

SONDRA: 20 years of cooperation between Singapore and France.

- Created in 2004, the Franco-Singaporean research laboratory SONDRA is supported by ONERA the french aerospace lab, CentraleSupélec, National University of Singapore and DSO National Laboratories. On 4 April, the laboratory's French and Singaporean partners attended to an event set to celebrate its 20th anniversary.
- Emmanuel Chiva, Délégué général pour l'armement, Melvyn Ong, Permanent Secretary (Defence Development) of Singapore's Ministry of Defence (MINDEF), Cheong Chee Hoo, CEO of DSO National Laboratories (DSO), Bruno Sainjon, CEO of ONERA, Romain Soubeyran, Director of CentraleSupélec, Heng Chye Kiang, Dean for Research and Innovation at the National University of Singapore (NUS), and the laboratory's founders: Chan Hian Lim and Marc Lesturgie.

While crossing the "Heritage walk" in front of the Rousseau amphitheater of the Ecole CentraleSupélec, between photographs, graphics and antenna prototypes, the numerous visitors who came to celebrate the 20th anniversary of SONDRA were able to relive this human adventure and (re) discover the major stages and achievements of the laboratory. For instance, the first surface wave radar installed on buoys with the collaboration of the Hydrographic and Oceanographic Service of the Navy, or, more recently, the work using machine learning techniques in artificial intelligence, for the detection and tracking of targets hidden under forest cover.

SONDRA: An essential player in scientific research in the radar field, for Defense and security applications

ONERA, which is supervised by the Defence Innovation Agency of the French Ministry of Defence, is a founding member of this laboratory. In 2004, the Defence Science and Technology Agency (DSTA) and ONERA decided to launch SONDRA with two other partners with internationally recognised expertise, the National University of Singapore (NUS) and Supélec. In 2012, DSO took over from DSTA in the quadripartite alliance. In 2015, Supélec and Centrale merged to form CentraleSupélec, now a member of Université Paris-Saclay.

This Franco-Singaporean alliance, unique in France, established in the CentraleSupélec premises in Gif-sur-Yvette (France), conducts fundamental research activities in three areas of innovation: radars, electromagnetism and new concepts of signal processing. The goal is to tackle the performance needs of surveillance systems, for maritime, aerial and terrestrial applications.

Its constant preoccupation is to achieve field trials and validation, thanks to the resources available at the DSO and ONERA. SONDRA's research supports their major achievements, enabling them to make significant progress in their respective fields.

Today with a team of 10 permanent researchers, 55 theses launched (9 funded by the DGA and AID) including 44 defended, 60 interns trained, 9 post-doctoral students,

around ten annual publications, collaborations established with universities and French, European and American research agencies, but also with companies which, for some, participate in financing theses, SONDRA is an internationally recognized player, and represents an exemplary success of academic and scientific collaboration between France and Singapore.

“The challenges proposed by our Singaporean partner led us to imagine how Artificial Intelligence techniques could be implemented to better analyze the physical phenomena that a tool like radar allows us to observe. The laboratory's researchers have thus acquired international recognition as experts for earth observation,” explains Stéphane Saillant, director of the SONDRA laboratory.

France and Singapore, longstanding partners in new technologies.

Singapore has been a long-standing partner of France in the Indo-Pacific region, particularly in the field of innovation and new technologies. The two countries share a common vision of technological innovation as a driver of development and operational superiority.

This collaboration has already led to a number of concrete agreements and partnerships. In April 2023, France and Singapore signed a technical arrangement to create a joint R&D laboratory in the field of artificial intelligence based in Singapore. The laboratory responsible for conducting research projects common to both countries and systematically carried out by a joint Franco-Singapore team.