Airbus Defence and Space to build JUICE spacecraft, ESAs next life-tracker inside the Solar System

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- JUICE will study the Jupiter system and its icy moons
- First large-class mission of ESAs Cosmic Vision programme to look at emergence of habitable worlds around gas giants
The European Space Agency (ESA) has selected Airbus Defence and Space, the worlds second largest space company, as the prime contractor to develop and build the JUICE (JUpiter ICy moons Explorer) spacecraft. JUICE is the first large mission of the ESA Cosmic Vision programme, with a launch date in 2022.
"JUICE will address the question: are there current habitats outside Earth in the Solar System with the necessary conditions to sustain life?" said François Auque, Head of Space Systems. "To answer this, we will develop and manufacture a fantastic spacecraft, building on our unique expertise gained in previous unrivalled space exploration missions. After the Sun, Mercury, Venus, the Earth, Mars, Titan? and even a comet, our engineers next challenge is to build this sophisticated spacecraft to explore the Jupiter system."
JUICE is the first European mission to Jupiter; its overarching theme is the emergence of habitable worlds around gas giants. JUICE will investigate the Jupiter system, with a focus on its icy moons and the possibly ocean-bearing worlds of Europa, Ganymede and Callisto. The mission will study the moons addressing two key themes: what are the conditions for planet formation and the emergence of life.
Following a launch on Ariane 5, JUICE will cruise for 7.5 years making extensive use of gravity assist manoeuvres (in order to save fuel and energy) around the Earth, Mars and Venus before reaching the Jupiter system. After insertion into Jupiters orbit, JUICE will use multiple fly-bys to complete a comprehensive orbital tour over 3.5 years. At the end of the tour, JUICE will be set in orbit around Ganymede, becoming the first spacecraft ever to enter orbit around an icy satellite in the outer Solar System. The complex mission profile will be supported by dedicated navigation cameras on-board the spacecraft.
To fulfil its scientific mission, the spacecraft will carry 10 instruments covering a wide range of measurements techniques (optical, sub-millimetre, radar, magnetic electric, plasma and particle sensors). To avoid any perturbation of the scientific instruments, the spacecraft will have an unprecedented level of magnetic cleanliness.
Weighing five and a half tonnes, JUICE will be powered by a large 97 m solar generator, the largest ever built for an interplanetary mission. This will ensure the spacecraft produces enough energy even in the low solar environment at Jupiter.
Airbus Defence and Space has unparalleled experience in designing and building scientific exploration spacecraft, having been involved in every European interplanetary mission. Its heritage includes missions to Venus (Venus Express), Mars (Mars Express), Titan (Huygens), and comet 67P (Rosetta). The company is currently building missions to the Sun (Solar Orbiter), Mercury (BepiColombo) and Mars (ExoMars), besides all the satellites built and under construction for Earth research (Swarm, Cryosat, the Sentinel satellites and many more?).
Through these previous missions Airbus Defence and Space has developed unique expertise in autonomy, allowing spacecraft to be self-sufficient during long duration cruise phases as seen on Rosetta, and also careful electromagnetic cleanliness plans, essential in missions like Swarm - the magnetic field measurement mission.
Airbus Defence and Space is prime contractor for the JUICE spacecraft, building-on the expertise developed on their sites in Toulouse (France), Friedrichshafen (Germany), Stevenage (UK) and Madrid (Spain).
About Airbus Defence and Space
Airbus Defence and Space is a division of Airbus Group formed by combining the business activities of Cassidian, Astrium and Airbus Military. The new division is Europes number one defence and space enterprise, the second largest space business worldwide and among the top ten global defence enterprises. It employs more than 38,000 employees generating revenues of approximately ?13 billion per year.

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