Institut National de **Physique Nucléaire**
et de **Physique des Particules**

Harmonising the French Computing Landscape

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Computing Challenges in France

- Fragmentation (communities, technical, financial)
  - CNRS (10 institutes)
  - CEA, INRIA, INSERM, IRSTEA, IFREMER, Universities...
- Interoperability (access, exchange, communities)
- Business model
- Policies & Standards

CODORNUM

comité d'orientation du numérique

- 4 national computing centers coordinated through GENCI: TGCC (CEA), CINES (Univ.), Idris (CNRS/INS2I), CC-IN2P3 (CNRS/IN2P3)
- 39 'meso-centres' (regional)
- 4 national committees under CODORNUM:
- Infrastructures (InfraNUm), IT systems (SIESR), Documentation (BSN), Training & education (Formation)

CODORNUM

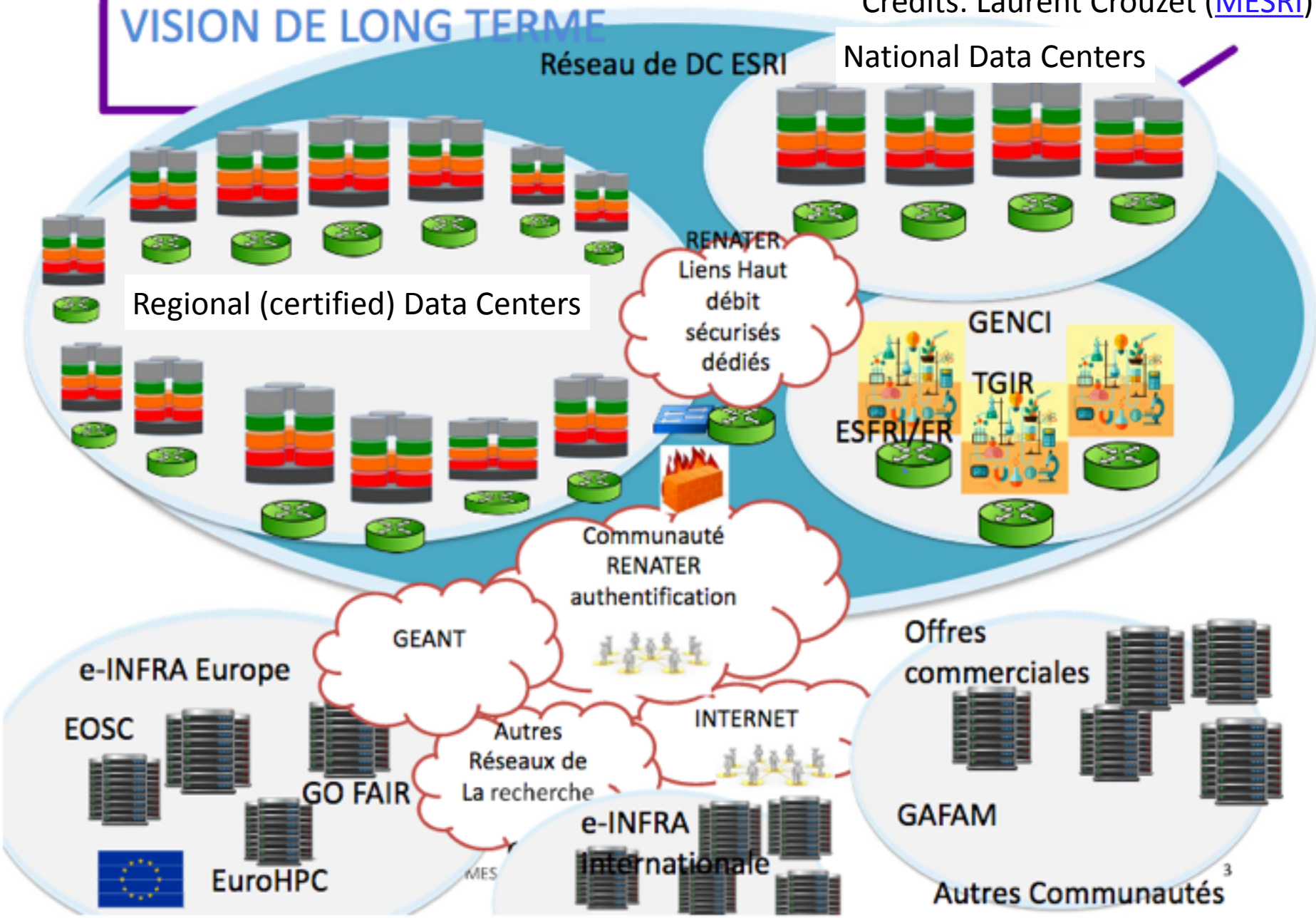
comité d'orientation du numérique

INFRANUM task:

- Identify national data centers
- Identify 13 regional data centers

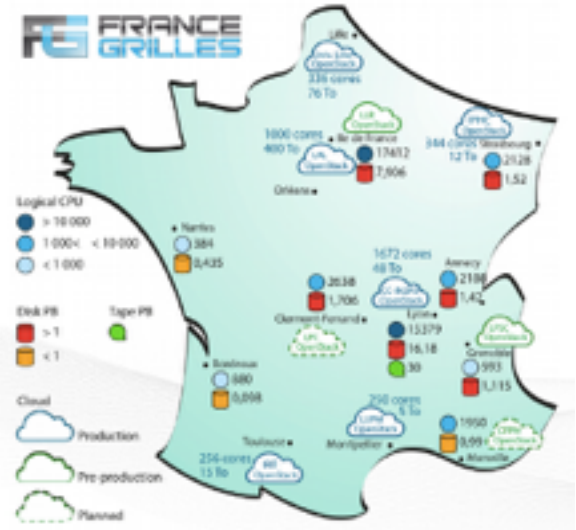
Large Computing Infrastructures for Research, Innovation, Education

Credits: Laurent Crouzet (MESRI)



FR-Tier-2
A French Open Science Cloud

- Seamless access to HTC / HPC
- Distributed data access
- Coordination Tier-1/Tier-2 and Tier-2/Tier-2
- CC-IN2P3, CINES, IDRIS, meso-centres
- Plan: base FR-T2 on France Grilles
- First step: include new partners in existing France Grilles structure
- PiCo2



FR-Tier-2
A French Open Science Cloud

- Structure and coordinate French computing infrastructure
- FR-T2 should focus on infrastructure, supporting the FAIR principle
- Serve as national contact point for EOSC, EGI, EUDAT, ...

Preparing for the future

- MICADO (mission calcul & données): coordinate computing aspects on CNRS level
- White book on data treatment at CNRS (« Livre Blanc sur les données au CNRS: Etat des lieux et pratiques »)
- COCIN (CNRS + other national institutes)
- Summarizing the infrastructure needs on the national level: Comité besoin en calcul → report (with numbers) this summer
- Enforcing standards: e.g. DMP (SMP), Digital Object Identifier (doi)

- French initiative for artificial intelligence
- Main drivers: individual/preventive medical treatment, autonomous mobility
- Coordination for FET flagship program (1 billion €)
- Training / education
- French centralised infrastructure to support AI
- Support SME, e.g. investment in 10 start-ups (250 M€)
- Ethics aspect
- See e.g. interview with Emmanuel Macron in WIRED

Summary

- Similar challenges as for the EOSC
- Fragmentation, interoperability, business model
- Infrastructure: identify and certify key infrastructures
- Create open science cloud (FR-T2)
- Create national vision, roadmap, cost estimate
- Push key technologies (e.g. AI)
- Training & education