Collective intelligence for a safer world

Whenever critical decisions need to be made, Thales has a role to play.
In all its markets (aerospace, space, ground transportation, defence and security ) Thales solutions help customers to make the right decisions at the right time and act accordingly.

World-class technology, the combined expertise of 62,000 employees and operations in 56 countries have made Thales a key player in keeping the public safe and secure, guarding vital infrastructure and protecting the national security interests of countries around the globe.

Employees
62,000
(workforce under management at 31 Dec. 2015)

Global presence
56 countries

Self-funded R&D*
2015
707 million euros
* Does not include therefore R&D undertaken with external funding.

A balanced revenue structure

Defence
50%

Civil
50%

Revenues in 2015
14 billion euros

Shareholders
(at 31 December 2014)

26.4% French State

48.3% Float

25.3% Dassault Aviation

of which employee-owned 2%
WHEREVER SAFETY AND SECURITY ARE CRITICAL, THALES DELIVERS. TOGETHER, WE INNOVATE WITH OUR CUSTOMERS TO BUILD SMARTER SOLUTIONS. EVERYWHERE.
Global leadership

**N°1 worldwide**
- Payloads for telecom satellites
- Air Traffic Management
- Sonars
- Security for interbank transactions

**N°2 worldwide**
- Rail signalling systems
- In-flight entertainment and connectivity
- Military tactical radiocommunications

**N°3 worldwide**
- Commercial avionics
- Civil satellites
- Military surface radars

€14 billion in revenues
UK Academic strategy

Thriving academic relationships

▶ Focused through a University strategy with three tier model
▶ Developing research skills, capability and expertise – focused on the key research themes
▶ Access to new ideas and horizon scanning

Strategic university
Thales able to undertake significant volume of research across all its key research themes. Variety of different engagements with the university (2 ~ 3 Universities).

Framework university
Thales able to undertake significant research within one or two of its key research themes (~12 Universities).

Specialist university
Thales able to undertake significant research within one or two research themes.
Thales Research and Technology (TRT)

5 dedicated research centres
TRT-UK: How we operate

Academia
- Internal open innovation
- Academic steering
- Rapid prototyping
- Academic commissions

SMEs
- External open innovation

Thales businesses
- Advanced development (HW, SW & system)
- Commissioned research
- Skunk works
- Specialists skill consultancy
- Proof of concept demonstrators
- Horizon scan
- Technowatch
- State of the Art reviews
- Customer driven innovation
- User communities
- Rapid prototyping
- Academic commissions
- Academic steering

User communities
- Skunk works
- Proof of concept demonstrators
- Horizon scan
- Technowatch
- State of the Art reviews
- Customer driven innovation
TRT-UK: Security, comms and networking

- Advanced cryptography
- Security for complex systems
- Crypto optimisation for novel platforms
- Security architectures and key management
- Multilevel security
- 4G/5G in bespoke environments
- Software defined radio
- Interference mitigation
- Radio system design & prototyping
- Networks in constrained environments
- Network security and resilience
- Network service management
TRT-UK: Complex Systems research

Complexity science

Architecture analysis
TRT-UK: Autonomy

Autonomous systems definition

IVVQ for autonomy

Machine to human handover

Lab under development

Autonomy is a new area for TRT-UK, with a focus on fundamental system enablers rather than application of a specific platform
Thales Maritime Mission Systems Research Areas

➤ Materials
- Metamaterials
- Graphene
- New piezo-electrics
- Theoretical modelling of complex materials

➤ Manufacture
- Additive Manufacture
- Single Crystal Production
Thales Maritime Mission Systems Research Areas

➢ Mathematics/Physics
  - Fluid dynamics and interactions with structures
  - Noise Field Modelling

➢ Autonomy
  - Decision Making
  - Assessment of surroundings
  - Collaborative Autonomy
Thales Maritime Mission Systems Research Areas

Data Processing
- Beamforming techniques
- Detection/tracking/classification
- Data Fusion
- Big Data
- Machine learning
- Pattern of life
- Human-Computer Interfaces