

ACADÉMIE DES TECHNOLOGIES

POUR UN PROGRÈS RAISONNÉ, CHOISI ET PARTAGÉ


Role of the IRTs in France: . An
example of industry-university
cooperation

→ Focus on IRT-M2P.

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Some History

- 2010. Following the 2008 crisis, the French Government wanted to launch a recovery plan. It appointed a task group of politicians led by MM Rocard and Juppé
- Among other recommendations there was a focus on « technological Research »
- They decided to build something new, not only financing existing institutions like CNRS, CEA, Carnot, or “ Centre techniques”.

 IRT (Instituts de recherche technologique) and IEED (Instituts d'Excellence en Energie décarbonnée), now called ITE (Instituts technologiques pour l'énergie).

What is an IRT?

- IRT (institut de recherche technologique) New kind of organization in France
- 50% founded by the Government
- 50% by industry.
- Focusing on TRL 4 to 6
- « industrial-like » equipment's.
- Academic, industry together in the IRT.
- M2P (Material, metallurgy, Process) in Metz.

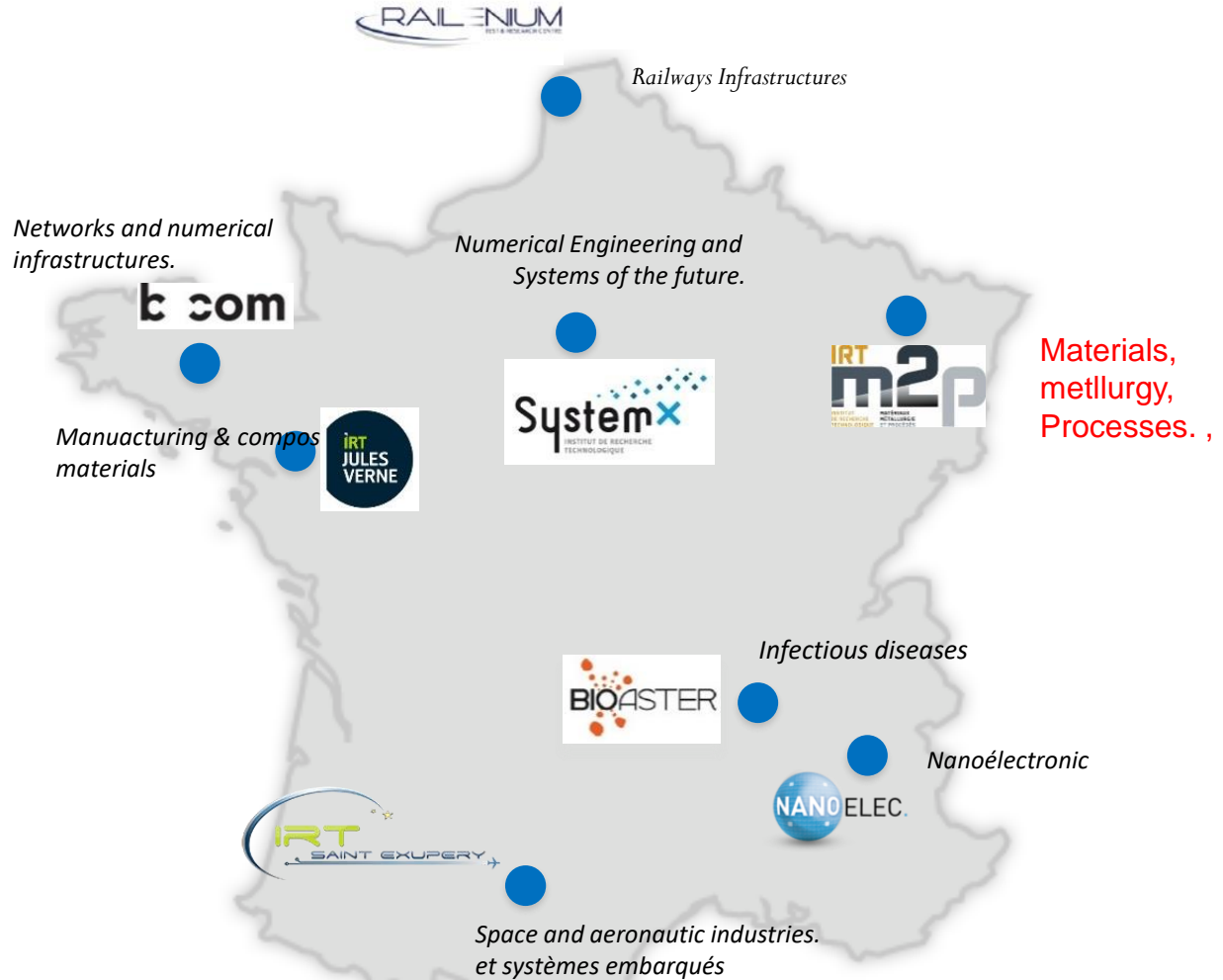
One Project one location, one boss

- Industry, university, work on a same project in a same location.
- Money comes from industry and is doubled by public money. Objective of the project is decided de facto by Industry.
- The project is performed by the IRT with all the money available. The different tasks of the project can be performed in IRT, in University or in Industry.
- Tasks of the project performed in industry should be $< 20\%$ of industrial money put into the project.
- Project leader is from IRT staff.
- Industrial property belongs to IRT.





8 IRT in France



b com

BIOASTER

RAILENIUM
TEST & RESEARCH CENTRE

IRT m2p

IRT SAINT EXUPÉRY

IRT JULES VERNE

Systemx
INSTITUT DE RECHERCHE TECHNOLOGIQUE

NANO ELEC.

What is going on now ?

- A full evaluation of all IRT was performed in 2019 by different ministries and it was decided that the model is efficient and should be continued in the same way at least until 2035 with a new evaluation.
- Top down movements to gather IRTs and other technical institutes: ITE, CEATech, IFPEN, ONERA
 - Building common projects
 - International relationships.

Application of the principles in M2P



- In material science, equipment is key and you need such up-to-date « semi-industrial equipment » to be sure that it is applicable to your already existing products or to develop new products
- Project should be important but not “too strategic” because of intellectual properties issues.
- Sharing with other industries was found to be very efficient: sharing problems and solutions between non competing industries

- 3 industrial leaders (Airplane industry, automotive industry, naval industry) agree to work together on a new emerging technology of surface treatment.
- This technology requires a significant investment.
- Industry leaders gather other companies among their Tier 1 and Tier 2 subcontractors. In this way , a sufficient amount of money can be leveraged. Decision of launching the project is made in the Board of IRT.
- Final approval by the French Administration (Ministry of industry/ Research / sustainable development).
- The tasks in the project involve: Definition and design of equipment, purchasing it, trials on specific model pieces defined by partners. Test of the pieces using standard methods. PhD work to better understand the results of the trials, etc.



Financial aspects

Industrial Partners 100			Public money (PIA) 100		
Budget Projet IRT 160					Common investments 20
					Mutualized expenses 20
Work in academic Insitutes.	Provision of staff of partners < 50	Staff IRT	Work in Industry < 20	Investment Specific expenses of the project	 Not for SMEs

- Board:
 - 6 from industry
 - 5 academics (CNRS + 4 universities)
 - 1 representant of the government (without voting right).
 - Chairman should be from industry.
- Signature of contracts
 - With each partner: general contract specifying the rules and principles inside the IRT (not much room left by the government for negotiation)
 - Approval of a new project by administration is very fast. Less than 3 months. 
 - One contract for each project signed by all partners... (not easy!) 

- Three months discussion with major industrial companies. From guidelines of the government.
- In the end agreement not too difficult to find. Much longer with academics!!!!
- General principle : IP to IRT but use of IP by partners free as long as no industrialization (R&D, etc.)
- In case of industrialization. IP bought from IRT at a “reasonable” price taking into account expenses of industry in the project. Detailed accounting of in and out cash during the project.
- Selling IP to competitors possible after some time and at cost linked to expenses of the project.



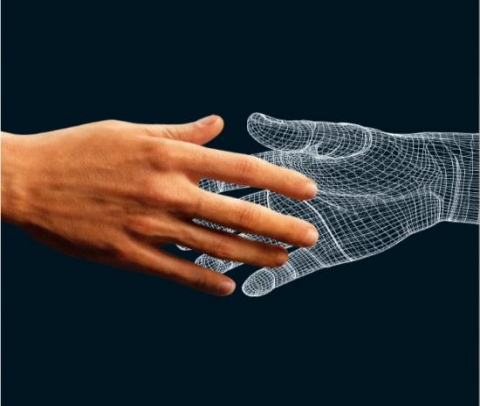
Today situation

IRT-M2P began on June 2013.

- 140 industrial partners (40% SMEs..) among which 20 European companies not located in France.
- 30 platforms operating.
- > 80 Projects realized or on track
- Roughly 15M€ annual budget. 6 M€ by industry following the above scheme, 6 M€ by government (PIA). 3 M€ from other sources: services, European/national/ regional project, IP, etc...
- Local “ecosystem” on materials: SATT, Pôle de compétitivité, Carnot, Technical centers...

- Staff IRT
 - 62 CDI (long term assignments)
 - 15 CDD (short term assignments)
 - 12 PhDs
 - 10 trainees
 - 15 industrial engineers (5 FTEs).
 - 4 academics (1,5 FTE)
- The system of “mise à disposition “ of the staff from industry or university toward the IRT is not very efficient...





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THANK YOU FOR YOUR ATTENTION