FORWARD-LOOKING INITIATIVES
Thales brings its expertise to ensure harmonisation between SESAR and NextGen

SESAR
- Single European Sky ATM Research programme
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- 200 Thales experts from 6 countries
- Participation in 159 out of the 302 SESAR projects
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FAA NEXTGEN
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JOINT PROJECTS
- Cooperating with Industry Leaders
- Combining complementary expertise
- Customer-focused product development policy: the best partner to provide the best product

EXCELLENCE DRIVEN
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WORDS OF THE CEO
"Traditionally innovation has been driven by the quest for technological performance, but increasingly today it is focused on meeting the real-world needs and expectations of our customers. In any case, innovation is critical to the success of a company like Thales and I intend to make it even more central to our strategy going forward."

Luc Vigneron at Thales Innovation Awards 2010

www.thalesgroup.com
A CHALLENGING WORLDWIDE CONTEXT

AIR TRAFFIC is expected to double within 20 years

- How to increase system capabilities without decreasing safety?
- What can Thales do to contribute to diminishing aviation environmental impact?

GUIDELINES
- End-User driven system
- Traffic Efficiency
- Green ATM

TARGETS
- Current Thales customers
- Future ATM customers
- Future markets (Airlines, ANAC, Service Providers)

A CORPORATE ENVIRONMENT DEDICATED TO INNOVATION

- Several Innovation labs over the world: France, Australia, USA.
- Participative bottom-up procedures and awards to stimulate personal involvement: Innov’ATM, Quest for Innovation, Eureka, Cocinelle WIKI. Every employee can submit their ideas for innovation.
- Four Research & Technology Centers: France, Netherlands, UK, Singapore.

ATMOSPHERE

ATM Innovation Lab

As innovation is at the core of Thales operating mindset, Thales Air Systems reinforces the collaboration between research and customer needs. Since April 2009, a core team imagines and probes ATM: innovative ideas jointly with technical, marketing, and communication teams.

NEXTGEN INNOVATION LAB

Arlington, VA

The Thales ATM NextGen Innovation lab was established in 2010 to address future concepts and initiatives specific to the U.S. FAA. In addition to providing a dedicated demonstration site for customers and industry partners, the facility provides Thales ATM engineers with an environment to conduct rapid prototyping activities and develop and test new concepts in the areas of data communications, automation and integrated air traffic tower applications. At the facility, Thales ATM partners with industry in developing sustainable technology solutions for NextGen programs.

CASIA

Centre for Advanced Studies in ATM

Inaugurated in March 2011 in Melbourne, CASIA is the latest of Thales’s innovation labs. This 400m², futuristic-looking creative workspace is dedicated to ATM and ATFM research. It hosts demonstrations of the latest products and prototypes, as well as "traditional" R&D activities, such as new technologies integration or external systems interfacing.

EFFICIENT INTERACTIONS

How to combine interactive means and operational needs? Eye Tracking, multi-touch surface, computer vision, voice recognition, 3D, Augmented reality, Brain Computer Interface.

Projects
- ART: Augmented Reality Tower Display
- Mobile ATC Supervisor (iPad)
- Modality:
  - Eye Tracking concepts (eyed-BRL, Attention Getter)
  - Voice Recognition - Consensus concept (visual safety net, Voice commands)
  - Operational Supervisory (Multi-Touch Surface).

EFFICIENT SYSTEMS

Are our systems efficient for our customers’ needs? iNeed - Key System and Human performance assessment.

Projects
- Service that provides combined quantitative and qualitative performance analysis of the system use.
- Analysis based on a measurement toolbox to help build a mutual understanding between the customer and the manufacturer
- Accurate description of the customer needs
- Providing basis to the product policy and the innovation strategy.

EFFICIENT TRAFFIC

How to increase automation to reach optimised traffic without decreasing safety?

Projects
- COCOA: Complexity Manager (Cognitive controller workload)
- ECOSystem: Efficiency Capacity & Optimisation (automatic controller workloads, restricted Area, restricted area, storm avoidance system)
- Tailored Departure
- Trajectory Prediction
- Accuracy by Learning
- Green Indicators (Noise, Fuel consumption).

INNOVATIVE SERVICES

The AQUILA consortium of Thales and NATS together with strategic sub-contractors is developing a safe, enduring and cost saving proposition for the UK MoD.

Projects
- Delivery of Military Air Traffic Management services over a 22 year long period to all UK military airbases
- Innovative procurement process, through the use of an Output based specification
- New business model: from individual contracts to a single service provider to hand the collective requirement.
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EFFICIENT TRAFFIC
How to increase automation to reach optimised traffic without decreasing safety?
- Automation, conflict resolution, multi-criteria optimisation, complexity manages; advisories, green indicators, LearningEye.
Projects
- COCOA: Complexity Manager (Cognitive controller workload)
- ECOSystem: Efficiency Capacity & Optimisation (automatic aircrafts, restricted Area, storm avoidance system)
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A GLANCE AT SOME OF THE PROJECTS WE ARE CURRENTLY PROTOTYPING

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PASSION FOR INNOVATION
Opening a window on the future of ATM