INSTITUT DE RECHERCHE
TECHNOLOGIQUE
AÉRONAUTIQUE/ESPACE/SYSTÈMES EMBARQUÉS

IRT AESE Technnological Research Institute in Aeronautics, Space and Embedded Systems

2011

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The IRT Concept

- A technological interdisciplinary institute
- Based on a mixed and balanced public-private strategic partnership
- Piloting technological research programmes and developments
- Contributing to initial and continuing training and education
- Taking care of the socioeconomic valorization of research results

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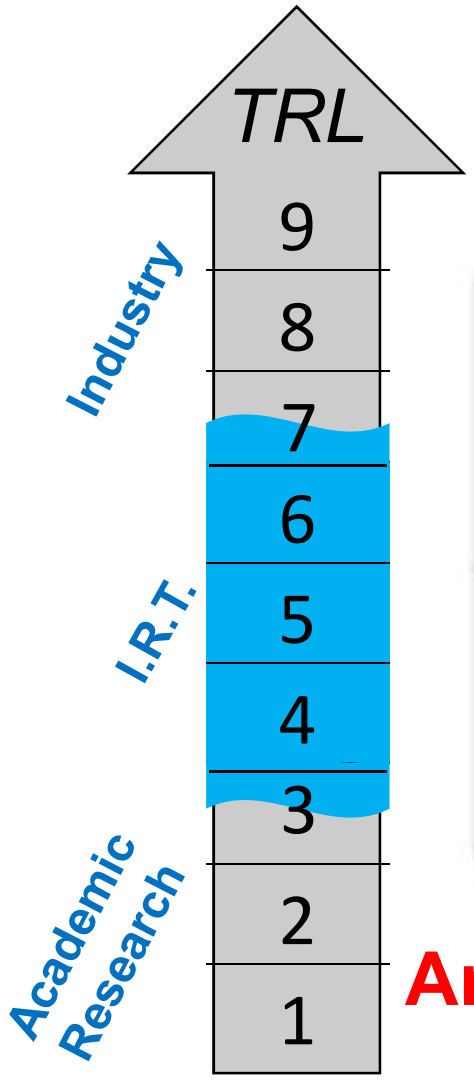
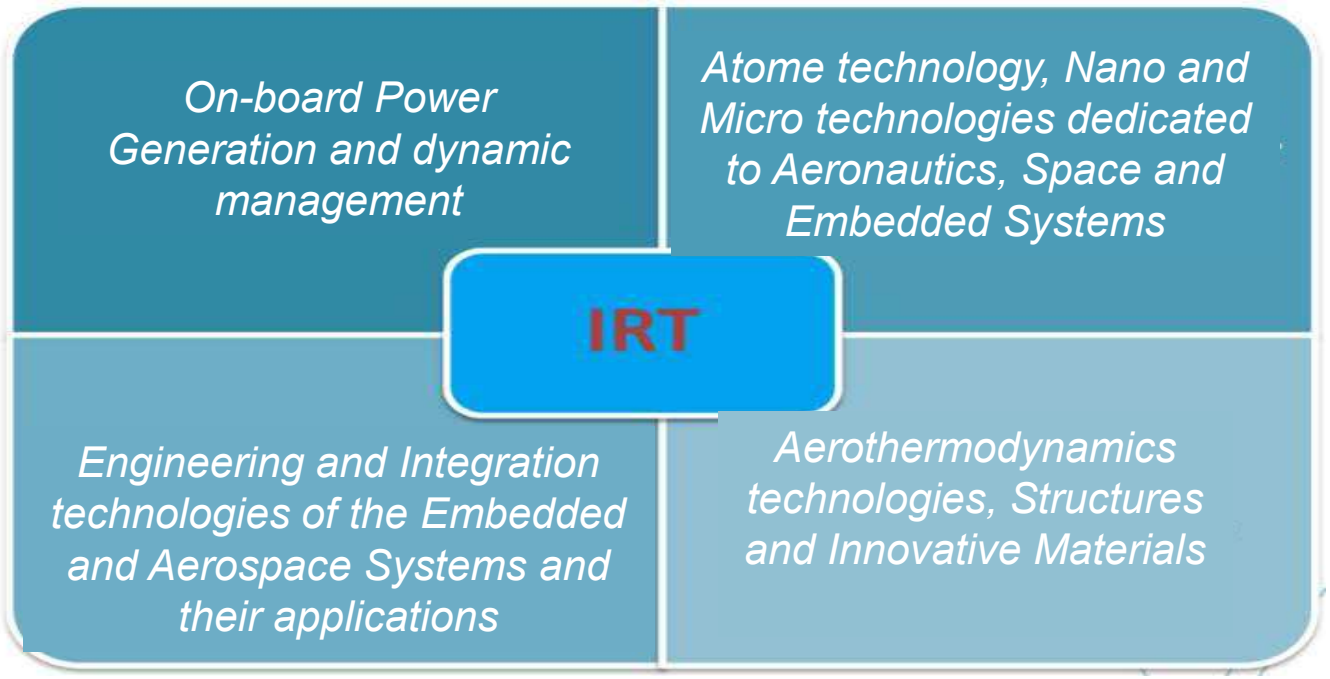
More than 500 Millions €
in R&D programs for the next 10 years



4 Technological Strategic Domains:

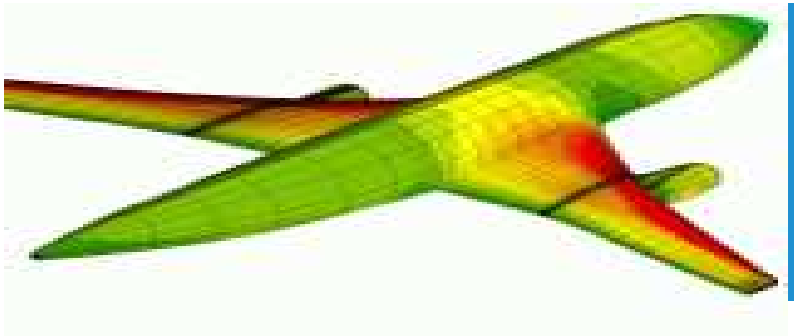


An Unique Set of technological Platforms

Research Programmes and Technological Platforms (1/2)

Research programmes	*Technological Platforms*
TSD Generation and dynamic management of embedded energy	
Power components	Labfab: power component microfabrication platform
Power integration-conversion	Assembly and integration platform
Energy management	Hybrid system test cell
Energy global management	Multiphysical simulation & Hardware In-The-Loop platform
Alternative fuels for aeronautics	Pilot bioreactor and Pilot hydrotreatment

TSD Engineering and integration technologies for embedded systems	
Embedded system	Engineering of critical embedded systems" platform
Intelligent sensors networks	Integration, prototyping and demonstration platform
Electronic robustness	Component characterisation platform
Environmental services	Space Infrastructure and demonstrator of services
Communication Satellites	Satcom & transmission system emulation
GNSS domain	Open mobile platform and In-door test area



Research Programmes and Technological Platforms (2/2)

TSD Atom technology, nanotechnologies and microtechnologies	
Nanomaterials: (2D & 3D)	Nanomaterial heterogeneous integration platform
Multiphysical integration	
Single molecule machines	AtomTech platform

TSD Aerothermodynamic technologies, structures and innovative materials	
Multifunctional materials	integration/characterisation centre and prototyping
Simulation & optimisation	Modular aero-thermo-structure model platform
Aerodynamics, acoustics thermics	
Two-phase thermal management	Test and two-phase thermal demonstration platform
Air-breathing propulsion	Combustion and Propulsion test bench

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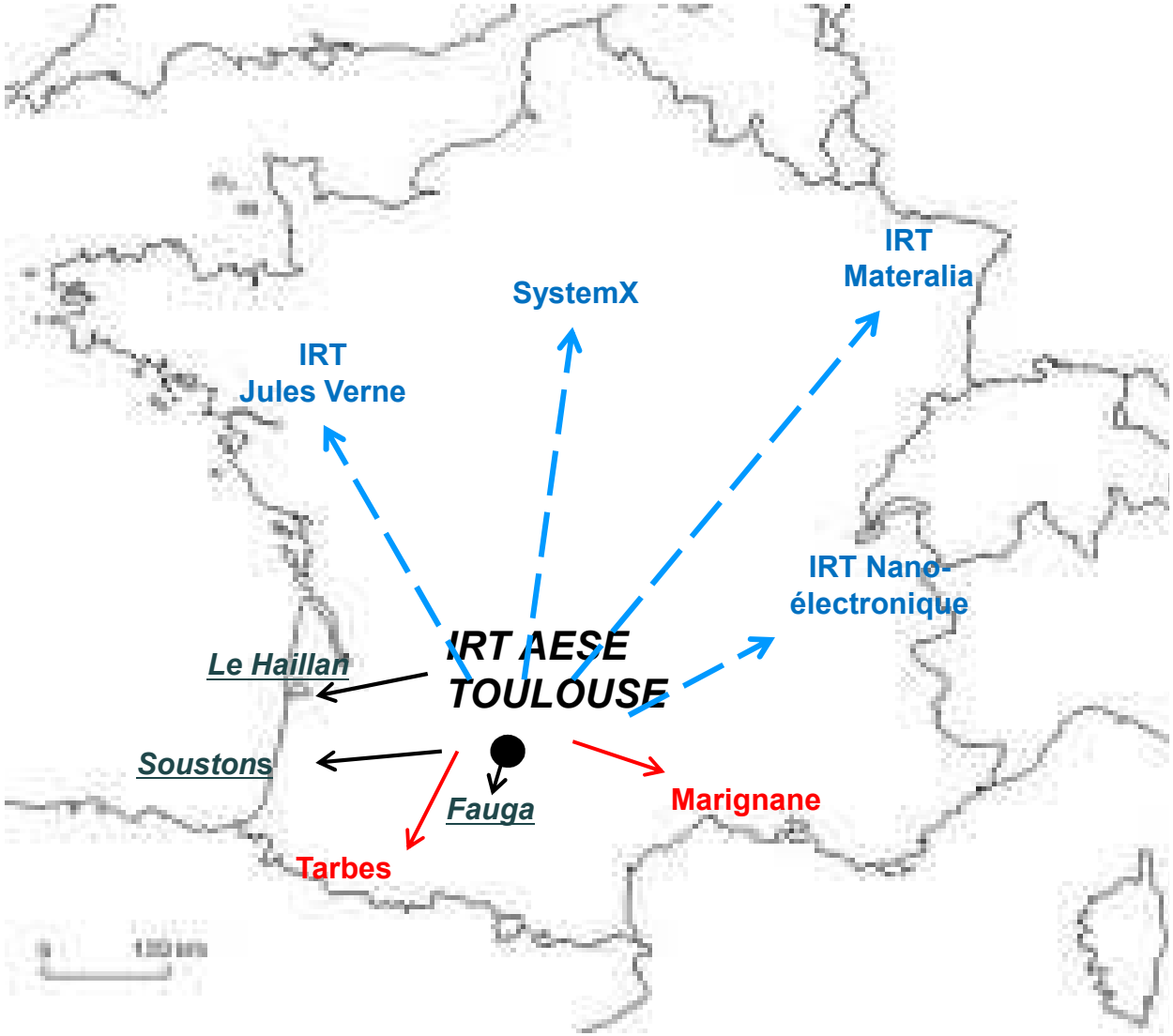
National coherence of the IRT



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Total Funding Estimates

- Estimed fundings (10 years):
  - Investment ~ 100 M€
  - Proper research : 170 M€

- Estimated induced R&T fluxes (10 years) : 250 M€ :