

Paris, June 25th 2015

PRESS RELEASE

Thales and CEA create joint laboratory for software and formal methods

Thales and CEA have signed a partnership agreement to create a new joint laboratory dedicated to formal methods for software. The new laboratory will bring together teams from CEA Tech and Thales who will share knowledge and expertise to implement new formal methods for validating software and critical systems.

Validation of software and critical systems represents a significant share of the cost of development, particularly when it requires approaches involving manual analysis for testing or audit where the quality of the product depends directly on the validation effort. The mathematical tools of “formal” methods make it possible to partially automate the process, and can modify the validation approach by replacing exhaustive test campaigns with analytical methods, for example.

What are “formal methods”? These are techniques for the design and analysis of software or systems (specifications, design plans, data, code) based on algebraic mathematical theories that are used to validate important properties of systems and software. Implementation of these mathematical solutions nevertheless requires understanding how they are used as well as mastery of software tools for analysis, proof, etc.

For several years, CEA Tech's CEA-List has been developing these techniques and tools for industry in the critical sectors of energy, aeronautics, shipbuilding and rail, as well as medical robotics (in particular, for the advanced research conducted at Clinatex) and software security. They provide heightened operating security and shorten the time for software development.

Marko Erman, Chief Technology Officer at Thales: *“The direct relationship between the increasing complexity of systems and the increase in development costs makes innovation crucial, including in the verification and validation phases. The joint laboratory with CEA Tech will enable Thales to accelerate the deployment of formal methods in the group, with the goal of improving engineering performance.”*

Jean Therme, Director of CEA Tech, is also pleased with the new partnership: *“CEA-List has developed expertise in the application of formal approaches in various industrial fields; now we are delighted to assist our partner Thales in its process of validating critical systems.”*

About Thales

Thales is a world leader in high tech in the aerospace, transportation, defense and security sectors. With some 61,000 employees in 56 countries, Thales had revenue of €13 billion in 2014. Thanks to its more than 20,000 engineers and researchers, Thales has a unique capacity for creating and deploying equipment, systems and services to respond to the most complex security requirements. With its extensive international network, it can serve its customers around the world.

www.thalesgroup.com / @Thalespress

About CEA

CEA, the French Atomic Energy and Alternative Energies Commission, is a French public research organization with activities in four main areas: low-carbon energy, information technologies and healthcare technologies, large-scale research facilities and defense and global security. Drawing on its widely acknowledged technical expertise and excellence in fundamental research, the CEA actively participates in collaborative projects with a large number of academic and industrial partners. Backed by its 16,000 researchers and employees, it is a leading player in the European Research Area with an international presence that is constantly growing.

Within the Technological Research Division, the CEA-List institute carries out research on intelligent digital systems. Major economic and social drivers, its R&D programs are focused on advanced manufacturing, embedded systems, ambient intelligence and medical applications of ionizing radiation. By developing cutting-edge technological research, CEA-List helps its partners to enhance their industrial competitiveness with innovation and technology transfer. Thanks to the quality of the research it conducts with its partners, CEA-List has been Carnot certified since 2006. (www-list.cea.fr).

www.cea-tech.fr

www-list.cea.fr

Press contacts:

Thales Media Relations – Corporate & Innovation

Anne-Sophie Malot

+33 (0)1 5777 8952

anne-sophie.malot@thalesgroup.com

CEA

Coline Verneau

+33 (0)1 6450 1488

coline.verneau@cea.fr