

Programmes to promote spin-offs at CEA - Alternative Energies and Atomic Energy Commission, France

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The case study provides a spin-off incubation and company building perspective at CEA, a French government-funded research organisation.

Topics covered

High-tech start-ups, incubator, company building, spin-off support systems

From research to industry

A cross-disciplinary culture of engineers and researchers, building on the synergies between fundamental and technological research.

4 main areas of activity:

- defense and security,
- low carbon energies (nuclear and renewable energies),
- technological research for industry,
- fundamental research in the physical sciences and life sciences.

CEA participates in **collaborative projects** with a large number of academic and industrial partners.

CEA in figures

9 centres

≈ 16 900 employees

5 billions € - civil and defense budget

4,914 publications in peer-review magazines (2017)

1,183 doctoral students and 160 post-doctoral researchers (2017)

704 priority patents filed (2018)

(leading research organisation for patent submissions to the French National Institute of Industrial Property (INPI))

≈ 6,700 patent families in force (2018)

211 start-ups created since 1972 in the field of innovation and technological development

Commercialising scientific research

In accordance with its missions, CEA supports and contributes to business innovation by putting its expertise and technologies at their service.

- CEA's research result form the basis of patent applications.
- For 8 years in a row, CEA among "Top 100 Global Innovators" list of 'the 100 world's most effective innovators'.
- Patent portfolio exploited for technology transfer activities in more than 600 industrial partnerships in 2018
- Our patents also play a driving role in the creation of innovative businesses.
- Strategic marketing group provides bibliometric/patent research service and provides tried-and-tested expertise

Business Creation

CEA also engages in seed funding of start-ups, via its subsidiaries:

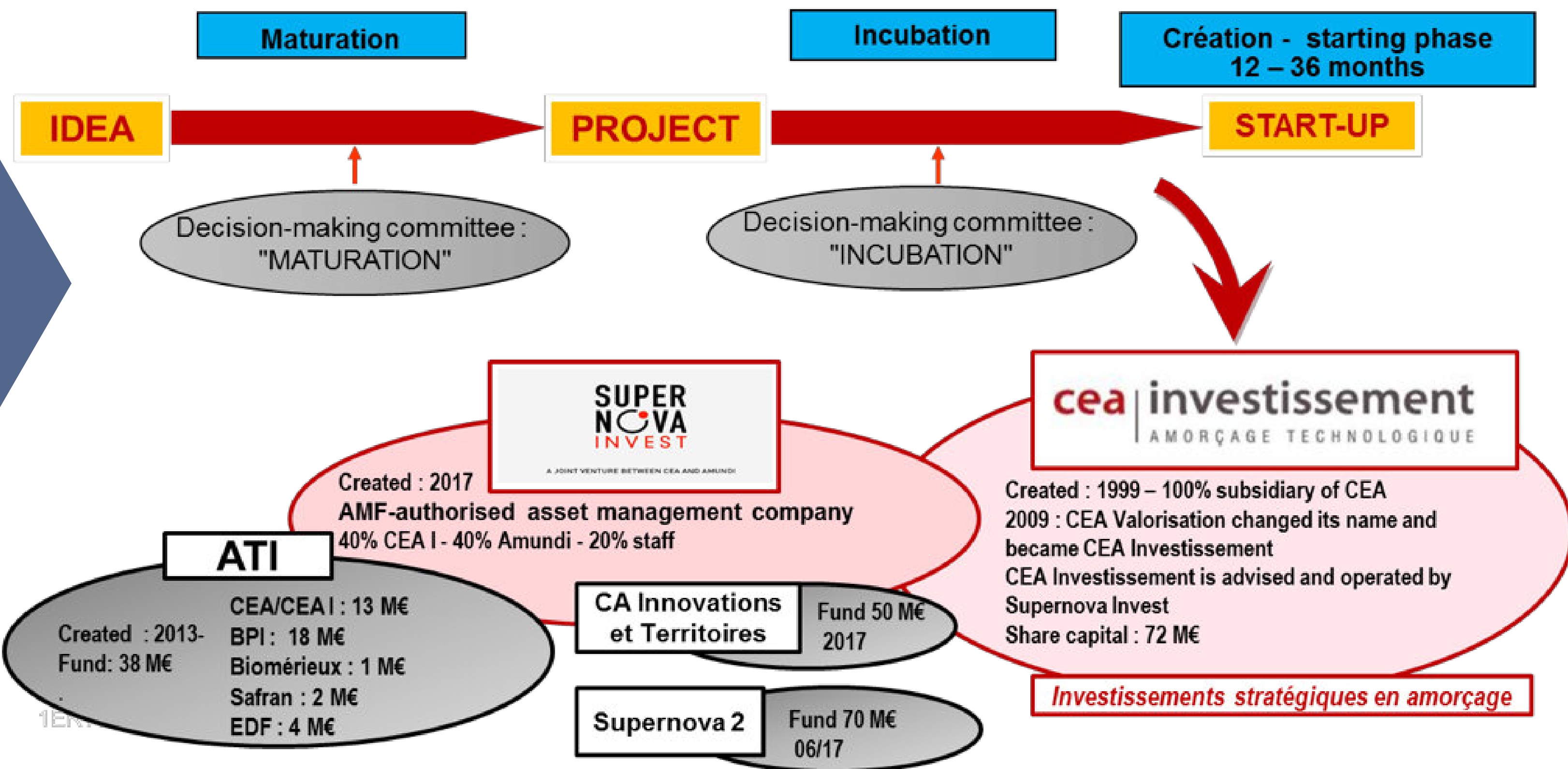
- **CEA Investissement**
- **Supernova* created in 2017** (Investment VC Fund)

Key success factors

- Foster awareness for entrepreneurship
- Detection and maturation of innovative projects using internal review system
- Support for business creation:
 - Assistance in project development
 - Temporary financial assistance for salaries
 - Sharing of facilities
 - Granting personal loans
 - Granting of licenses on patents on favorable terms
- Maintaining close relationships between start-ups and labs
- Financing of start-ups: funds through CEA, venture capital external structures

Steps in creation and development of start-ups at CEA

Projects detected at the earliest stage by the Technology Transfer Offices of CEA and supported by a devoted structure with a proven process.



Interactions with national policy instruments for start-ups

- French Tech and Bpifrance grants
- Public incubators
- Research Tax Credit (Crédit impôt Recherche - CIR)

Impacts

- 2008-17: **103 new startups** created
- **over 90%** still in business
- almost **half have raised financing**
- For some, it is already **several rounds of financing, including IPOs**
- The amounts raised range **from 1 to several tens of millions of euros**,
 - $\Sigma \Rightarrow$ **Direct jobs > 1000 - Turnover 75M€** (update end 2017)

Policy recommendations

Developing attractiveness & entrepreneurship in EU

Helping research, and also engineering, careers to be more attractive for young people.
Fostering awareness actions as regards entrepreneurship.

Strengthening maturation funding

Funding tools for the maturation stage:

- compatible with the stage reached (often company not created yet)
- that do not weaken future financial balance of start-ups (cf. ROI expected)

Reinforce RTOs' facilitator role

RTO have a unique position to bring in financial institution for technological development from early stage on.
➔ Support organizations that have structures for business creation initiatives

Define tailor-made funding tools for start-up

- Compatible with deep tech
- (Risk, duration... strategic and long term investment)
- Encourage buy-outs of start-ups by European players (versus foreign players)