



PRESS RELEASE

26 February 2020

PR034-2020

SPACE SERVING THE TRANSFORMATION OF FARMING

Wednesday 26 February at the Agricultural Show in Paris, CNES President Jean-Yves Le Gall took part in the CNES-INRAE forums on 'space technologies serving farming and the environment'. The farming sector is facing a number of crucial challenges for the future of our planet and societies, as we seek ways to cope with climate change and its impacts, feed a growing population, adopt sustainable modes of production that preserve ecosystems and their biodiversity and reduce inputs, and in some cases stop using them altogether, like for example herbicides. By combining satellite data with in-situ measurements, meteorological and agronomic models and geographic information systems, agronomy expertise is seeding essential recommendations to address all of these challenges.

CNES and INRAE, the national research institute for agriculture, food and the environment, are longstanding partners who are today working together to advance research and innovation. CNES's commitment to promoting uptake of space solutions matches INRAE's goal of serving key social issues in the domains of farming, food and the environment, now being brought into sharper focus by climate change and population growth. Through their cooperation agreement, the two partners are leveraging spatial information in all its dimensions—Earth-observation data, precise positioning and in the near future the Internet of Things (IoT)—to spawn innovative applications like crop mapping, assessment of water requirements, crop yield estimation and integrated input management.

Space is delivering benefits in a number of areas. In Earth observation, satellite data are enabling identification of fields, closer monitoring of crop health—biomass, chlorophyll content, leaf area and so on—and measurement of surface soil moisture. In geolocation and timing, Europe's Galileo system is for example driving significant improvements in performance required for 'farmbots' used increasingly to tend market garden crops and vines. And research is tapping into emerging IoT solutions to collect data from a range of in-situ sensors and plug them into predictive models.

Through decades of investment, farming today is able to call on applications that rely on satellite data, like for example precision agriculture, an early adopter of satellite-based positioning technologies. Firms are also using such solutions to deliver recommendations to farmers on when to apply inputs, irrigate and harvest, and more broadly for all decisions on how to optimize their crops.

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