

# The Carnot network

A bridge between  
the worlds  
of research  
and business



Research  
for industrial  
innovation

# Carnot is positioned at the nexus of the research partnership ecosystem

The Carnot network is the largest French public research force focused business innovation. It brings together 35,000 R&D professionals throughout 39 institutes accredited by the French Ministry for Higher Education and Research, who collectively pursue a core mission: preparing the economy and industry of tomorrow by partnering the strategies of companies wishing to gain a competitive advantage through innovation.

The Carnot network accounts for 55% of all corporate-funded French public R&D, and 20% of French public researchers. Every year, Carnot signs over 11,000 direct R&D agreements throughout all sectors of the economy and launches around a hundred tech start-ups. The network offers a comprehensive range of solutions enabling businesses to connect with and work in partnership with academic research.

“France’s technological and scientific sovereignty depends on the ability of its businesses to innovate and prepare the technologies of tomorrow. The Carnot Institutes provides them with a privileged gateway into all areas of public research. Thanks to the commitment of the Carnot Institutes, the network plays a key role in helping companies tackle the challenges they face in preparing the economy and industry of tomorrow.”



**Alexandre BOUNOUH**  
President, Association of Carnot Institutes

# The Carnot Institutes: a unique and exemplary model

The Carnot network has a unique feature: it provides businesses with access to a veritable network that harnesses the very best of French public research.

Every year, businesses spend some €35 billion on R&D. Of this €35 billion, €1.1 billion goes on partnership-based research, i.e., research entrusted by businesses to public bodies. Carnot accounts for 55% of these volumes.

The Carnot Institutes make quantitative and qualitative commitments to develop their research partnerships

with businesses. They perform the actions deemed necessary to meet their objectives, and receive government funding based on actual results.

These actions involve the scientific resourcing needed to prepare the strategies of tomorrow, as well as continuous improvement initiatives to achieve ever greater professionalism and strengthen network operation.

## KEY FIGURES

**11,000**

**DIRECT R&D AGREEMENTS**  
signed each year with businesses,  
of which 40% are with SMEs  
and mid-caps

**A CUMULATIVE  
AMOUNT OF  
600 M€**

in direct R&D  
agreements

**35,000**

**WORLD-CLASS  
RESEARCH  
PROFESSIONALS,**  
i.e., 20% of French  
public researchers

**1,150**

**PRIORITY PATENTS**  
filed during the year  
(largest patent filer in France)

**28,500**

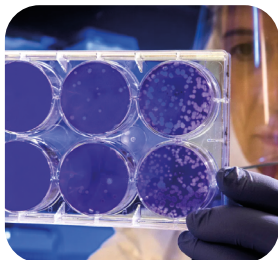
**TOP-TIER PUBLICATIONS**  
throughout the year  
in all scientific domains

**+ 100**

**TECH START-UPS**  
created every year

# The specific features of the Carnot

An operational coordination structure  
serving all 39 Carnot institutes



## A coordination structure:


Association of Carnot Institutes is in constant contact with its 39 member institutes, facilitating networking and exchanges between them, especially by sharing best practices to ensure ever-greater professionalism in partnership-based relations.

 The Carnot Institutes are unique in the French research and innovation landscape because of their ability to get complementary research teams to work

together and to unlock the synergies needed to come up with R&D solutions to the major challenges facing companies in different economic sectors.

 The network covers a broad spectrum, meaning it can provide R&D solutions for businesses in all sectors of the economy.

 The network is present across the entire TRL chain, from basic research to the prototyping that paves the way for market launch.

 A proactive approach to businesses based around dedicated events like **Rendez-Vous Carnot**, participation in key events such as Global Industrie, or themed trade fairs at which the relevant Carnot institutes present the network's offer to companies in the field.

 “Made in France” R&D, a decisive resource in pursuit of technological sovereignty.

# Leveraging the power of the network for different industries

An illustration of the network's ability to gear up to meet the needs of businesses in different sectors.

To boost their capacity to respond to the expectations of industry – formulated in particular by the different French Industry Strategy Committees – and to the major challenges identified by the Government through acceleration strategies and the France 2030 investment programme, the Carnot institutes come together



to build, pool and unlock synergies between their different expertise and resources. An initial phase, conducted from 2015 to

2019, revealed all of the dynamism of the Carnot institutes working in eight different industrial sectors, with an 85% increase in the number of R&D contracts signed with SMEs and mid-caps. Since 2020, Carnot has been building on this momentum by leveraging 14 groups to set ambitious targets, each focusing on a specific economic sector.

## AWARDS

### THE CARNOT RESEARCH PARTNERSHIP AWARDS

The Carnot Research Partnership Awards were created in 2022 to showcase outstanding research partnerships between a Carnot Institute and a business from among the 11,000 R&D agreements signed every year.

The awards aim to give due recognition and reward to researchers in the Carnot network working day in, day out to develop cutting-edge innovations for businesses.

They are awarded at Rendez-vous Carnot events. Every year these events bring together researchers from the Carnot network and businesses. The 2023 edition of Rendez-vous Carnot has welcomed over 2,000 participants and facilitated 8,000 one-on-one meetings.



## Auvergne- Rhône-Alpes

- 3BCAR
- ARTS
- CALYM
- CEA LETI
- Cetim
- Clim'adapt
- Cognition
- Eau et Environnement
- Énergies du futur
- France Futur Élevage
- IFPEN Ressources Énergétiques
- IFPEN Transports Énergie
- Ingénierie@Lyon
- Inria
- LSI
- M.I.N.E.S
- MECD
- MICA
- OPALE
- Plant2Pro
- PolyNat
- Qualiment
- Télécom & Société numérique

## Bourgogne- Franche-Comté

- ARTS
- Clim'adapt
- Cognition
- OPALE
- Plant2Pro
- Qualiment
- Télécom & Société numérique

## Bretagne

- AgriFood Transition
- ARTS
- CALYM
- Clim'adapt
- France Futur Élevage
- Inria
- MERS
- MICA
- Plant2Pro
- Qualiment
- Télécom & Société numérique

## Centre- Val de Loire

- Cetim
- Clim'adapt
- France Futur Élevage
- MECD
- OPALE

## Grand Est

- 3BCAR
- ARTS
- Clim'adapt

# A network with a footprint in every region



- Icéel
- Inria
- MICA
- Télécom & Société numérique

## Hauts-de-France

- ARTS
- Cetim
- Clim'adapt
- Cognition
- Inria
- MERS
- M.I.N.E.S
- MICA
- OPALE
- Plant2Pro
- Qualiment

## Île-de-France

- 3BCAR
- AP-HP
- ARTS
- CALYM
- CEA LIST
- Cetim
- Clim'adapt
- Cognition
- Curie Cancer
- Eau et Environnement
- France Futur Élevage
- Icéel

- IFPEN Ressources Énergétiques
- IFPEN Transports Énergie
- Imagine
- Inria
- Institut du Cerveau
- IPGG Microfluidique
- M.I.N.E.S
- MECD
- OPALE
- Pasteur MS
- Plant2Pro
- PolyNat
- Qualiment
- Télécom & Société numérique
- Voir et Entendre

## Normandie

- AgriFood Transition
- CALYM
- Clim'adapt
- ESP
- I2C

## Nouvelle Aquitaine

- 3BCAR
- ARTS
- CALYM
- Clim'adapt
- Cognition

- Eau et Environnement
- France Futur Élevage
- Inria
- ISIFoR
- MECD
- MICA
- OPALE
- Plant2Pro
- PolyNat

## Occitanie

- 3BCAR
- CALYM
- Chimie Balard Cirimat
- Clim'adapt
- Cognition
- Eau & Environnement
- France Futur Élevage
- Inria
- ISIFoR
- M.I.N.E.S
- MECD
- MERS
- OPALE
- Plant2Pro
- Qualiment

## Pays de la Loire

- AgriFood Transition
- ARTS
- CALYM
- Cetim
- Clim'adapt
- France Futur Élevage
- Inria
- MERS
- MICA
- M.I.N.E.S
- Qualiment

## Région Sud

- 3BCAR
- ARTS
- CALYM
- Clim'adapt
- Cognition
- Eau et Environnement
- Inria
- M.I.N.E.S
- OPALE
- Plant2Pro
- Qualiment
- STAR
- Télécom & Société numérique





# What they are saying about the Carnot institutes

"Predict Services is a 35-people organisation that wishes to remain small, operational and very agile. Despite the scale and power of the Cerema/Carnot Clim'adapt Institute, we definitely encountered agility and responsiveness in the way it works. This much-talked-about public-private partnership – concerning an extremely virtuous subject that has generated major expectations – has enabled us to move very quickly in a highly practical and operational manner."

**Alix ROUMAGNAC**  
CEO, Predit Services



"I really appreciated what good listeners Carnot Ic  el were. After just one call, my contact was able to direct my request to the labs and technical centres relevant to my project. We were really encouraged by how fast they moved. "



**Nicolas P  LISSIER**  
CEO, 45-8 Energy

"Collaboration between Agilent and Institut Curie/Carnot Curie Cancer Institute, paved the way for fast, accurate tumour mapping, revolutionising diagnosis and patient care. This would not have been possible without the collective effort that combined Institut Curie's expertise in genetics and bioinformatics with Agilent's expertise in instrument design, leading-edge scientific reagents and the development of customised projects."

**Claude REVEL**  
Market Specialist, Agilent Technologies





## **The Carnot network**

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