Inria Site Strategy: building leading centres of academic research *with an international reach*



RECHERCHE

ÉCOLES

UNIVERSITÉS

INDUSTRIE

Inria

The **Ambition 2023** "objectives and performance" contract, signed in February 2020 by Inria and its supervising ministries, lays out the Institute's strategy for the period 2019-2023. This ambition is in keeping with Inria's historic identity, embodied in the Institute's motto: **"scientific excellence and transfer."**

This performance and objectives contract commits the Institute to a new phase giving priority to impact – scientific, technological, economic and societal – and an overarching purpose of **constructing our scientific, technological and industrial leadership within and by means of digital technologies, both in France and in Europe.**

Within this context, Inria's ambition is to work with our academic partners to **build new momentum around our site policy in order to contribute to the development of "major university research sites"** in France, with international standing. The French government has asked its national operators, in particular the Public Science and Technology Institutes (EPST), to take part in this. **Inria is convinced** that success in achieving this goal depends on **the networking of the entire ecosystem of higher education, research and the world of entrepreneurship around the pivotal university of the local territory, with a joint training, research and innovation strategy defined by and for digital technologies, and a shared roadmap.**

With this new contract, **Inria is ready to play a driving role in our local territories.**
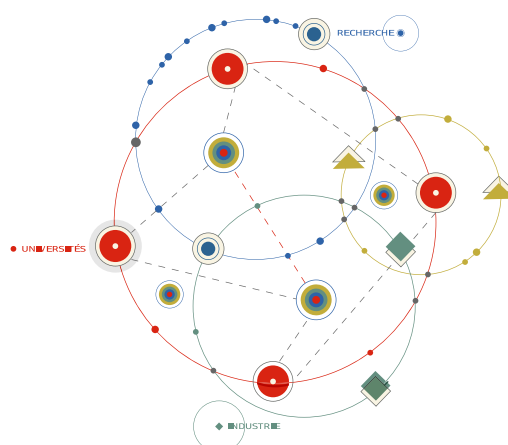
⦿ The origins of the site strategy

To understand **this proactive policy of institutional clustering since the initial efforts headed by François Goulard,** then Secretary of State for Higher Education and Research, who established the Research and Higher Education Hubs (PRES)[1] in the mid-2000s, a policy pursued by subsequent governments, we need to look back further into the history of France's universities[2]. It would take far too long to go all the way back to the emergence of the first universities in the Middle Ages, their demise during the French Revolution, the birth of the Grandes Ecoles, the return of the Imperial University in 1808 (with a greater emphasis on teaching at the expense of research), the abolition of the Faculties in 1968 and their replacement with interdisciplinary training and research units, etc.

Nevertheless, **it is worth dwelling a little on 1968,** when Minister for National Education Edgard Faure oversaw the administrative reform of the universities[3]:

- granting each institution greater autonomy by revising their governance structures, and creating the "lecturer-researcher" professional status,
- abolishing the faculties,
- establishing new interdisciplinary training and research units, renamed training and research units (French UFR) in 1984.

"The universities are henceforth composed of units defined in the ministerial decree of 31 December 1968, units created by the transformation or division of existing units as set out in this text." [3]

One consequence of this reform was the creation of "thematic" universities, which meant that there could often be multiple universities within a given territory (four universities in the city of Bordeaux alone, for example). This reform established French universities as we now know them, although the "Faure Act" was technically superseded by **the Education Code**[4] in 2000, specifically its third section (establishing the Bachelor, Master, Doctorate structure, introducing the legal status of "public institutions of a scientific, cultural and professional nature"), since modified by the series of acts known by the acronym LRU (for Loi relative aux libertés et responsabilités des universités; the Freedoms and Responsibilities of Universities Act).

At the same time, or very nearly, IRIA[5, 6] was established under the banner of the **Plan Calcul (Computer Plan) strategy (1967), placed under the command of the Ministry for Industry** and tasked with *"guaranteeing national autonomy in information technologies"* and *"developing a European computing sector."*[7] Promoted to the rank of national institution with the establishment of Inria in 1979[8], from the outset the Institute staked out its position at the interface between the academic and industrial spheres, and established itself as a driving force behind research and digital innovation in France and Europe.

Public-sector research was defined as a national priority in the **Programming and Direction of Research Law of 1982[9],** intended to galvanise public research in France by allocating resources specifically with reference to national priorities. It was in this context that the statutes of the country's research bodies were aligned, and the EPST label (Public Science and Technology Institutes, a status assigned to Inria) was created, along with the official status of "researcher." Of the four principal EPST institutions (CNRS, INRA, Inria, INSERM), three were placed under the dual supervision of the Ministry of Research and a second ministry pertinent to their field of expertise: the Ministry of Industry for Inria, the Ministry of Agriculture for INRA and the Ministry of Health for INSERM.

In short, France has seen it fair share of legislation designed to make the country a buzzing hub of public research and future-facing innovation.

The Savary Law[10] of 1984 preserved the broad outlines of the Faure Law of 1968, while also kickstarting the reconfiguration of **France's universities,** with a particular emphasis on opening them up to the outside world. This new law defined the four great missions of the higher education sector, implicitly affirming the connection between higher education and research: i) initial training and continuing education; ii) scientific research; iii) the dissemination of scientific culture and scientific and technical information; iv) international cooperation.

◉ Inria's contribution to reshaping higher education and research

Inria truly staked out its place in France's research sector in the late 1980s and 1990s. **Renowned for its agile and much-emulated decentralised project-team model,** the Institute continued to establish new partnerships within the academic sphere. Inria has always placed great faith in the synergy which can be achieved between the specificities and complementarities of multiple stakeholders, to boost research efforts.

Since the turn of the millennium, as international competition has become increasingly intense, **the Institute has worked constantly to strengthen its partnership strategy, joining forces with universities,** Grandes Écoles and other research institutions to further France's research efforts in the field of digital sciences and technologies.

In 2000, Inria signed up to a "means and objectives contract" with the national government, which included plans to double the size of the Institute over the ensuing decade in order to rise to the challenges foreseen as a result of the boom in digital technologies. In return for this vast increase in funding, Inria undertook to establish three new research centres (heralding the arrival of «Futurs,» a research centre spanning three distinct territories and incubating three future Inria centres) and expand the number of joint project teams operating with partner universities, in order to galvanise France's engagement with "Information and Communication
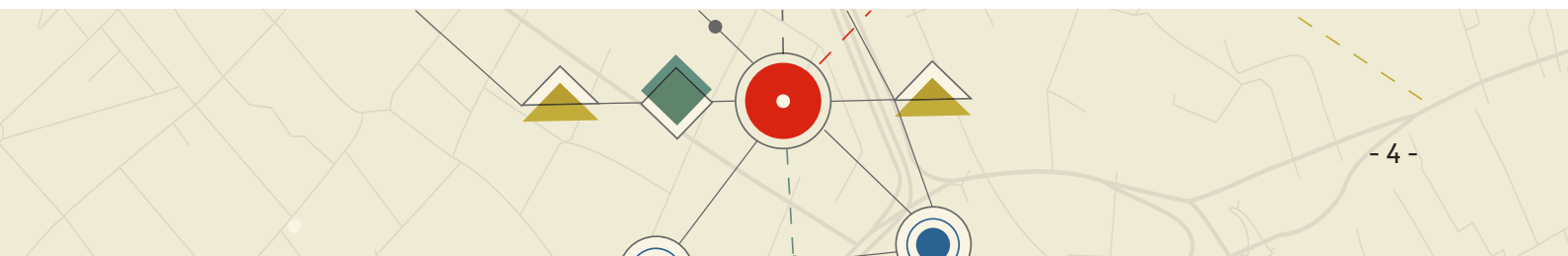
Technology and Science" (ICTS). Inria thus laid the foundations for "long-term collaborations with other institutions of research and higher education," and in doing so established the Institute's role in the drive to create national research sites, a role **reaffirmed in successive government contracts down to the present day.**

⦿ Building world-class university sites

Meanwhile, **the first academic league table of the world's universities was drawn up in 2003** at <u>Shanghai's Jiao Tong University</u>[11]. The Shanghai Ranking has gradually come to be accepted as the international benchmark, and many institutions are keen to secure a place on the list in order to boost their reputation and attractiveness. We are now firmly entrenched in the age of <u>the knowledge society</u>[12], with universities caught up in the competition between States and, more broadly, between blocs.

The French model of research and higher education is specific and did not enjoy a strong position in the Shanghai Ranking[14]. Successive governments have stepped up their efforts to create university clusters, **adopting a site-focused strategy intended to raise their international visibility and standing,** and in doing so to improve French universities' chances of competing on a global scale. The 2000s thus saw a series of laws intended **to expand France's universities,** bring teaching and research closer together, and attract new talent:

➔ **2006:** the Research Programming Law established the concept of **Research And Higher Education Hubs** (PRES), clusters of private or public-sector, French or European research and/or higher education institutions, centred upon a leading university. Over the next six years, 27 PRES were established.

This legislation wrote into law the terms of **the Research Pact**[14], which constituted a thorough overhaul of the national research and innovation system, and promoted a comprehensive research strategy based on cooperation among all stakeholders.

➔ **2007:** the **<u>Pécresse Act</u>**[15, 16, 17] on the organisation of French universities heralded a major reform of the university system, greatly increasing the autonomy of universities and their chancellors. This policy enabled universities to make more important strategic decisions, strengthening their structural cohesion and attractiveness.

➔ **2008:** the launch of the **<u>Campus Strategy</u>**[18] further clarified the ongoing transformation of the higher education landscape. This sweeping new operation for the management of universities' property assets was unique, marking the first time in history that the national government had explicitly drawn the connections between its scientific ambitions and its ambitions in terms of university facilities. The aim was to foster the emergence of 12 university hubs of international importance[19], accelerating the process of clustering while also addressing real estate issues, problems relating to life on campus and the need to nurture the development of the territories within which our universities exist.

➔ **2013:** the **<u>Fioraso Act</u>**[21] further clarified the ongoing restructuring of France's higher education and research landscape. Henceforth there would be just three
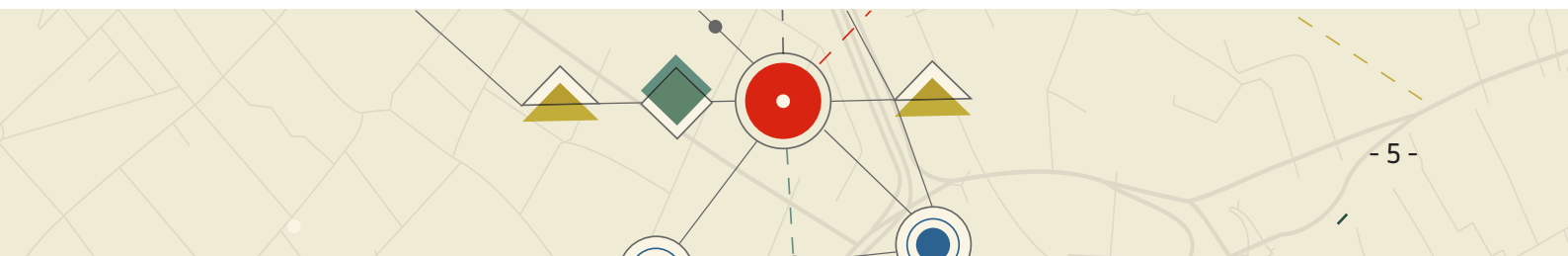
approved legal models (merger, association, federation or community) for grouping together institutions within a given territory, with the coordinating role necessarily occupied by an institution of higher education (except in the Île-de-France region) and a single site contract drawn up to replace the diverse array of institutional contracts used in the past. These changes naturally paved the way for a new National Strategy for Higher Education[22] (StraNES) and a National Strategy for Research[23] (SNR), setting out the road map for higher education and research over the next decade. With only merged universities and ComUEs now eligible to apply for IdEx funding and the I-SITE Future Investment Programmes 1 & 2 (see Part 4), the institutional landscape of higher education and research in France continues its gradual transformation.

➜ Most recently, **the Research Programming Law 2021 – 2030**[24], adopted in December 2020 and championed by then-Minister for Higher Education, Research and Innovation Frédérique Vidal, not only seeks to improve the funding and assessment of research; it also strives to make careers in the sector more attractive. This multi-annual legislative framework includes new professional statuses for academics, and further defines the contours of the higher education and research landscape with its focus on bringing together national research bodies and universities in the pursuit of territorial strategies.

## ⦿ Inria's contribution to structuring local ecosystems

Inria had already built up a strong territorial network with its first five research centres, and continued to strengthen its ties with local academic ecosystems throughout the 2000s, establishing itself as a key presence on the major university research campuses: the majority of the Institute's 200 project teams are joint ventures with universities, Grandes Écoles or research agencies. **With the launch of the "Futurs" entity in 2008, Inria established three new centres** thanks to direct partnerships with Paris-Sud University and the École Polytechnique for the Inria Futur centre at Saclay, with the University of Bordeaux campus in Talence for the Bordeaux centre, and with the University of Lille-Villeneuve d'Ascq for the Lille centre.

Inria and university clusters

List of the seven ComUE consortia of which Inria is a member:

1. Communauté Université Grenoble Alpes
2. Comue Lille Nord de France
3. Paris Sciences & Lettres
4. Paris-Saclay University
5. Sorbonne-Paris Cité University
6. Côte d'Azur University
7. Bretagne-Loire University

Source: DGSIP, ComUE list 2019
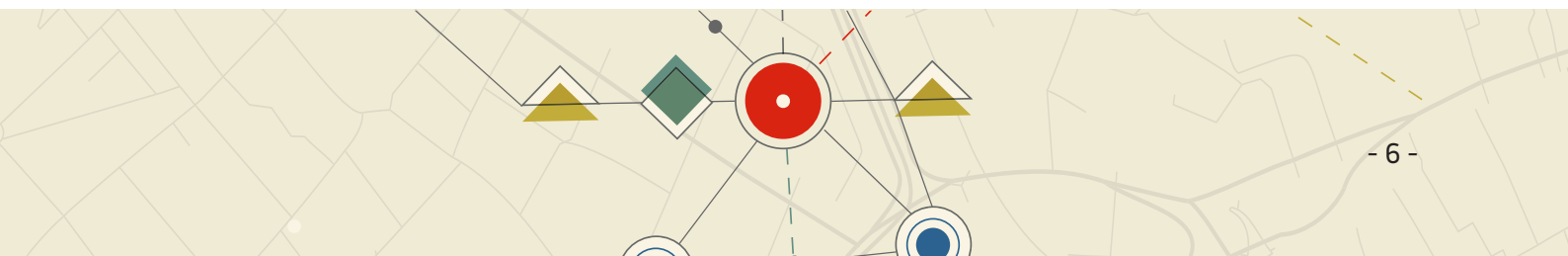
➔ **In 2009, Inria signed a framework agreement with the Conference of University Chancellors** (CPU), committing to *"work together to help define and implement a national scientific strategy […] designed to support the development of site strategies in partnership with local stakeholders […] The CPU and Inria agree upon the need for an overarching partnership framework for the working relationships between Inria and each institution represented on the CPU."*

➔ From 2010 onwards, as noted above, the clustering process continued apace with the creation of the **Future Investment Programmes (PIA 1 & 2)[25]**. Inria thus became a member of seven ComUE consortia, making it the second most-represented institution in France's ComUEs, behind the CNRS. Inria is also an active participant in seven successful Idex programmes (out of a total eight) and four I-Sites (also of eight). The latter is an incentivising innovation policy designed to help France boost its potential for economic growth and development. A sizeable proportion of these investments is devoted to supporting higher education through research and innovation, fostering the emergence of university centres with an international reputation for excellence. Funding has thus been channelled into:

- **Initiatives for Excellence**[26], (IdeX) *"research universities of global standing, with academic capabilities and impact of the highest order in broad areas of knowledge;"*

- **EquipEx,** Facilities for Excellence, a programme designed to ensure that France is equipped with first-rate scientific infrastructure jointly operated by multiple research stakeholders and LabEx[27], laboratories for excellence providing research units with greater visibility to make them more attractive, more innovative and more competitive on the international stage (e.g. CominLabs[28]).

This system is still in place, and in 2019 Frédérique Vidal announced the renewal of 103 Labex contracts for a five-year period[29].

- **I-SITEs[30]** (Initiative-Science-Innovation-Territories-Economy) are *"universities with more thematically-specific scientific strengths, distinctive assets which are internationally-recognised, at once driving forces and point of reference in their development strategies and their partnerships with the economic sphere."*

Inria is involved in a dozen Equipex programmes, including:

Digiscope // Equip@meso // FIT // Robotex // Sense-City // KINOVIS // Tirrex // PRESENCE // MesoNet // Continuum // Espadon...

Inria is partnered with numerous LabEx projects, including:

CominLabs // Digicosme // LabEx Mathématique Hadamard // Cemosis // PERSYVAL-Lab // Numev // Signalife...

These political incentives have engendered a wave of structural reconfiguration among the various actors who make up local ecosystems, seeking more effective and more innovative ways to respond to national calls for projects. This connection between national objectives and local ambitions is now the foundation upon which shared scientific and educational strategies are built, as local stakeholders in the research and higher education sectors continue to strengthen their collaborative efforts.

Conclusion

Inria has always sought to adapt to the constantly-evolving landscape of France's research sector, and the strategic changes made by the government, while also protecting the interests of our Institute and our people. We are committed to the spirit of collective development, adopting site strategies which will help France's leading universities to continue their rise, championing our project-team approach to structuring research and innovation.

Inria is now preparing to enter a new phase, strengthening our contribution to these site strategies by signing new partnerships with the universities that are the longstanding partners of the Institute's Centres, committing to a joint strategy and a shared road map. In doing so Inria hopes to foster the emergence of world-leading centres of academic research in digital sciences and technologies. **The future of France's universities is already being shaped by such collective dynamics,** informed by the principle of cooperation and co-construction whereby each stakeholder (universities, Grandes Écoles, national research agencies, industrial partners, local authorities) remains autonomous, while putting their know-how and specific expertise at the disposal of their partners, united by a shared strategic vision. Inria has a prominent role to play in this national strategy, and remains unequivocally committed to strengthening the ecosystems of our leading university campuses within and by means of the digital world.

This new strategic position was cemented in the signing of the first strategic partnership between Inria and Sorbonne University in July 2021. Five more partnerships were formed in the second half of 2021, with Côte
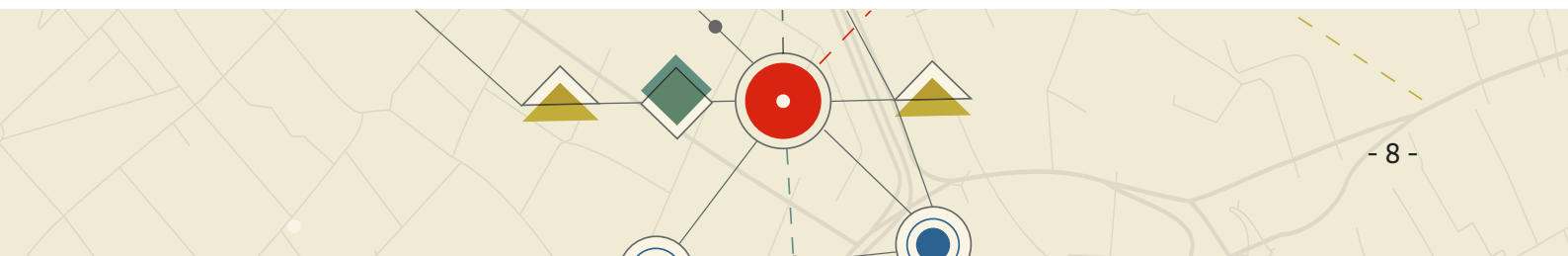
d'Azur University, the University of Bordeaux, the Institut Polytechnique de Paris, Paris-Saclay University and the University of Lille, followed by the University of Rennes 1 in January 2022 and the University of Grenoble Alpes in mid-July 2022. These contracts belong to a new generation of cooperation agreement, involving the creation of Inria centres within the universities where the Institute will run research and innovation operations on behalf of our partners and under the banner of a joint "training, research and innovation" strategy. They also serve to reaffirm the strength of our organisational model and our impact strategy, capable of adapting flexibly to the models of our local partners **to serve the best interests of all involved.**

Notes

[1] https://fr.wikipedia.org/wiki/Regroupement_universitaire

[2] https://www.vie-publique.fr/loi/20671-enseignement-superieur-recherche-langue-etrangere-anglais-cours-en

[3] https://www.senat.fr/rap/l06-372/l06-3722.html

[4] https://fr.wikipedia.org/wiki/Loi_Faure

[5] https://fr.wikipedia.org/wiki/Code_de_l%27éducation

[6] https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000000519325

[7] https://www.inria.fr/fr/notre-histoire

[8] https://fr.wikipedia.org/wiki/Plan_Calcul

[9] https://www.inria.fr/fr/notre-histoire

[10] https://www.legifrance.gouv.fr/loda/id/LEGISCTA000006099953/

[11] https://fr.wikipedia.org/wiki/Projet_de_loi_Savary

[12] https://fr.wikipedia.org/wiki/Classement_académique_des_universités_mondiales_par_l%27université_Jiao_Tong_de_Shanghai

[13] https://fr.wikipedia.org/wiki/Soci%C3%A9t%C3%A9_de_la_connaissance

[14] *« En 2003, les quatre lauréats nationaux étaient Pierre-et-Marie-Curie-Paris- VI (65e), Paris-Sud-Paris-XI (72e), Louis-Pasteur-Strasbourg-I et l'École normale supérieure (rue d'Ulm), classés dans la tranche 102-151. »* Voir article de Libération

[15] https://www.education.gouv.fr/media/17264/download

[16] https://fr.wikipedia.org/wiki/Loi_relative_aux_libertés_et_responsabilités_des_universités

[17] https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000000824315

[18] https://www.cairn.info/revue-francaise-d-administration-publique-2019-1-page-21.htm

[19] https://fr.wikipedia.org/wiki/Plan_Campus [16] https://fr.wikipedia.org/wiki/Loi_relative_aux_libertés_et_responsabilités_des_universités

[17] https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000000824315

[18] https://www.cairn.info/revue-francaise-d-administration-publique-2019-1-page-21.htm

[19] https://fr.wikipedia.org/wiki/Plan_Campus

[20] Les 12 campus sont les campus de Aix-Marseille, de Bordeaux, de Condorcet, de Grenoble, de Lille, de Lyon, de Montpellier, le campus lorrain, Paris, Saclay, Strasbourg et Toulouse.

[21] https://www.vie-publique.fr/loi/20671-enseignement-superieur-recherche-langue-etrangere-anglais-cours-en

[22] https://www.enseignementsup-recherche.gouv.fr/fr/strategie-nationale-de-l-enseignement-superieur-stranes-49604

[23] https://www.gouvernement.fr/sites/default/files/contenu/piece-jointe/2015/11/rapport_strategie_nationale_de_recherche_snr.pdf

[24] https://fr.wikipedia.org/wiki/Communauté_d%27universités_et_établissements

[25] https://www.legifrance.gouv.fr/jorf/article_jo/JORFARTI000042738033

[25] https://www.gouvernement.fr/le-programme-d-investissements-d-avenir

[26] https://fr.wikipedia.org/wiki/Initiative_d%27excellence

[27] https://fr.wikipedia.org/wiki/Labex

[28] https://cominlabs.inria.fr

[29] https://www.enseignementsup-recherche.gouv.fr/fr/annonce-des-103-laboratoires-d-excellence-labex-prolonges-pour-une-duree-de-5-ans-46910

[30] https://fr.wikipedia.org/wiki/Initiative_d%27excellence99