

Press release

SystemX and CentraleSupélec to launch the "Anthropolis" chair, a research and teaching project focusing on Design of Use-oriented Urban Systems

The main purpose of the Anthropolis Chair is to develop eco-innovations that will help identify new use patterns in tomorrow's urban mobility

Palaiseau, February 25 2015 – SystemX, the only IRT (Technological research institute) in the Ile-de-France region dedicated to digital engineering of tomorrow's systems, and the Industrial Engineering laboratory (LGI) of the CentraleSupélec school, which focuses on modelling and designing complex socio-technical systems, are pleased to announce the creation of the "Anthropolis" Chair for a period of four years. Funded by five industrial partners, the Chair will gather a pluridisciplinary team in the SystemX IRT and the CentraleSupélec premises to study urban mobility.

Development of eco-innovations focusing on use patterns

"The purpose of the Chair is to centre the design of systems for cities and their surroundings on human beings", explains Jakob PUCHINGER, the current incumbent of the "Anthropolis" Chair. "We will conduct various experiments that will be a significant part of our research. Based on new use patterns, new projects with our partners may emerge in both the SystemX IRT and also in the "design engineering" and "decisional aid" teams at CentraleSupélec, which will focus on eco-innovations that could considerably change user habits".

Research topics for the Chair

The main goal is to build upstream knowledge to develop tools for modelling and simulating sustainable urban systems, concentrating the approach on behaviour and use patterns. The "Anthropolis" Chair will focus more particularly on mobility systems and their interaction with other urban systems. It places the human being at the heart of the new use patterns and mobility in its division of research into three major areas:

- *State of the art and usage scenarios*: The Chair will begin its research by work on identification of behavioural typologies and uses and on designing use scenarios for the next thirty years.

- *Disruptive technologies and innovation* : later on, the goal will be to identify existing or potential disruptive developments and innovations in urban systems (experiments, Living Lab etc).
- *Impact on urban systems*: here, simulation tools will be adapted to assess the impact of integrating disruptive technologies into urban systems and identify the changes to economic models brought by mobility solutions.

A Flagship Teaching Role

The Chair will play a flagship role in training and education, since its purpose is to enable students, student engineers, masters students and doctoral postgraduates from CentraleSupélec to receive courses in the energy and transport fields, giving them detailed knowledge of their strategic, technological and socio-economic challenges. The Chair will also aim for research excellence and foster collaboration with other researchers internationally.

Press officer IRT SystemX

Marie-Caroline Saro / Sabrina Russo
ComCorp
Tel + 33 6 88 84 81 74 / 06 82 92 94 45
mcsaro@comcorp.fr / srusso@comcorp.fr

Virginie Boisgontier
Manager, Communication IRT SystemX
Tel + 33 1 69 08 05 70 / 07 86 75 02 97
virginie.boisgontier@irt-systemx.fr

SystemX IRT

Based on the Paris-Saclay plateau south of Paris, the SystemX IRT acts as an accelerator of digital transformation. Centred on digital engineering of tomorrow's systems, its research projects cover the scientific and technological needs of the transport and mobility, energy, digital security and communications industries. They meet the challenges that industry faces in the design, modelling, simulation and experimental phases for future products and services, integrating more and more digital technologies.

The changes in technology and the need to integrate them entail addressing the new "Digitalisation" paradigm via a "systems", or indeed "systems of systems" approach. The IRT's plans for 2016 - 2020 is divided into four programmes: systems engineering, autonomous transport, smart territories and internet of trust. Today, SystemX includes 17 launched projects, involving 61 industrial partners and 14 academic partners, and 250 staff including 80 in our employment.

CentraleSupélec press officer

Etienne Dages-Desgranges

Tél. 01 41 13 14 74

Etienne.dages-desgranges@centralesupelec.fr

CentraleSupélec and the Industrial Engineering Laboratory

CentraleSupélec is A State owned scientific, cultural and vocational establishment, born from the alliance between Ecole Centrale Paris and Supélec on January 1 2015. CentraleSupélec comprises 4 campuses in France, plus branches in China, India and Morocco. At the heart of Université Paris-Saclay, CentraleSupélec's ambition is to be a reference centre in the field of engineering and systems sciences, and a leader among higher education and research schools. On September 1 2016, CentraleSupélec will participate in the launching of the Master in Complex Systems Engineering created by Université Paris-Saclay, of which it is a founder member.

CentraleSupélec's Industrial Engineering Laboratory (LGI) develops models, methods and tools for diagnosing, designing, developing, manufacturing, launching, operating, and recycling of socio-technical systems. Some key principles of research are multi-disciplinarity, lifecycle thinking, modelling and simulation of complex systems under uncertainty, integration of the human element into simulations (agents, preference models, decisions) engineering approaches based on models. The LGI is organised around four research teams; Design Engineering, Decisional Aid for Goods and Services Systems, Safety and Risks, and Sustainable Economy. The teams are backed by eleven chairs. There are 86 staff at LGI including 28 research fellows working for the Sciences de l'Entreprise Department at the Châtenay Malabry centre.

The five industrial joint-funders of the "Anthropolis" Chair

"Alstom, the specialist in urban and intercity transport solutions, is constantly adding to its offer and places innovation at the centre of its activities, the better to respond to the needs of a profoundly changing society. Alstom supports the creation of this Chair at the crossroads of two centres of excellence, the SystemX IRT and CentraleSupélec, since it will enable the challenges of tomorrow's transport to be better identified".

Pascal Cléré, Senior Vice President Transport Information Solutions, Alstom.

"For ENGIE, a world ranking player in energy transition, mastery of the profound changes looming in urban mobility is a major challenge for tomorrow's society. Most of the services linked to this new, cleaner, multimodal and interconnected mobility are still waiting to be invented. By participating in the Anthropolis Chair, ENGIE intends to become actively involved in the construction of intelligent urban systems that tomorrow will see mobility systems, energy systems and information systems all interconnecting around the user".

Raphael Schoentgen, Director, Research and Energies, ENGIE

« For the RATP, which envisages mobility as an integrated whole, in a logic of door to door transport, even beyond the networks it operates, it was natural to join this research and education project which will enable transport use to be better understood, so that ever-more suitable multimodal offers can be provided. This is the challenge for researchers in the Anthropolis Chair".

Pierre Becquart, Director, Sustainable Development Innovation, RATP

"As regards mobility, Renault's wish is to be involved in the transformation of user needs in ever more complex and connected systems. With this in mind, Renault decided to join Centrale-Supelec and the SystemX IRT in creating a Chair for research on eco-innovations in urban systems that would combine openness and pragmatism to prepare the decisions to be taken in respect of the business model for tomorrow's mobility".

Nadine Leclair, Expert Fellow, Member, Renault Board of Directors, Director of the Expertise department of Groupe Renault

" For the SNCF, the challenge is to anticipate customers' needs and their new mobility use patterns. This Chair will enable the SNCF to deepen its knowledge of future mobility choices so that it can create integrated, innovative multimodal offers that will be in line with its commitments to society and the environment".

Guillaume Gazaigues, Head of Energie project, SNCF - Innovation and Research Division