands Experts say the satellites industry is experiencing a fundamental shift



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David Keohane in Paris and Sylvia Pfeifer in London SEPTEMBER 19 2019

The world's biggest space companies are stepping up plans to capture a nascent market in satellite technology in a bid to make up for plunging sales caused by the cultural shift away from watching television to using mobile phones and computers.

Thales and Boeing last week announced proposals for a new generation of flexible satellites, capable of coping with the changing demands of customers who want mobile phones that can connect to the web on planes, trains and cars as well as in isolated regions, such as Africa and Central America.

Currently, satellites are sent into orbit with a fixed function, for example to broadcast images to televisions or fixed screens — a drawback as an increasing number of consumers spend more time on their mobiles and computers, which use WiFi or cellular connections.

It is hoped the move will turn round falling demand, which dropped to just nine satellite orders last year compared with about 20 in 2015.

Jean-Marc Nasr, head of space systems at Airbus Defence and Space, which earlier this year signed a deal with telecoms group Inmarsat for three flexible or reprogrammable satellites, said the industry is experiencing a fundamental shift.

“We are living at a turning point of the telecommunications satellite history. Up to now, the main mission of telecom satellite was TV broadcast,” he said.

The flexible satellites being developed by some aerospace companies use digital payload technology that allows them to switch between different functions by increasing the amount of power it brings to bear on a region or a plane or car.

The technology enables their antennas to generate different types of satellite coverage and to modify it very quickly when needed, jumping between broadcast TV over Europe to internet access in Africa.

“This is a huge development for the satellite industry, equivalent to the migration from mainframe computers to the personal computer.”

Magali Vaissiere, European Space Agency

Jean-Loïc Galle, chief executive of Thales Alenia Space, one of Europe’s leading satellite manufacturers, said there were “so many uncertainties” that customers “cannot afford for the next 15 years to have what I call a static satellite that has absolutely no flexibility”.

Mr Galle, who described the market for traditional satellites as “really awful” over the past three years, said the industry needed a solution to provide customers with “satellites that can fit all kinds of applications”.

The old satellites, which would remain in orbit for over 15 years, had “no way to switch through mobility, across mobility, or even broadband access”.

Mr Nasr added that the days of operators being able to build a 15-year business case around new satellites with a single function are over.

Eric Jensen, vice-president of global commercial satellite sales at Boeing, said thanks to technological advances manufacturers are able to offer not just a stable platform but one which is flexible and can be customised.

Data from research group Euroconsult shows that the market for satellite technology will increase to \$19bn in 2028 compared with \$11bn in 2018, with mobility services provided to cars, aeroplanes and boats the fastest growing.

This is projected to rise to 17 per cent of the market from 5 per cent last year. This compares with broadcast and video services, which was 59 per cent of the market in 2018, and is projected to be 23 per cent in 2028.

Thales plans to launch its first flexible satellite in 2023 with Mr Galle betting that by 2025 “more than two-thirds, maybe three fourths of the market will be served by digital satellites”. This would include the military, which needs high speed connectivity for its fighter jets.

The new generation of satellites will take 18 months to deliver, compared with 24 to 30 months for the older generation. Thales has spent €300m on research and development in the last five years, Mr Galle said.

Magali Vaissiere, director of telecommunications and integrated applications at the European Space Agency, said the switch to flexible satellites was part of the “softwarisation” of the industry. She said this is bringing the satellite market closer to other information and communication technology industries, such as the cellular sector.

The space agency launched the development of flexible satellites in 2015 with the Quantum satellite, a joint project between Airbus and Eutelsat. A dedicated research and development programme focused

on flexible satellite product lines will be proposed at the next ministerial council meeting of the agency in November.

Ms Vaissiere said: "This is a huge development for the satellite industry, equivalent to the migration from mainframe computers to the personal computer."