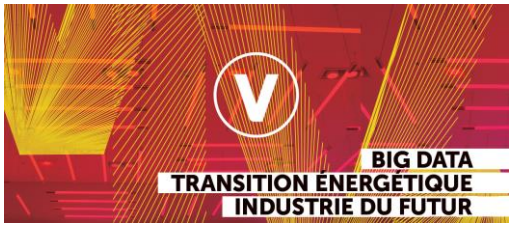

PARIS, MAY 14, 2019

Get ahead of the future, come and join us at VivaTech

@CEA_Officiel #VivaTech #VivaCEA

The CEA and the start-ups we support invite you to get ahead of the future and come and learn about our most advanced technological innovations in the fields of Big Data, energy and the plant of the future.

VivaTech, in Paris, is a two-day event for professionals seeking to learn about the expertise and technologies that will shape our future, which is then open to the public for a third day for everyone to explore the very latest technology.

CEA start-ups

- 10 start-ups a year developed over the last 20 years, over 90% of which have remained in business for more than 5 years
- 150 million euros raised in 2018
- 6 start-ups listed on the stock exchange
- An asset fund worth 250 million euros for disruptive innovation, Supernova Invest, with Amundi, Europe's leading asset manager

The CEA exhibits at the world's two major events in the field of digital transition

In January, teams from the CEA took part, for the fourth year running, in the *Consumer Electronics Show* (CES) in Las Vegas, a key international event in the world of connected objects, computing and the digital transition. This year, the CEA is also exhibiting at the French equivalent of the CES: VivaTech, held in Paris from May 16 to 18, 2019.

Accelerator for innovation in industry

Under its remit, the CEA works in four key fields tackling the challenges entailed in major shifts in our world: energy transition and climate change, defense and security, digital transformation, and health. The teams at the CEA carry out world-class scientific research, constantly maintaining their capacity to innovate in these fields.

In 2019, and for the eighth year running, Clarivate Analytics ranked the CEA among the companies and institutions named in its Top 100 Global Innovators list. It is one of the major multinationals and research bodies to have been awarded this distinction.

For many years, based on a firm foundation of scientific knowledge and expertise recognized the world over, the CEA has been involved in boosting France's competitiveness through technological development and the transfer of knowledge, skills and technology to industry, and in technology transfer drawing on the results of scientific research. This strategy is backed by a proactive intellectual property policy (over 700 new patents filed each year).

PRESS CONTACTS

tuline.laeser@cea.fr
francois.legrand@cea.fr
Tel.: +33 1 64 50 20 11

www.cea.fr
@CEA_Recherche

PARIS, MAY 14, 2019

The CEA's four operational divisions will be represented at the CEA's stand at VivaTech 2019. Each division tackles its specific challenges facing our society, but they have many things in common, including a focus on transferring the knowledge, results, and the expertise developed in pursuing their own activities, to various industrial and services sectors.

Start-ups and demonstrators showcased at the CEA stand @VivaTech2019

- Big Data & HPC: OpenIO | 2CRSI | Scintil Photonics
- Healthcare: High-speed MRI
- Industry of the Future: Iumtek | Samanta Platform | Dynamic monitoring of structures | FlowPad | Connecting Food
- Energy transition: Light & Shadows | Wise-Integration | NeoLED | Energy Observer: the first hydrogen-powered vessel

PRESS CONTACTS

tuline.laeser@cea.fr
francois.legrand@cea.fr
Tel.: +33 1 64 50 20 11

www.cea.fr
@CEA_Recherche

PARIS, MAY 14, 2019

Talks by CEA experts @VivaTech2019
Friday, May 17 at 8.30 a.m., at Le Ponant

AI to identify a predictive signature for schizophrenia

By Edouard Duchesnay, researcher at Neurospin, Paris Saclay

Neuro-imaging provides key insights for understanding the neurobiological substrate for brain disease, in neurology and also psychiatry. Applied to neuro-imaging, artificial intelligence (AI) opens up new possibilities for personalized medicine, improving outcomes for early diagnosis and predicting treatment responses. Going further than a simple "categorizing" prediction, AI can be used to extract a "cerebral" score, which quantitatively, objectively and individually measures physiological changes associated with clinical (psychological) changes.

AI for Shared Medical Records

By Romain Farel, Engineer at CEA-List, Paris Saclay

Over 80% of all our medical data, including records, correspondence and reports, is in free text format. Doctors have to go through all this text to find the information they need, such as diagnosis, file codes, etc. Is there a way to save them having to waste so much precious time? The algorithms used in artificial intelligence have been found to be a powerful means of performing semantic analyses of medical documents. Based on this, public and private healthcare establishments approached the CEA to develop AI-based applications for the sector that could be used to extract and generate useful clinical data from their huge text databases.

Secure digital systems: from smart cards to connected objects

By Jacques Fournier, CEA-Leti, Grenoble & Laurent Olmedo, CEA Military Applications Division, Bruyères-le-Châtel, Head of the Security research program at the CEA.

With the digitization and hyper-connectivity of our society and industry, cybersecurity has become a central concern in all our daily lives. The sectors in which the CEA works (energy, defense, information technology and healthcare technology) are all affected by the growth of cybercrime.

PRESS CONTACTS

tuline.laeser@cea.fr
francois.legrand@cea.fr
Tel.: +33 1 64 50 20 11

www.cea.fr
@CEA_Recherche

PARIS, MAY 14, 2019

The CEA is focusing its research under a program geared to dealing with this issue, for its own needs, the needs of State, and for the needs of industry.

In addition to the system and computing aspects involved in cybersecurity, one key feature of the CEA's approach in this field is its ability to research and develop solutions centered on the connected object itself. We will show how the CEA, drawing on more than twenty years of expertise in testing and attacks aimed at developing security certification of critical and sensitive objects (traditionally based on 'smart cards'), in conjunction with its industry partners, is working on developing new security certification schemes and prototyping new security solutions for connected objects.

In pursuit of the benefits of quantum computing

By Maud Vinet, Head of the quantum components development program at CEA-Leti, Grenoble.

It has taken decades for us to progress from quantum mechanics to the idea of developing a quantum computer. We may not be quite there yet, but it is now possible to see some of the possibilities opened up by quantum computing for resolving real-world problems. It promises many applications for business and for research. For example, in the financial, transport, and logistics sectors, or in the use of data, quantum computing also enables advances in the fields of machine learning, cybersecurity and cryptography, as well as in the field of medicine.

PRESS CONTACTS

tuline.laeser@cea.fr
francois.legrand@cea.fr
Tel.: +33 1 64 50 20 11

www.cea.fr
@CEA_Recherche