**The ENS Paris-Saclay, Atos and the CEA have created the
"*Industrial Data Analytics & Machine Learning*" Chair
for the development of a cooperative program oriented towards
industrial applications of artificial intelligence.**

The three pillars of the initiative are training at the master and PhD level,
joint research projects bringing together field experts and academic
researchers, and support for the development of spin-offs, and they will
set the foundations for a unique ecosystem in France stimulating
innovation and science

In Paris on 20 October 2016, the ENS (École normale supérieure) Paris-Saclay, a prestigious public institution of higher education in France, Atos, a global leader in digital services, and the CEA (The French Alternative Energies and Atomic Energy Commission), a major player in research, development and innovation, have signed a convention for a partnership that will last at least 5 years and announce the creation of an *Industrial Data Analytics & Machine Learning Chair*, to be based at the ENS Paris-Saclay. This Chair aims at stimulating Artificial Intelligence-enhanced industrial data analysis for business and developing disruptive technologies. The main axes offered by the program are the following: a training program of excellence at the graduate level, specific research actions blending the expertise of industrial with academic partners, cocooning of spin-off projects and start-up initiatives with high potential and based on sophisticated technological assets.

The huge rise in the use of digital data in all areas of science, technology and society requires the training of high-level researchers in mathematics in order to master data acquisition and processing and automatic interpretation. The use of massive and complex data from the industry, or science, or generated by novel communication technologies such as Internet of Thing (IoT), raises a major issue at the strategic, the technological and the economic level. Mathematical approaches to massive and complex data processing, particularly *machine learning algorithms*, are the vectors of a technological revolution which must be managed by bringing together mathematicians and field experts from the areas where these methods are used.

As such, the ENS Paris-Saclay, the Atos group and the CEA have decided to join their forces together to seize this opportunity for research, innovation, training and progress through the creation of a Chair in the subject.

The "*Industrial Data Analytics & Machine Learning*" course will focus on three areas:

- training - initial and continuing - with the "Mathematics, Vision and Learning" MVA M2 Master as a foundation, based on data modelling, mathematical techniques and algorithms;

- research, with the CMLA (Centre for maths and its applications) and its "*Machine Learning & Massive Data Analysis*" team, created in 2012 with 12 researchers, as a kernel;

- the innovation and the sharing of experiences benefitting the dynamics of start-ups and SMEs on the Saclay plateau.

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For **Pierre-Paul Zalio, President of the ENS Paris-Saclay**, "*This partnership corresponds perfectly to the types of action promoted by the ENS Paris-Saclay: tackling industrial and societal issues to which fundamental research may provide solutions. The rapid dissemination of new knowledge to training is an equally important issue, which will be galvanised by this Chair*".

For **Jean-Marie Simon, Executive Vice President, Director General of Atos France**, "*Atos is involved in a process of close academic and industrial partnerships in order to accelerate its innovation processes and pass these benefits onto its clients, particularly through its [Atos Codex](#) solution. This also allows us to expand our uptake of potential young recruits, with technological evolution and the emergence of big data being at the heart of new subjects. This is why Atos is adopting a voluntaristic approach in order to support the development of new networks and anticipate their new needs and abilities*".

For **François Geleznikoff, Director of Military Applications at the CEA**, "*The CEA, mainly, its Military Applications Division, has maintained a partnership with Bull, now Atos, since the beginning of the 2000s, for the development of power calculators for defence, academic research and industry. These calculators generate considerable amounts of data; it is therefore essential to have tools which can process them while reducing the time spent on analysis and taking into account the specificities of the different domains. That is the meaning of this Chair at the ENS Paris-Saclay, a school of excellence with whom the CEA has been associated for many years, particularly within the domain of maths and numerical procedures*".

About the CEA and the Military Applications Division

The French Alternative Energies and Atomic Energy Commission (CEA) is a public research organization working in four main areas: defense and security, nuclear and renewable energies, technological research for industry and fundamental research. Building on its recognized expertise,

the CEA takes part in implementing cooperation projects with a wide range of academic and industrial partners. With its 16,000 researchers and employees, it is a major player in European research and is also expanding its international presence.

The CEA's Military Applications Division ("DAM") takes charge of defence and security missions. The DAM is responsible for the design, manufacture, through-life support and dismantling of the nuclear warheads that equip France's sea- and airborne deterrence forces. It is also responsible for the design and manufacture of the nuclear reactors and reactor cores on French Navy submarines and aircraft carrier. It assists the Navy with in-service follow-up and through-life support for these reactors. The DAM is in charge of procuring strategic nuclear materials required for the nation's deterrence. The DAM also contributes to national and global security through the technical support it provides to the authorities relative to the prevention of nuclear proliferation and terrorism in chemical, biological, radiological, nuclear and explosives domains (CBRN-E) and cybersecurity.

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About École normale supérieure Paris-Saclay (ENS Cachan)

L'École normale supérieure de Cachan became École normale supérieure Paris-Saclay
The main mission of École normale supérieure Paris-Saclay (ENS Cachan) is to train students for research and higher education, by providing them with a top-quality cultural and research education, in the tradition of excellence of Écoles normales supérieures.
Both a training centre and a research centre, ENS Paris-Saclay gathers 13 internationally recognized laboratories, in basic sciences, in humanities and social sciences, and in engineering sciences. 3 federative institutes promote interactions between the laboratories, and give support to interdisciplinary actions, which contributes to ENS Paris-Saclay's originality and strength.
Bringing together disciplines, which no other institution gathers in such a way or at such a level, is a unique feature of the school. In this environment, students receive a research-based and research-oriented training, reinforced in their own discipline, and at the same time, interdisciplinary and internationally open, leading them to Master's degree and PhD.
ENS Paris-Saclay is a founding member of Université Paris-Saclay, a world-class scientific university, gathering forces of 19 grandes écoles, universities and research organizations.