

## From ANTWERP SPACE to Mars and Jupiter

### New Clean Room opens doors toward new European space programmes

***Antwerp, 26 October 2016 – Today Antwerp Space has officially opened its new clean room, in the presence of State Secretary for Science Policy Elke Sleurs and Mayor of Antwerp Bart De Wever. In this ultra-modern, secured work space the Antwerp based company will be making components for prestigious international space projects.***

A clean room is dust-free. Dust particles can interfere with the proper functioning of equipment and can even render precision instruments completely useless. Since there is no dust in space, it is important that there should be none when assembling and testing the space hardware. Equally important is that the temperature (around 22°) and relative humidity (about 55%) are strictly managed, to avoid things like corrosion or electrical breakdowns. Air pressure should also permanently be kept at a slightly higher level than normal.

#### **Strict measures**

Antwerp Space's new clean room in Hoboken (with a ground surface of 100 m<sup>2</sup> and a height of 3 m) is designated category ISO 8. That means that for a volume of 1 m<sup>3</sup>, a maximum of 29 300 dust particles larger than 5 micrometers can be present. Ten times less than in a normal room.

Therefore, strict measures will be applied. Employees can only open one door at a time and the entrance to the clean room is fitted with an airlock. Technicians, engineers and visitors must wear a dust-free outfit and can only use materials that do not shed particles or produce any other contamination. Finally, special measures are applicable in the clean room to limit the risk of electrostatic discharge.

#### **Prestigious space projects**

Starting November 2016, Antwerp Space will be using its new clean room for the production of components for key prestigious space programmes for the European Space Agency (ESA).

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+32 (0)477 62.87.66

info@holy2.com

www.holy2.com

**ExoMars**, a collaboration between ESA and the Russian Space Agency Roscosmos, consists of two missions to Mars. The first – an orbiter and a lander – was launched on 14 March 2016 and arrived at the Red Planet earlier this month. Part two of the mission – a surface platform which will land on Mars and a rover that will explore the planet's surface – will be launched in 2020. Antwerp Space is responsible for the communication subsystem of the ExoMars 2020 Carrier Module. It consists of sophisticated communication equipment which allows the teams on earth to send commands to the spacecraft. The Carrier Module will transport the descent module, which includes the surface platform and the rover, to Mars.

One of the scientific instruments on board that surface platform is **LaRa** (Lander Radioscience). LaRa was designed by a scientific team from the Royal Observatory of Belgium and will be engineered and delivered by Antwerp Space. LaRa will be the first Belgian instrument to land on the Red Planet.

Antwerp Space is also responsible for designing, assembling and testing the communication subsystem on the **JUICE** spacecraft. JUICE (JUper ICy moons Explorer) will be launched in 2022 and after a flight of more than seven years, will investigate the Jovian system in all its complexity with emphasis on three of its largest moons: Ganymede, Europa and Callisto. It will be the first spacecraft ever to orbit a moon (Ganymede) of a giant planet. The Antwerp Space system will establish a communication link between Jupiter and Earth. Because of the large distance (588 to 968 million km) it will take 1h and 46m for the signal to return back to Earth.

Finally, Antwerp Space is also developing a highly innovative modem, **ARGO**. It will be used for the new communication terminal, which will be flown to the International Space Station (ISS) in 2018. Thanks to ARGO, ESA astronauts on the ISS will be able to rely on European technology to transmit more science data and to ensure higher quality live streaming from the station. What makes the modem so innovative is the integrated circuit which allows a remote upgrade and the transmission of more information at a higher speed.

*“The investment made by Antwerp Space for this new cleanroom is a tangible sign of the company’s ambition for future space programmes. I look forward to the role Antwerp Space will play in current and future key ESA missions”* said State Secretary for Science Policy, Elke Sleurs.

*“Our city is proud that a company from Antwerp uses its expertise and know-how for European missions to Mars and Jupiter,”* the Mayor of Antwerp, Bart De Wever, added. *“This way Antwerp will not only be known internationally for its port, fashion and diamond trade, but also for its contribution to space exploration.”*

## About Antwerp Space

Antwerp Space is clearly continuing its recent positive trend towards deep space equipment development with the implementation of its new clean room. This expansion allows the Antwerp based company to continue to compete for the most prestigious international projects within the space industry.

Antwerp Space is one of Belgium's oldest and most experienced companies. It started in 1962 as a division of the Alcatel Bell group. In the 1990s it became an autonomous subsidiary and in July 2010, the company was taken over by the German OHB SE group and renamed Antwerp Space. OHB SE is the third largest space company in Europe, employing 2,050 people in six countries and with a turnover of 730 million Euros in 2015. It is involved in several large, European space programmes.

Today, Antwerp Space is focusing on the communication aspects of satellites: on board communication subsystems and flight modems, commercial ground modems, radio frequency converters and test systems. The company employs around 75 people, including a large number of highly qualified engineers and technicians.

## More information: [www.antwerspace.com](http://www.antwerspace.com)

Press contact: Vanessa Peeters +32 (0) 3 829 50 50

Contact Antwerp Space:

Vanessa Peeters

Corporate Communications

phone: +32 (0) 3 829 50 07

E-Mail: [vanessa.peeters@antwerspace.be](mailto:vanessa.peeters@antwerspace.be)

[www.antwerspace.be](http://www.antwerspace.be)

Contact OHB:

Martin Stade

Corporate Communications

phone: +49 (0) 421 2020 620

E-Mail: [pr@ohb.de](mailto:pr@ohb.de)

[www.ohb.de](http://www.ohb.de)

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