





ArianeGroup, HEC Paris, and the European Space Agency team up to explore the future of space economy

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- ArianeGroup joins ESA_Lab@HEC to launch an applied research initiative, "Exploring the Future of the Space Economy", in partnership with HEC Paris and the HEC Foundation.
- ESA_Lab@HEC is a collaborative platform set up by the European Space Agency (ESA) and leading business school, HEC Paris, to promote research and innovation, and maximize the integration of the space sector into the economy and society.
- The aim is to explore scenarios for the future of the space economy over the next three decades and to anticipate new solutions for space transport vehicles.

ArianeGroup, HEC Paris, and the European Space Agency (ESA) are establishing an applied research initiative to identify and study long-term trends in the space sector.

The launch ceremony was attended by André-Hubert Roussel, CEO of ArianeGroup, Johann-Dietrich Wörner, ESA's Director General, and Peter Todd, Dean of HEC Paris, a leading business school in Europe.

With this undertaking, ArianeGroup, an Airbus-Safran joint venture, intends to promote innovation and the development of new solutions for access to space, and Earth-to-orbit/return-to-Earth transport in order to continue to contribute to Europe's competitiveness in a rapidly evolving space economy. ArianeGroup is lead contractor for the European launchers Ariane 5 and the future Ariane 6, an ESA program.

This collaborative venture will direct and oversee research projects focusing on value-creation in the space sector, high-potential macroeconomic models, and sector trends.

The projects will include research work with an international dimension and generate rated publications within the framework of ESA Lab@HEC Paris.

Etienne Krieger and Patrick Legland, both Affiliated Professors at HEC Paris, have been appointed co-directors of this initiative.







ArianeGroup CEO André-Hubert Roussel said: "The space economy is changing rapidly, and we must continuously anticipate new market trends. This joint initiative will provide input for our on-going missions of maintaining independent access to space for Europe, remaining a leader in the commercial market, and staying at the forefront of technological innovation. I am therefore delighted at the creation of this partnership with one of Europe's top business schools which will help us to gain insights into future trends with support from the European Space Agency."

Johann-Dietrich Wörner, ESA Director General, said: "This initiative is part of the ESA_Lab@ project and responds to ESA's objective of fostering a globally competitive European space sector, by supporting research, innovation, entrepreneurship for growth and jobs, seizing larger shares of global markets, and allowing European industry to occupy a leader position in the international space sector."

Peter Todd, Dean of HEC Paris, said: "One of HEC Paris' main missions is to contribute to thinking about the world of tomorrow. Exploring the possible futures of the space economy together with scientific colleagues from ESA and ArianeGroup is an exciting prospect for HEC Paris, as entrepreneurial spirit and capacity for innovation have always been part of our DNA. This is an original collaboration with a multidisciplinary approach, which I am convinced carries a very strong potential for innovation to meet the space challenges of tomorrow, and to build on the excellence of the European model in a highly strategic sector."

Etienne Krieger and Patrick Legland, co-directors of the project, said: "If there is one area where the only limit is our imagination, it is clearly space, as it involves a whole host of scientific, technical, political, economic, and environmental issues. The space sector is a fertile ground for entrepreneurs and innovators: It is natural that HEC Paris should leverage its expertise for the benefit of this sector which already employs many of our former students. To foster the emergence of technically and economically viable innovations, we will develop a series of forward-looking workshops with our students, teachers, and partners from ESA and ArianeGroup. They will combine rigorous methods with creative sessions to help shape the space industry's future."

About ArianeGroup

ArianeGroup develops and supplies innovative and competitive solutions for civil and military space launchers, with expertise in all aspects of state-of-the-art propulsion technologies. ArianeGroup is lead contractor for Europe's Ariane 5 and Ariane 6 launcher families, responsible for both design and the entire production chain, up to and including marketing by its Arianespace subsidiary, as well as for the missiles of the French oceanic deterrent force. ArianeGroup and its subsidiaries enjoy a global reputation as specialists in the field of equipment and propulsion for space applications, while their expertise also benefits other industrial sectors. The group is a joint venture equally owned by Airbus and Safran, and employs approximately 9,000 highly qualified staff in France and Germany. Its 2018 revenues amounted to 3.6 billion euros.

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About ESA

The European Space Agency (ESA) provides Europe's gateway to space. ESA is an intergovernmental organisation, created in 1975, with the mission to shape the development of Europe's space capability and ensure that investment in space delivers benefits to the citizens of Europe and the world. ESA has 22 Member States: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland and the United Kingdom. Slovenia is an Associate Member. ESA has established formal cooperation with six Member States of the EU. Canada takes part in some ESA programmes under a Cooperation Agreement. By coordinating the financial and intellectual resources of its members, ESA can undertake programmes and activities far beyond the scope of any single European country. It is working in particular with the EU on implementing the Galileo and Copernicus programmes as well as with Eumetsat for the development of meteorological missions. ESA develops the launchers, spacecraft and ground facilities needed to keep Europe at the forefront of global space activities. Today, it develops and launches satellites for Earth observation, navigation, telecommunications and astronomy, sends probes to the far reaches of the Solar System and cooperates in the human exploration of space. ESA also has a strong applications programme developing services in Earth observation, navigation and telecommunications.

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About HEC PARIS

Specializing in education and research in management sciences, HEC Paris offers a complete and unique range of academic programs for the leaders of tomorrow: the Grande Ecole program, Specialized Masters and MSc, Summer School programs, the MBA, Executive MBA and TRIUM Global Executive MBA programs, the PHD program and a wide range of programs for executives and managers.

Founded in 1881 by the Paris Chamber of Commerce and Industry, HEC Paris has a full-time permanent faculty of 140 professors, 4, 500 students and 8,000 managers in executive education programs every year.

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About the HEC Foundation

Founded in 1972 and recognized as a charity in 1973, the HEC Foundation's mission is to contribute to financing the main strategic focuses of HEC Paris. Each year, it supports the development of HEC Paris (for 7% of the School's operating budget) by funding:

- scholarships awarded to students from all social and geographical backgrounds,
- educational innovation and development of digital technology,







- academic excellence and research in management sciences,entrepreneurship and support for business creation.