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France-Israel space cooperation Upcoming launch of the French-Israeli VEN μ S satellite CNES and ISA leading the way on climate action

The French-Israeli VEN μ S satellite (Vegetation and Environment monitoring on a New MicroSatellite) set to be orbited on 1 August by a Vega launcher from the Guiana Space Centre features four key innovations, with a very compact spacecraft bus, a high-performance instrument, new image-acquisition tasking capability and a technology mission focused on electric propulsion.

As climate concerns become ever more pressing, CNES is continuing to conceive new tools for observing climate change. Developed jointly with the Israel Space Agency (ISA), the VEN μ S vegetation-monitoring satellite is at the cutting edge of innovation and set to make a major contribution to environmental research.

Thanks to its multispectral high spatial resolution (five metres) and high revisit capability (every two days) covering 110 sites of scientific interest for monitoring vegetation around the globe, VEN μ S will yield a rich harvest of data not only for scientists but also for the entire international space community. For CNES and ISA, working together on such an ambitious project offers a great opportunity for teaming world-class engineers and scientists.

Among the mission's many goals are monitoring of environmental factors (climate, topography, soils, etc.) affecting land surfaces, the study of interactions with human activities, validation of models based on natural and cultivated ecosystems, and improvement of carbon cycle modelling. For example, from September this year VEN μ S will offer the ability to acquire imagery of permafrost in Siberia every two days. These data will be retrieved via the Internet by the Max-Planck Institute, which is leading this project, and used to improve land cover maps and above all to track changes in planet cover, snow cover, surface water and flood zones. The ultimate aim is to enhance climate prediction scenarios by better representing feedback mechanisms between the carbon cycle and climate.

The result of exemplary cooperation between Israel, the new-technology powerhouse, and France, VEN μ S is paving the way for the next generation of European Earth-observing satellites with its unique features and new data processing methods and systems.

With the launch of VEN μ S now only days away, CNES President Jean-Yves Le Gall commented: "With the COP21 and COP22 having highlighted the key role of satellites in studying and preserving our climate, I am delighted to see our world-class space engineers working together to develop VEN μ S, a mission that will help the international community's efforts to curb climate change."

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