THALES

Innovative platforms for transportation:

Thales example

Conscious that China is becoming one of the most important centres of worldwide scientific developments, Thales set up a new Research & Development initiative aiming to develop and expand Europe China collaboration in technical domains of Thales key technologies portfolio and to foster innovation in security and ground transportation domains.

Dr. Serge DRUAIS,

Asia Research & Technology, Research & Innovation Coordination

Director

Thales devotes some 20% of its consolidated revenues to research and development – around €2 billions annually – including more than €400 milion dedicated to the trailblazing research and advanced studies that are the primary source of technological innovation today.

With 25,000 engineers in R&D working on cutting-edge technologies, 300 new inventions each year, a portfolio of 13,000 patents and more than 30 cooperation agreements with universities and public research laboratories in Europe, the United States and Asia, Thales is a model of excellence in advanced technologies and innovation.

A new R&T Thales initiative in China

As a strategic market where THALES activities are growing incrementally, THALES dedicates considerable investment in China, including important efforts in R&T.

Since 2006, the year China became the second largest investor in research and development worldwide just behind the US, Thales is developing activities in the field open source components, middleware and software technologies through strong partnerships with leading Chinese universities, like BEIHANG in Beijing or NUDT in Changsha (BAMAI & TRUSTIE projects), innovative companies (CVIS SE in Jinan), GRMC in Guanghzhou and European IST FP6-FP7 programs like QUALIPSO, FASSBINDER or ECHOGRID.

Thales is today launching a new exciting initiative around his local operational based in Shanghai in order to:

- Develop R&T activities for the benefit of Thales business segments in China and worldwide

- Establish adequate agreements between major Chinese research organizations and Thales group teams
- Manage R&T activities and cooperation in China and Asia
- Foster innovation in security and ground transportation business segment enabling tight collaboration with academics, industrials partners, SMEs and customers in order to deliver new services and solutions for the local and the worldwide market.

About Thales Research

Thales's research and technology strategy hinges on close cooperation between public and private research and continuous dialogue between scientists and engineers. Sharing knowledge is one of the company's core values and is crucial to its ability to anticipate major scientific and technological trends.

Reading (UK) Delft (NL) Singapore (SG)

Thales Research & Technology (TRT) is a bridge between academic world and THALES Group to create necessary innovations to ensure growth, competitiveness and profitability.

Palaiseau (FR)
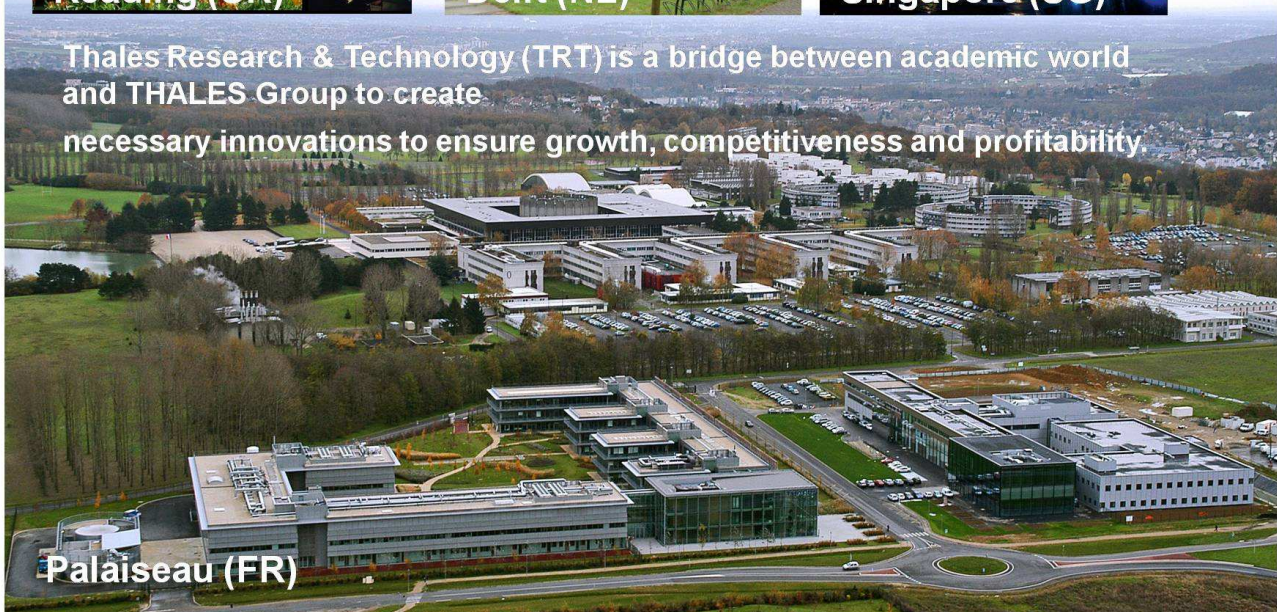
In each country where the company has large-scale operations, Thales's strategy is based on solid partnership within the local industrial and scientific ecosystem. Consolidating these local links, the company maintains a high profile in transnational networks, particularly at European level. One of the goals is today to expand this network on a worldwide basis, with a new development in China and Asia. The prime objective in each of these networks is to make better use of the synergies between major industrial groups, smaller specialist technology providers and training/research bodies.

About technologies

Thales Technology portfolio is today organized around 5 main domains called KTD for Key technology domains: Hardware (HW), Software & Critical Information systems (SCIS), Networks & Secure Communications (NSC), Processing, Control & Cognition (PCC) and Security (SEC).
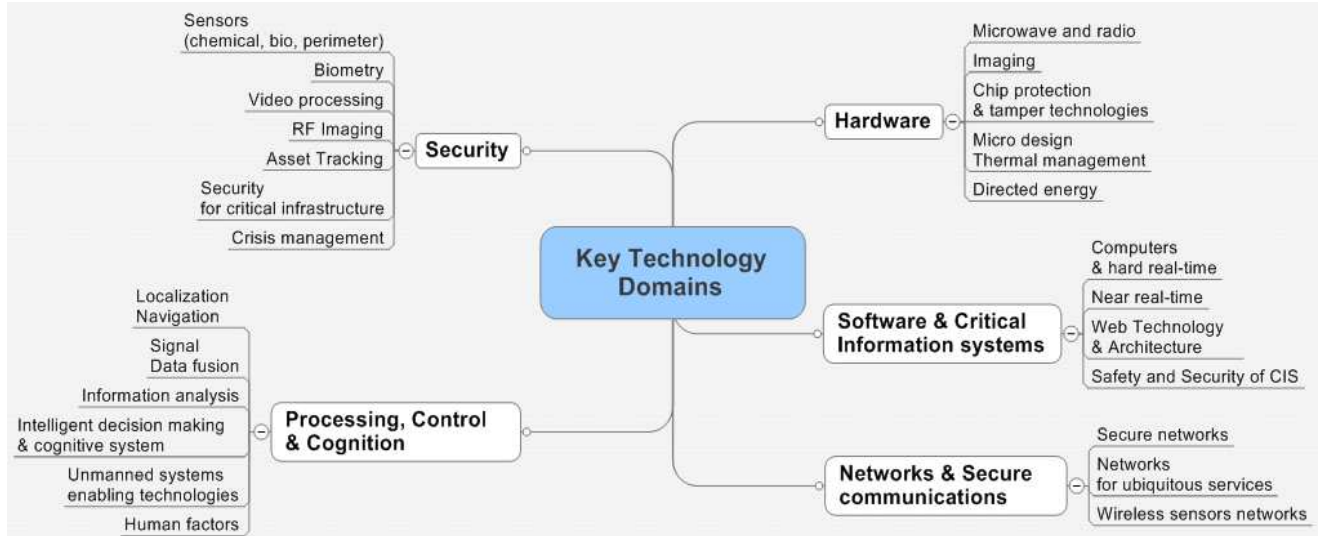
A dedicated multi-level organisation (Corporate – Division – Countries) has been set up this summer to manage these key technology domains around 3 main missions:

Information & Coordination

- Set up & update the internal status of existing activities & needs
- Communicate, disseminate assets, expertise, processes & tools

Governance

- Establish strategy
- Disseminate knowledge of external world.
- Lead R&T Bid process
- Monitor expertise with Human Resource Departments
- Lead external cooperation
- Represent Thales in the major standardization organizations
- Link with external world and catch new trends and technologies

Cooperative Application to Business

- Help divisions to reduce time to market and risks by:
    - Rising the overall level of expertise and disseminating this expertise through appropriate mobility
    - Creating, when appropriate, joint teams to cooperate on technologies tests & integration in realistic environments
- Conduct architecture & technology studies including internal and external components

- Realize internal technical consulting tasks on requests

About innovation

Established companies understand that leading innovation is a critical business imperative. Technology driven innovation is the key to preparing for the future, anticipating customer's requirements and developing tailored offerings to stay ahead in the competitive race.

All Thales divisions have put in place dedicated structures and organization to face these challenges. As part of Thales's new research facility at the École Polytechnique campus in Palaiseau, near Paris, the Thales Security Solutions and Services division has created ThereSIS, a research laboratory dedicated to developing security technologies to protect people, critical infrastrcture and information systems.

ThereSIS, which stands for Thales European Research centre for Security & Information Systems, is an applied research laboratory dedicated to developing global security technologies in order to hone Thales's technological edge and strengthen its position as a key provider of security solutions and services in the business domains of government, industries & Finance and ground transportation.

ThereSIS primary mission is to give to the Thales Group a technological lead in the areas which lie at the heart of complex mission-critical information systems by:

- Federating Thales's research efforts in mission critical information systems where security and safety are top priorities
- Leveraging synergies with universities, engineering schools and SMEs
- Demonstrating Thales's ability to execute (proof of concept, pilots, etc.)
- Developping as a network on an international basis (Europe, Asia...)
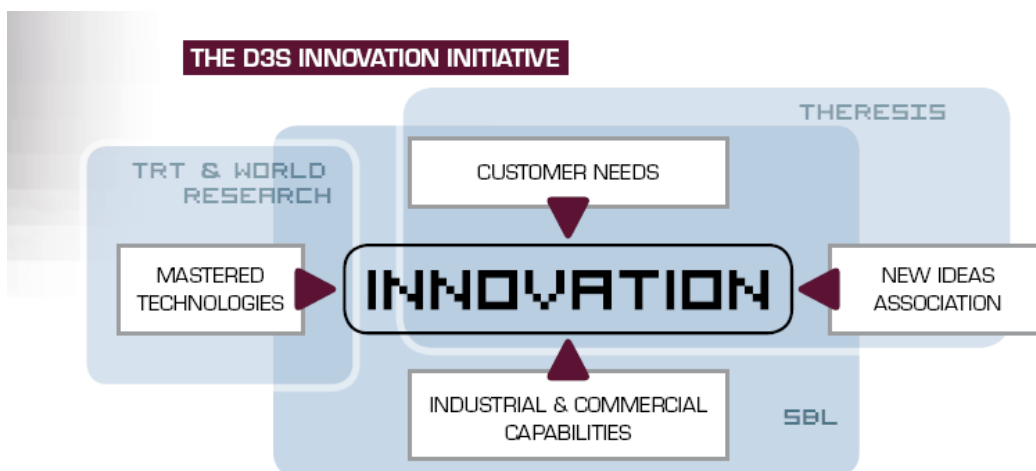
To meet this challenge, ThereSIS have expanded three essential capabilities:

- First, collaboration with customers and partners, which is now pursued in a purpose-built facility, focusing on present and future everyday issues,
- Secondly, rapid prototyping to test modelled and simulated solutions,
- And thirdly, collaboration in a converged IP-enabled communications environment (delivering voice, data and video). This means that teams can now dynamically switch over a comprehensive platform from WiFi environment to Group's intranet or the internet in a completely secure manner, by systematically combining hardware and software components.
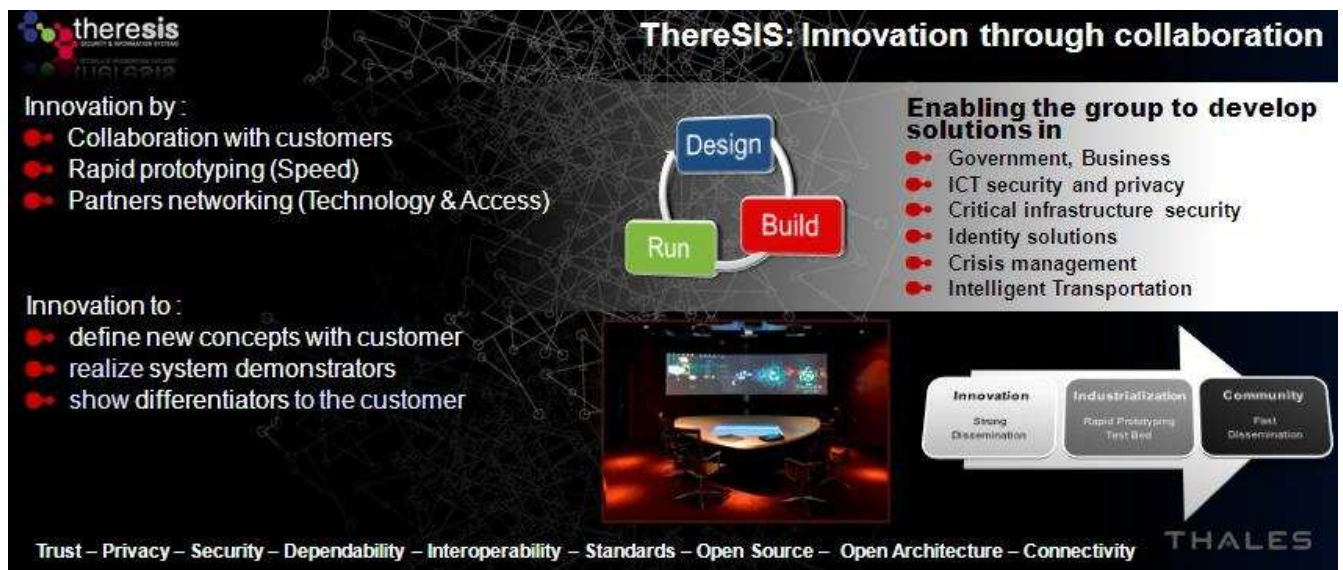
As a result, ThereSIS can deliver completely open solutions.

In terms of technologies, ThereSIS is channelling efforts into a number of key areas:

- Information & Communication Technology
- Physical security (People and Infrastructure)
- Synthetic environment & Human Interaction
- Information analysis
- Technologies for Transportation
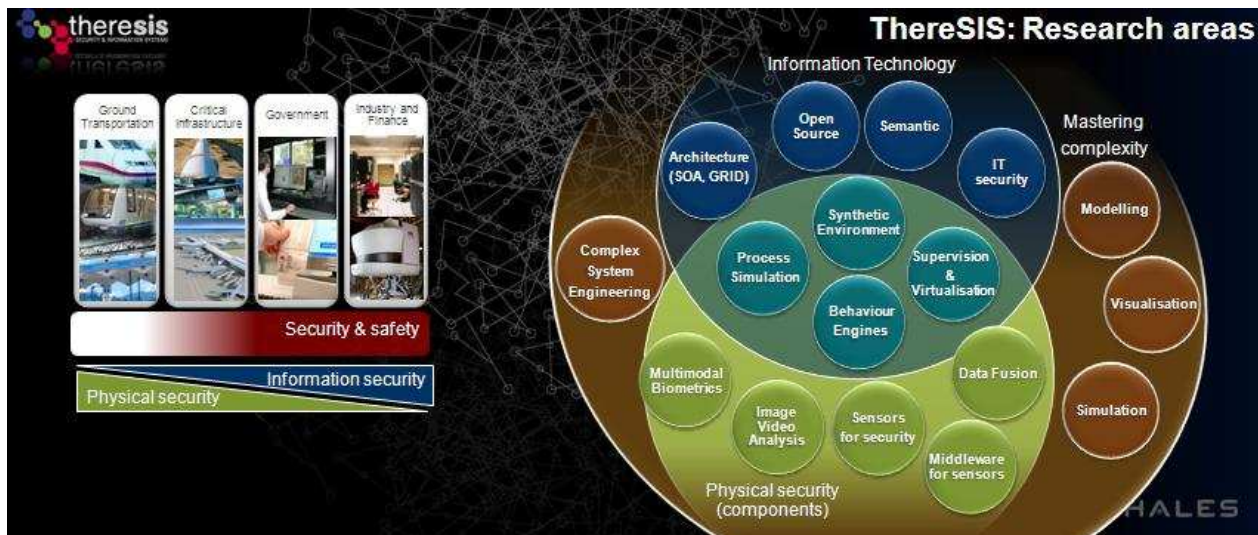
Thales has acquired extensive experience in comprehensive security systems such as those deployed for air traffic control, ground transportation (including rail, metro and bus networks), critical infrastructures, border control, and other applications. In all of these areas, the Group delivers expertise in complex system management as well as leading-edge products and technologies. There are numerous examples to illustrate the scope of this experience, such as the delivery of security solutions for Dubai International Airport and security systems to protect 25 sensitive sites in the Greater Lille area in northern France. In many countries including China Thales has supplied secure ticketing systems, incorporating comprehensive access control and management, for integrated national public transport networks involving seven different train, metro and bus operators. Other core areas of expertise include secure communication solutions, biometric identification, and optical, optronics and radio frequency technologies.

ThereSIS came on stream in September 2006 with a team of twenty critical information system security experts. ThereSIS incorporated a physical security unit in 2007, which took the lab up to about 45 people by the end of the year. Today, with new teams dealing with technologies for transportation, ThereSIS is around 70 people.

Thales corporate decisions have been taken this summer to expand ThereSIS as a network with a first target in Asia – China – Shanghai.