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Digital Strategy for Education 2023-2027

The Strategic Vision of a Shared Public Policy

Version 2.00
30 December 2025

FOREWORD BY THE MINISTER

Digital Technology, or the Art of Cultivating Critical Thinking in the Age of Algorithms

Digital technology is transforming schools just as it is reshaping society as a whole. It is changing the way we access information, learn, work, and even perceive the world around us. This transformation, at once quiet and profound, places a new responsibility upon us: to prepare every student to understand the invisible mechanisms that now influence a significant part of our lives.

In the digital world, security does not rest on the magic of algorithms; it relies on our understanding of them. Without this mastery, we are not free: we are dependent. This finding resonates strongly at a time when algorithms sort, prioritise and determine information. It is up to us, collectively, to give students the keys to exercising their discernment and critical thinking.

This update to the 2023-2027 strategy for digital education aligns with the 2023 commitments. It extends and clarifies the guidelines set out, taking into account technological developments, new societal challenges and the expectations of the educational community.

Therefore, teaching students about the world is not an additional subject; it is essential for them to become informed citizens. They will need to understand how platforms work, distinguish fact from opinion, recognise fabricated narratives, grasp the influence of social media, spot fake news, and protect themselves from manipulation. Critical thinking is a skill that must be developed. It cannot be improvised. Major contemporary scientific advances remind us that, in order to master the technologies that shape our daily lives, we must learn to understand what lies beneath the surface**,** beyond the apparent simplicity and immediate evidence of their uses.

Teachers play a pivotal role in this transformation. Every day, they help students acquire digital skills, they adapt their teaching practices**,** and bring innovation to life in the classroom. Their commitment, expertise and ability to choose tools suited to their objectives are essential to ensuring that digital technology serves the success of all. That is why training, support and recognition for teachers are at the heart of our strategy**.** They must be able to rely on reliable resources, effective support measures**,** and a dynamic professional community to help every student progress without sacrificing the living experience of paper, careful reading and handwriting.

At a time when digital instantaneity sets the pace, the printed page remains a space for sustained attention and intellectual rigour. The challenge is not to pit tradition against innovation, but to bring together two sources of emancipation: the fertile slowness of the written word and the power of digital tools.

Our responsibility is also to adapt the school system to economic and professional transformations. Digital technology now permeates almost all professions. The ability of students to embrace these challenges will determine our collective capacity to act as agents of change, ensure our technological sovereignty, and preserve our democratic values.

This updated strategic vision is the result of collaboration between all partners, including the State, local authorities, economic stakeholders, associations, and the education sector. It sets out a clear direction for the years ahead. Together, we must equip our students with the skills they need to navigate the world of tomorrow with clarity, discernment and ambition. Responsible digital education encompasses more than technical mastery; it must also protect mental health and personal fulfilment. By doing so, schools will provide every student with the opportunity to become a free, responsible, and resilient citizen fully engaged in tomorrow's digital society.

Édouard Geffray, Minister of National Education, France

December 2025

EXECUTIVE SUMMARY

The 2023–27 strategy for digital education builds on the collective reflection that began during the COVID-19 pandemic.

In response to the closure of schools during this crisis, digital technology in schools has taken on a key role in ensuring educational continuity. The *États Généraux du numérique pour l'éducation*[1] (National Consultation on Digital Education, end of 2020) provided an opportunity to learn collectively from the acceleration of digital use during the crisis and to identify new needs. The discussion continued at the *Grenelle de l'éducation*[2] (a national multi-stakeholder consultation on the future of the teaching profession, 2021) with the formalisation[3] of recommendations focused on the development of a digital culture, training, uses – particularly digital – and teaching practices, student learning and support for legal representatives.

These reflections on the role of digital technology in education mirror the views of many other countries, whether in terms of teaching digital skills or using digital technology for learning purposes.

Building on this momentum, the Ministry developed a strategy for digital education to address the entire educational community.

Since March 2022, the main stakeholders in digital technology for education (the State and its agencies, local authorities, the economic structure of the EdTech sector, associations, and users) have been involved in initial discussions to develop and implement this strategy[4]. A **dashboard** is available online to monitor the actions taken and adjust priorities[5].

The clear goal of this strategy is to promote sensible, innovative and demanding digital technology that serves the educational community and supports student success. It aims to provide schools with the means to educate, innovate and prepare citizens for a world in which digital technology has become indispensable, while fostering responsibility, sharing and openness.

1 https://www.education.gouv.fr/les-etats-generaux-du-numerique-pour-l-education-304117
2 https://www.education.gouv.fr/grenelle-de-l-education-une-concertation-inedite-par-son-ampleur-et-ses-modalites-306837
3 https://www.education.gouv.fr/grenelle-de-l-education-synthese-d-atelier-numerique-309065
4 In the form of workshops, school visits, and exchanges held during events such as Ludovia, Educatech Expo, Numérique en commun[s], as well as within national bodies and social dialogue frameworks involving ecosystem stakeholders, in particular within the Conseil Supérieur de l'Éducation (CSE).
5 https://strategie-numerique.incubateur.education.gouv.fr/

2025 update: new features

At the halfway point, the Ministry wished to take stock and update the strategy for digital education in light of changes in the French[6] and European[7] regulatory frameworks, as well as several research studies[8], reports[9] and international surveys[10], including the report by the expert commission on the impact of young people's screen time submitted to the President of the Republic in April 2024[11].

The updated strategy incorporates several new objectives:

- **strengthening teachers' IT and digital skills**[12],particularly in connection with the ongoing reform of initial training;
- taking into account the **framework for the use of artificial intelligence (AI) in education**, based on extensive consultation with stakeholders in the education ecosystem;
- **developing tools that integrate AI** to facilitate lesson preparation, assessment, and differentiated tailored monitoring of students by teachers;
- a **roadmap** and support mechanism for innovation and the sustainable maintenance of **digital educational commons** (open, pooled and shared digital resources or tools that anyone can use and improve), supported and governed by the educational community and its public, associative and private partners;
- he creation of a **ministerial catalogue**[13] to make the range of digital educational resources more transparent and accessible;
- Strengthening STEAM (science, technology, engineering, arts and mathematics) skills from primary school onwards, in order to prepare students for future job opportunities;
- setting **a target to increase the proportion of girls** studying digital subjects at secondary school, supported by the '*Girls and Maths*' plan with implications from primary school onwards;
- a **stronger focus on digital parenting**, with age-appropriate guidelines for the use of screens and other digital tools, as well as support mechanisms developed in collaboration with parent-related stakeholders[14], in order to provide accessible, non-judgmental information to all families, especially those who are most digitally excluded;
- the **systematic evaluation** of digital educational resources**,** with a view to ensuring their quality and relevance for teaching and learning.

6 In particular, the law SREN (securing and regulating the digital space - Sécuriser et réguler l'espace numérique), 21 May 2024.

7 In particular the Digital Services Act (DSA), the Digital Markets Act (DMA), the European AI regulation (AI Act), the Cyber Resilience Act (CRA) and the NIS 2 directive.

8 GT Num (working group) (https://eduscol.education.fr/2174/enseigner-et-apprendre-avec-la-recherche-les-groupes-thematiques-numeriques-gtnum).

9 Reports from IGÉSR : Uses of Digital Technology in School-Family Relationships, Preparation for Digital and Computing Education and Careers in Upper Secondary School, Artificial Intelligence in Schools : https://www.education.gouv.fr/recherche/type/rapportpublication/report_and_publication_type/rapport-igesr ; reports from the Cour des comptes : https://www.ccomptes.fr/sites/default/files/2025-10/20251031-S2025-1479-Enjeux-souverainete-des-SI-civils-de-l-Etat.pdf and https://www.ccomptes.fr/sites/default/files/2025-10/20251031-S2025-1479-Enjeux-souverainete-des-SI-civils-de-l-Etat.pdf.

10 OECD Teaching and Learning International Survey (TALIS), published in October 2025: https://www.oecd.org/en/publications/results-from-talis-2024_90df6235-en.html.

11 Children and screens: in search of lost time (Enfants et écrans : à la recherche du temps perdu) : https://www.elysee.fr/admin/upload/default/0001/16/06a9854b34d98bb3e4fbf72b2b28ed3b0dd601a1.pdf

12 IT skills refer to the technical skills related to the operation and use of IT and digital tools. Digital skills encompass IT skills but also include, more broadly, knowledge related to usage.

13 The Ministry-supported educational digital resources offer may be public, derived from digital commons (i.e. neither public nor private), or privately produced. Digital educational resources developed by publishers and distributors - whether or not they receive financial support from the Ministry - may be promoted, provided they comply with the national curriculum and the Ministry's technical standards framework.

14 Non-formal education associations, digital mediation organisations, and health and social care networks.

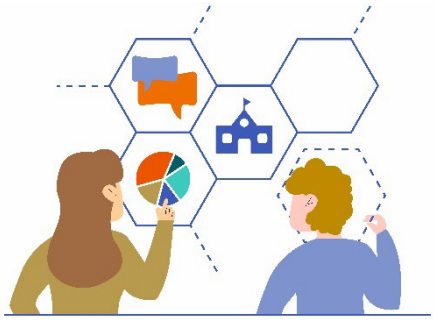
Some of the concepts used in this strategy are defined in an online glossary[15].

The four strategic axes

The strategy for digital education for the period 2023-2027 seeks to address four major challenges:

- **Organising governance, at both national and local levels,** among the various stakeholders in education**,** in order to strengthen coordination of digital initiatives within educational projects.
- **Developing students' digital skills**: on the one hand, progressively fostering digital citizenship and educating them about the digital dimension of civic life by supporting their effective use of screens, cultivating critical thinking, and strengthening media and information literacy; on the other hand, reinforcing their computing and digital knowledge throughout their schooling, potentially guiding them towards specialisations and baccalaureate pathways that prepare for careers in the digital sector.
- **Supporting teachers in the thoughtful and responsible use of digital technology** by enhancing their training and providing a clearly defined range of tools and resources that have demonstrated their effectiveness in improving learning outcomes and student attainment.
- **Strengthening the robustness, security, accessibility, quality, and environmental sustainability** of the Ministry's information systems, in order to **simplify staff workflows and improve the quality of services provided to users**.

1. An engaged ecosystem serving a shared public policy



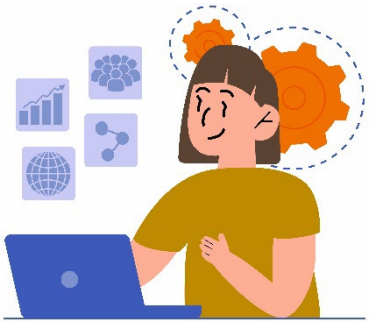
The strategy is based on effective coordination among all stakeholders in digital education: the State and its agencies, local authorities, the economic structure of the educational technology (EdTech) sector, associations, and users. **Governance bodies** at both national and regional levels are responsible for ensuring this coordination for the benefit of families and educational teams. A **national digital education dashboard**, available from 2025, will enable the monitoring of the development of equipment, usage, training, and innovation in each territory, down to the level of individual schools. Finally, **open data** consolidated on the platform data.education.gouv.fr, along with **secure data sharing**, ensure transparency and the sharing of information between the State and local authorities, in order to facilitate the oversight and implementation of public education policies, for the benefit of student attainment and equality between territories.

2. Digital education that fosters citizenship and digital skills

Schools must prepare each student to understand the digital world in which they live and to exercise fully their citizenship within it. The development of digital skills is therefore a **major educational, democratic, and economic challenge**.

To this end, the Ministry draws upon the **Digital Competence Reference Framework** (CRCN), inspired by the European **DigComp** framework (Digital Competence Framework for Citizens) and by the work of the **Council of Europe** on digital citizenship.

15 Glossary: https://doctrine-technique-numerique.forge.apps.education.fr/glossaire/.



From primary school onwards, students are introduced to the foundational principles of the digital world and computational thinking. In lower and upper secondary education, teaching gradually expands to include programming, cybersecurity, data science, and artificial intelligence. This progression aims to **strengthen digital confidence**, the **ability to work collaboratively**, to function in a responsible digital environment, and to **understand its underlying mechanisms**.

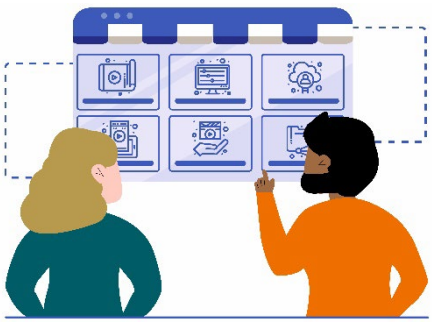
Beyond digital skills, the goal is also to educate **free and informed citizens**. Media and information literacy is therefore being strengthened in order to develop critical thinking, combat disinformation and cyberbullying, and teach responsible behaviour online and on social media. These forms of learnings help to shape free, informed citizens who are able to identify the risks of information manipulation and foreign digital interference, and to exercise their rights freely in the digital space.

The strategy also carries a strong ambition for gender parity and the attractiveness of digital pathways: **encouraging girls' participation in scientific and digital specialisations** and training an additional 80,000 digital professionals annually by 2027.

Artificial intelligence in education is now embedded within a framework that sets out the main principles and guidelines for its responsible, useful, and safe use.

Finally, **parents** are fully involved in this approach through school-level democratic bodies and through the dissemination of resources such as age guidelines for screen use and tools such as Pix Parentalité *(a digital tool designed to support parents in developing their digital skills in relation to parenting)*.

3. An educational community supported by a thoughtful, sustainable, and inclusive digital offering



Teachers must have access to a **clear, coherent, and accessible** digital provision. This requires reliable tools, relevant resources, and local support, that enables teachers to build upon digital educational practices **that have demonstrated their benefits for learning**.

The State guarantees the quality of the resources developed. It promotes **digital educational commons** (shared, open, sovereign, and sustainable resources), as well as innovation through resources developed by the EdTech sector in accordance with shared standards.

Teacher training is a cornerstone of this strategy: it is based on a **national training programme** that includes a dedicated digital component and certification tools such as the Pix+ Édu initiative.

Finally, by facilitating the adaptation of educational resources to specific needs and improving their accessibility - particularly through artificial intelligence - digital technology becomes a powerful **lever for inclusion**.

4. New rules for a ministerial information system serving its users

The national education information system is used in particular to manage students' educational and administrative pathways (enrolment, guidance, examinations, etc.) and to strengthen relationships with families, notably through the digitalisation of administrative procedures. It is designed for a very wide audience - 850,000 teachers, 350,000 administrative staff, 12 million students, and nearly 20 million parents - and therefore must ensure a high level of robustness, availability, and security. Its digital transformation aims to simplify the work of all stakeholders and to streamline interactions with families.

This digital transformation is based on several principles, defined and applied **from the design stage** of digital products and information systems:

- a high-performance, robust, rationalised, and secure architecture, ensuring **data protection** - particularly for students - in compliance with the General Data Protection Regulation (GDPR);
- consideration of **users' essential needs** in their interactions with tools, through appropriate working methods (agile approaches, service design, user experience design);
- a commitment to **accessibility**;
- **interoperability**, i.e. the ability of systems and applications to communicate with one another;
- **digital frugality**, aimed at reducing the overall environmental footprint of digital technology;
- **sovereignty**, notably through the use of a secure, trusted cloud hosting solution that respects privacy and is located within national or European territory.

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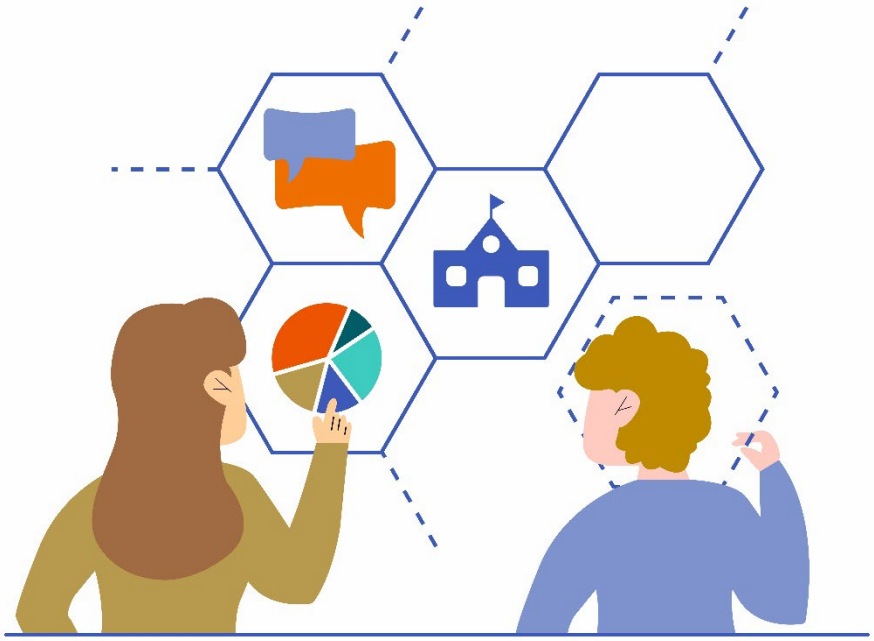
DIGITAL EDUCATION: KEY FINDINGS AND CHALLENGES

While the promises of the digital transformation are significant for society in general and for schools in particular, the role of digital technologies in the classroom or at home, in the workplace or in remote working, still remains to be defined.

In addition to the work mentioned above - particularly the *États généraux du numérique* - the findings established in 2023 are also based on the report *"Volume I - The contribution of the public digital education service to educational continuity during the health crisis"*[16] published by the Cour des comptes (France's supreme public audit body) in 2021, the report *School in the Digital Age* (L'école à l'ère du numérique[17]) published the same year by the Economic, Social and Environmental Council (CESE), the work of the Cultural Affairs and Education Committee of the National Assembly on the legal and statutory framework for hybrid or distance learning in both school and higher education, presented in January 2022; as well as various research studies [18] conducted by teacher-researchers and coordinated by the Directorate for Digital Education (DNE).

The update of the strategy in 2025, without altering the findings established below in 2023, is based in particular on the report of the expert committee *Children and Screens* (Enfants et écrans) published in April 2024, the most recent reports of the Inspectorate General for Education, Sport and Research (IGÉSR)[19], and reports from the Cour des comptes[20], as well as on



16 https://www.ccomptes.fr/sites/default/files/2021-03/20210318-02-TomeI-contribution-service-public-numerique-educatif-continuite-scolaire-pendant-crise-sanitaire.pdf

17 https://www.lecese.fr/travaux-publies/lecole-lere-du-numerique

18 https://edunumrech.hypotheses.org/

19 Reports from IGÉSR: *Uses of Digital Technology in School-Family Relationships*, *Preparation for Digital and Computing Education and Careers in Upper Secondary School*, *Artificial Intelligence in Schools* : https://www.education.gouv.fr/recherche/type/rapportpublication/report_and_publication_type/rapport-igesr

20 In particular *Primary Education: An Organisation Misaligned with Pupils' Needs* (2025) : https://www.ccomptes.fr/sites/default/files/2025-05/20250520-Enseignement-primaire.pdf ; Report on the Sovereignty Challenges of the State's Civil Information Systems https://www.ccomptes.fr/sites/default/files/2025-10/20251031-S2025-1479-Enjeux-souverainete-des-SI-civils-de-l-Etat.pdf.

data from the international TALIS 2024 survey (*Teaching and Learning International Survey*)[21] published in October 2025.

Key findings

A multitude of stakeholders, whose coordination needs to be strengthened

Many actors are involved in digital education. The Ministry of National Education sets the overall guidelines in consultation with the Ministry of Higher Education and Research. When there is clear educational benefit, teachers may implement activities that make use of digital approaches with their students. Ministry agencies provide support and services. Local authorities supply material resources, such as infrastructure and devices, oversee installation and maintenance, and increasingly fund all types of educational resources, requiring strengthened coordination with national education. Associations and communities of students, parents, and teachers support their members; some produce or contribute to digital commons. Publishers design and distribute textbooks, while educational technology companies develop and offer digital tools and resources.

This results in a profusion of initiatives, involving stakeholders with different responsibilities, needs, and practices, thereby complicating the convergence of actions toward a common vision.

The limited clarity of roles and areas of responsibility within the digital education ecosystem, combined with insufficient coordination among the various actors, represents obstacles that need to be addressed. For example, the *Digital Plan for Schools* launched in 2015 faced several challenges: a lack of consultation and coordination between the Ministry and local authorities regarding the use and maintenance of equipment, insufficient support and training for teachers in relevant teaching and learning uses, and an inadequate supply of educational digital resources.

Digital skills to be developed in students, for informed citizenship as well as professional integration

Digital transformation is reshaping all areas of life for both students and adults. Understanding the digital world and its underlying mechanisms has become central to exercising informed citizenship[22]. The advent of artificial intelligence further heightens this challenge. Digital competences have become essential for preparing for professional life, where practices are being transformed by digital processes across all sectors and qualification levels. France needs to train more digital professionals, with a particular emphasis on increasing female participation.

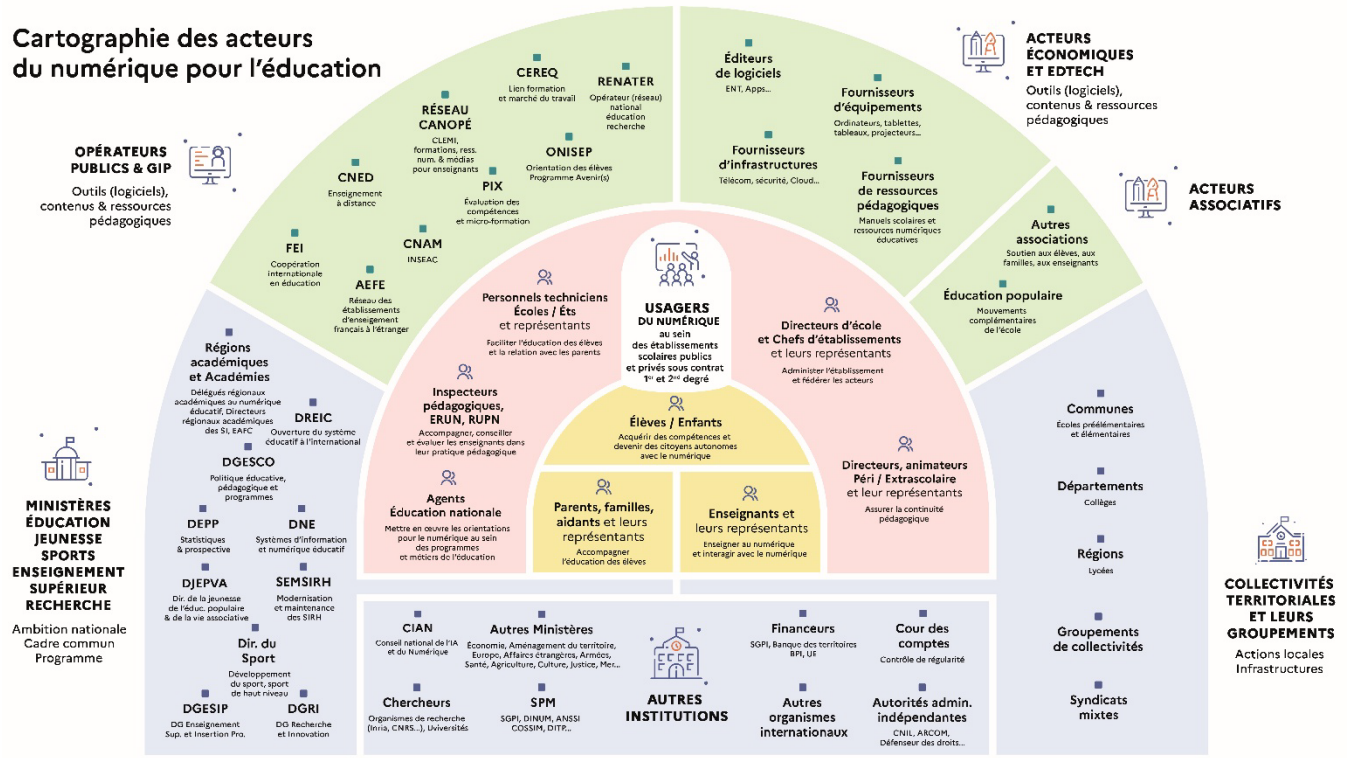
The ICILS 2023[23] survey shows that France's results are around the average of the 29 other participating countries. However, they indicate a need for further investment in digital skills. France is far from meeting the target set by the European Union: fewer than 15% of students in the eighth year of compulsory education (equivalent to France's quatrième, age 14-15) should be low achievers in digital literacy (level 1 or below). In 2023, 42.7% of French students fell into this category, compared with 43.5% in 2018.

In terms of critical thinking skills, the ICILS survey also highlights the need for more proactive action. Indeed, students reaching Level 4 in the survey represent less than 1% of French students, compared with an average of 1% across all participating countries. Level 4 corresponds to

21 https://www.oecd.org/en/publications/results-from-talis-2024_90df6235-en.html

22 See in particular: *Enlightenment in the Digital Age* - Les Lumières à l'ère numérique (2022), by the commission chaired by Gérald Bronner.

23 An analysis of the results of the 2023 *International Computer and Information Literacy Study* (ICILS) is available on the website of the Ministry of National Education.



students who exercise control and critical thinking when searching for information and creating informational documents, taking into account the audience and the communication objective.

By promoting, through this strategy, a dynamic development of students' digital skills, the Ministry is therefore fully - and ambitiously - aligning with the objectives set at the European level.

Digital resource use to be considered and supported

In 2018, according to the international TALIS survey[24], while nearly 92% of teachers in primary and secondary education in France used digital technology to prepare their lessons, only 36% used them frequently in the classroom - a trend that was nevertheless increasing - and fewer than 20% assigned digital learning activities to be completed at home.

In 2024, according to the new TALIS survey, only 14% of lower secondary school teachers reported having used AI in their teaching during the past year, compared with an average of 36% in the OECD countries participating in the survey, representing the lowest rate among all participating countries.

The health crisis led to an explosion in the use of digital technology in education. As noted by the Cour des comptes[25], *'the mobilisation of the public digital education service in the context of* distance schooling *in spring 2020 was real and rapid, despite initial difficulties in managing the surge in users'*. Through digital tools, teachers' mobilisation made it possible to ensure continuity of learning and maintain the connection with schools for the greatest number of students, despite the lockdown.

24 The results of the 2018 Teaching and Learning International Survey (TALIS) are available on the Ministry of National Education's website: https://www.education.gouv.fr/talis-enquete-internationale-sur-l-enseignement-et-l-apprentissage-9815. The initial results of TALIS 2024 were published in October 2025: https://www.education.gouv.fr/conditions-d-exercice-et-perceptions-du-metier-d-enseignant-l-ecole-elementaire-et-au-college-en-451532.

25 Cour des comptes (2021), *The Contribution of the Public Digital Education Service to Educational Continuity During the Health Crisis* – (La contribution du service public du numérique éducatif à la continuité scolaire pendant la crise sanitaire).

This period also highlighted the progress that teachers needed and expected: better knowledge of digital tools and educational resources, training and support, the dissemination of adapted practices or clear guidelines - particularly regarding the protection of personal data and the right to disconnect - and the long-term sustainability of educational resources.

With nearly 500 companies, 10,000 employees, and a turnover approaching one billion euros[26], publishers and educational technology companies offer a wide range of resources and tools for teachers and students. Research[27] shows that the impact of digital technology on learning is highly variable, depending on the context, the objectives to be achieved, and the level of support provided. Digital tools improve academic outcomes when they complement teaching or support collaboration. Conversely, if used improperly, they can have a negative impact on learning.

The use of digital technology must therefore be properly managed, meaning it should be employed only when its added value is clear. As with any educational approach, the use of digital resources must be carefully planned by the teacher, who designs the lesson sequence while considering the various activities students will undertake. The initiative for using digital technology must come from the teacher.

Digital tools - such as those supporting remediation or memorisation - and their educational content provide services that can significantly and sustainably enrich the range of tools available to teachers. They also help streamline communication and interaction with families.

Unequal access to digital technology among stakeholders: equipment, connectivity, tools, and skills

Although it may seem obvious, the use of digital technology requires several conditions: access to equipment and power to operate it, availability of tools suited to the intended uses - often requiring a network connection - and, finally, the skills and abilities to use these tools and equipment effectively.

This can create challenges for populations experiencing digital exclusion or facing significant difficulties in accessing digital technology. In this respect, the health crisis highlighted the importance of daily digital inequalities, both social and territorial: connection quality and its limitations - such as capped data plans - absence or poor quality of equipment, sharing of devices within the family, and limited mastery of communication tools for interacting with teachers. Accessibility remains a significant issue for some people with disabilities.

These difficulties in accessing digital technology create inequalities in learning and educational monitoring, placing issues of digital inclusion and equal access at the forefront of the public digital education service's concerns.

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26 These figures come from a study conducted in 2024 by the EdTech France association and Banque des Territoires, and cover the entire sector, two thirds of whose turnover comes from vocational training.

27 *Which Educational Functions Benefit from Digital Technologies*, André Tricot, Cnesco 2020 : http://www.cnesco.fr/wp-content/uploads/2021/02/210218_Cnesco_Tricot_Numerique_Fonctions_pedagogiques.pdf ;

Opinion on the Contribution of Digital Technology to Knowledge Transmission and the Improvement of Teaching Practices, Conseil supérieur des programmes, 2022: https://www.education.gouv.fr/media/115735/download ;

Monitoring and dissemination of research on digital technologies in education. Éducation, numérique et recherche, DNE, 2019: https://edunumrech.hypotheses.org/.

Outputs of the thematic digital working groups of the DNE, éducation, numérique et recherche, 2020 https://edunumrech.hypotheses.org/1948. See also the portfolios of the digital thematic groups supported by the DNE: https://edunumrech.hypotheses.org/tag/portfolio.

User experience with room for improvement

Teachers, students, families, and all education staff report difficulties in using the digital tools offered by the education ecosystem: complex and heterogeneous interfaces, unattractive designs, sometimes far removed from standard practices, uneven accessibility, limited suitability for mobile use, lack of guidance on best practices, unclear division of responsibilities between the State and local authorities, absence of data portability requiring multiple re-entries, disconnections between tools, insufficient performance, and more. This can also lead to the use of tools that are less respectful of personal data protection.

These obstacles are even harder for users to overcome because they face a large proliferation of digital tools and resources without clarity on how to use them or easy access. Indeed, there is an abundant offering of tools and resources of widely varying quality in terms of educational, technical, legal, and security criteria, making it particularly difficult to search for, select, and use these tools at any stage of a teacher's career.

This situation, also highlighted in the reports of the Economic, Social, and Environmental Council[28] and the more recent IGÉSR report[29], directly affects the quality of service provided, with digital offerings dispersed across multiple portals or online services operated by the State (e.g. the *Scolarité Services* portal), different levels of local authorities (ENT platforms and extracurricular primary and lower and upper secondary school platforms), and various public and private operators (notably student life management software). This multiplicity of tools can create a labyrinthine and uncertain experience, undermining usage, trust, and freedom of choice regarding certain digital resources. A joint reflection among stakeholders is necessary to remove these obstacles.

A user-oriented approach, which places the user at the heart of tool and service design and implementation, is relatively recent within the Ministry of National Education. An ongoing process seeks to identify pain points and solutions among school leadership. This approach still needs to be strengthened.

To address these challenges, it is necessary to create the conditions for a simple, coherent, relevant, and sustainable offering serving students, families, teachers, and school leaders across the national territory. This involves establishing a robust, long-term framework for more shared governance, design, interoperability, security, and data protection that governs the digital education service offering.

An outdated operating model for the ministerial information system

The Ministry has equipped its staff and digitised procedures for students and parents, sometimes under particularly tight deadlines, with notable successes. The digitisation of baccalauréat exam scripts since 2020 is one such success: secure handling of exam scripts, assignment to teachers for online grading, and student access after grading. Online services grouped on the national portal 'Scolarité services', accessible via ÉduConnect or FranceConnect, have also seen significant improvements in quality.

However, the organisation of the design and development of these tools and services - often involving multiple Ministry teams (one for development, another for integration, a third for

28 CESE, 2021, Schools in the digital age.
29 Report from IGÉSR n° 24-25 140B: Uses of Digital Technology in School-Family Relationships, May 2025.

testing, etc.) - creates complexity both in terms of quality and project management, as well as additional delays and costs.

Similarly, many so-called 'national' applications are still installed separately in each regional education authority, on outdated IT infrastructure, resulting in technical debt (obsolescence of information systems) that remains to be addressed. This situation no longer meets current standards for information systems, requires considerable resources to maintain, and limits the scalability of applications to meet growing user needs.

Finally, some essential activities - such as information systems planning, architecture, user experience (UX) design, and user interface (UI) design - have sometimes been neglected. These must be standardised in order to build information systems that are accessible, responsible, ergonomic, and high-performing.

Challenges

These findings should not overshadow the successes of digital education and the strong resilience it enabled during the pandemic. However, they highlight several challenges to be addressed by 2027:

- Create momentum to strengthen stakeholder cooperation: build a shared ambition and efficient governance that structures cooperation among national and local actors around educational projects that use digital technology where it is relevant.
- Gradually develop education in digital citizenship, critical thinking, and media and information literacy: enable students to better understand the business models of major digital platforms and the risks of information manipulation that challenge the foundations of democratic trust and freedom of expression; ensure that all students acquire a digital culture; provide a core set of skills necessary for digital fluency, understanding, and responsible use of screens, social networks, and emerging technologies, particularly artificial intelligence; develop skills and support students' orientation - especially girls - towards digital courses and career pathways.
- Provide teachers with a clear and well-supported offering of digital educational tools and resources: simple, appropriate, and supportive of teaching autonomy and educational innovation; provide guidance and support for teachers, school leaders, and inspectorate staff; create the conditions for digital technology to foster inclusive, sustainable, and ethical education for students, families, teachers, support staff, stakeholders in schools and local areas, as well as all other Ministry personnel.
- Put digital technology at the service of public education policies: raise students' general achievement levels, support co-education, combat school dropout, and promote inclusive schooling; strengthen the security, resilience, and reliability of data and the Ministry's information system for users; ensure interoperability of tools and resources, develop a user-centred approach to products, and promote environmentally responsible digital practices.

To address these challenges, a systemic and participatory approach is necessary to establish the general framework and outline the major orientations of the strategy up to 2027.

First, digital education and its beneficiaries operate within a rich and diverse ecosystem, both in France and across Europe, which offers significant potential given the dynamics of innovation. This strategy proposes the key principles for fostering and coordinating this ecosystem.

Furthermore, this strategy places students, together with their families, at the centre of reflection, aiming to help them become emancipated adults with critical thinking skills, discernment, and full awareness of the world. To achieve this, it is essential to understand their needs and provide them with digital tools and resources adapted to their age and requirements.

The strategy also places teachers, educational teams, and administrative and social staff in schools at its centre, ensuring they are supported and guided as closely as possible to their workplace.

Finally, envisioning digital education for 2027 requires relying on a sovereign, robust, and scalable technological foundation that enables interoperability according to clear and shared orientations (a 'platform' strategy). This involves strengthened relationships among all stakeholders, particularly the State, local authorities, and digital service providers, which will be formalised through an industry contract, similar to arrangements in other industrial sectors.

More broadly, the strategy for digital education is aligned with national strategies related to education and digital policies and stems from France's contributions to international cooperation, particularly with the EU, OECD, UNESCO, and the Council of Europe.

The strategy for digital education is structured around four axes:

1. A committed ecosystem serving a shared public policy;
2. Digital education that develops citizenship and digital skills;
3. An educational community supported by a thoughtful, sustainable and inclusive digital offering;
4. New rules for a ministerial information system serving its users.

THE STRATEGY

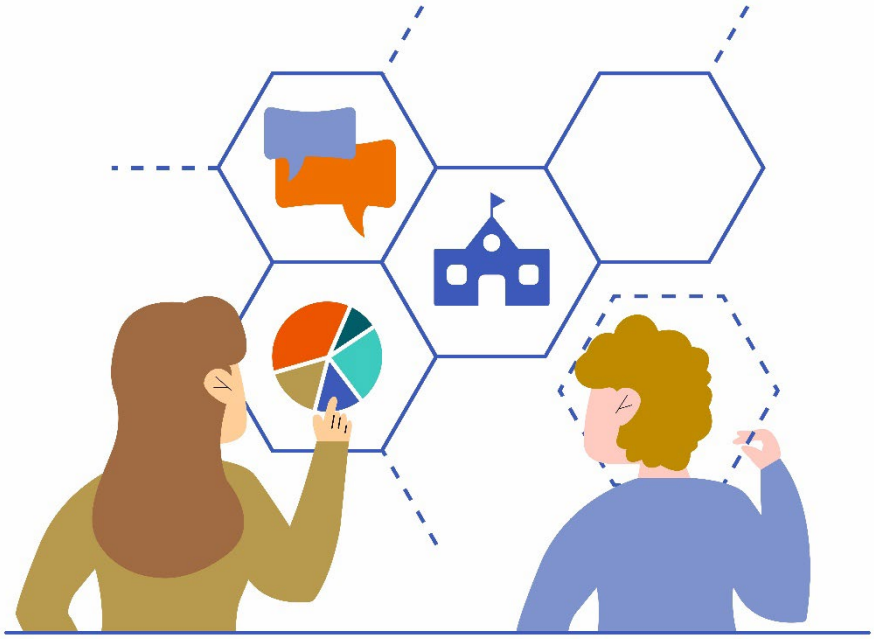
1. A committed ecosystem serving a shared public policy

Digital education is characterised by a rich and dynamic ecosystem. It requires regular consultation among stakeholders at both national and local levels to synchronise and adjust their objectives and, subsequently, their actions.

It must necessarily rely on the inseparable triad of *training, equipment, and resources*, without overlooking the essential role of parents in supporting their children. This is the framework of the *Territoires Numériques Éducatifs* (TNE, Educational Digital Territories): enabling the use of relevant tools and resources through appropriate equipment and training for the stakeholders - teachers, students, their families, and all education staff. Since responsibilities are shared among actors, overall coordination is imperative for effective action.

For more than ten years, through the 2013 *Law on the Orientation and Programming for the Rebuilding of the School of the Republic* (loi d'orientation et de programmation pour la refondation de l'École de la République, so-called "Peillon Law"), legislators have sought to share responsibility for equipment, infrastructure, and maintenance between the State and local authorities: municipalities for primary schools, French departments for lower secondary schools (*collèges*), and regions for upper secondary schools (*lycées*). Therefore, ensuring proper coordination of State and local authority actions through a renewed partnership is essential, while respecting the autonomy of local authorities and their responsibilities regarding digital education.

This partnership must take into account technological developments, notably the widespread use of cloud-based solutions, hardware (smartphones, tablets, laptops, interactive and immersive media, connected objects, etc.), and the development of digital workspaces (ENTs). It is also necessary to consider digital education beyond the classroom. This new partnership must be established at various administrative levels - regional education authorities and regions, regional directorates and French departments, intercommunal structures, educational districts, and municipalities.



Furthermore, stakeholders in this ecosystem must have an objective and shared understanding of orientations and the impact of their actions, notably through indicators on usage, training, and equipment compiled in a common digital education dashboard, complemented by regular statistical studies supported by the Ministry's Directorate for Evaluation, Foresight, and Performance (DEPP). Data is indeed an essential element for knowledge and trust. It supports research and the evaluation of public policies and allows for informed debate and objective assessment of approaches. The initiative to open education data must therefore continue, in strict compliance with the GDPR.

1. Strengthening governance of digital education at national and local levels

The Partners Committee, organised monthly by the Directorate for Digital Education (DNE), demonstrates at the national level the value of operational coordination between the State and local authorities. This committee serves as a steering body complementary to the elected officials' committee chaired by the Minister. This coordination must be further developed according to a multi-year roadmap shared and overseen by the committee.

The EdTech industry engages in dialogue with the Ministry through an industry committee that brings together State agencies and meets with the Partners Committee and other invited stakeholders as needed, once or twice per year.

The Ministry also coordinates a working group involving representative bodies of school leadership, and consults staff representative organisations through formal social dialogue structures.

This national governance must be complemented at the political level to discuss major strategic orientations and ensure alignment of actions across territories. It must also be strengthened through continued Ministry involvement at the interministerial level and at the European and international levels, with UNESCO and the Council of Europe.

At the local level, this strengthening of both political and territorial governance for digital education should primarily rely on existing governance structures when they are considered sufficient and effective. If necessary, this reinforcement may also take the form of new bodies.

At the school or institutional level, leadership plays a crucial role in governance by initiating and supporting actions and fostering dialogue within the educational community. To this end, school leaders engage in discussions on digital issues within school democracy bodies, which can contribute to the school development plan.

Several actions within the strategy can be placed on the agenda of these bodies, such as the development and communication of common local objectives, analysis of the distribution of responsibilities under the 'Peillon Law', the establishment of responsibility matrices and funding arrangements, provision of resources to teachers, definition of a standard student equipment policy, and evaluation of pilot projects.

Objectives

- Two meetings of a political body (the elected officials' committee) at the national level starting in 2023.
- Review the *Territoires Numériques Éducatifs* (TNE), particularly regarding governance, in both local and national bodies.

2. Sharing data and indicators for monitoring and evaluation

The goal is to organise the sharing and effective use of data and indicators among stakeholders - whether public, private, associative, individual, or economic - so that they have the ability and means to measure results.

This requires reliable and regular information at the local level, which can be consolidated nationally. These indicators, to be defined in consultation with stakeholders, should at a minimum cover equipment provision, the use of services or resources, and teacher training. This information held by different ecosystem actors should be shared where it generates knowledge, serves the public interest, and respects privacy requirements. In collaboration with the Directorate for Evaluation, Foresight, and Performance (DEPP), some of these indicators will allow for international comparisons.

Within this framework, the Ministry is strengthening its efforts in the openness, dissemination, and uptake of educational data. The *data.education.gouv.fr* platform, in open data, is being progressively redesigned as a genuine digital service infrastructure, providing broader access to datasets of general interest, complemented by interactive visualisations and services that make the data understandable to all: local authorities (through agreements signed by the Ministry with local government associations), researchers, journalists, associations, EdTech companies, and citizens.

The challenge is not simply to release a large quantity of data, but to foster both a cultural and technical evolution among education stakeholders so that this information becomes a 'strategic asset for education'. A use-case approach is favoured to demonstrate the benefits of improved use of indicators.

An educational digital dashboard, useful both locally and nationally, will integrate the various indicators to guide strategies and policies at all levels. The first users of this dashboard, in a closed-data environment to protect sensitive information, will be school leaders, representatives of local authorities, and Ministry representatives. Its extension to additional users may be considered.

Objectives

- Identify and map the relevant datasets to be shared.
- Develop an educational digital dashboard in partnership with willing stakeholders by the start of the 2025 school year.
- Develop a prototype use case for data sharing between the State and local authorities.
- Create a platform for data exchange between the State and local authorities.
- Increase the reach and use of *data.education.gouv.fr*.

3. Defining digital education equipment

Local authorities cover the full cost of acquisition, maintenance, and renewal of IT equipment - both administrative and educational - within schools, and also fund the human resources needed to keep it operational and assist users[30].

To fulfil these responsibilities, local authorities and the State must define a standard student equipment policy. Collaborative work was carried out and published in 2024 to define an eco-responsible basic digital equipment package for primary schools, lower secondary schools

30 Articles L 213-2 pour les collèges and L 214-6 pour les lycées.

(*collèges*), and upper secondary schools[31] (*lycées*). These basic digital packages are reviewed periodically.

The recommendations primarily concern collective equipment within the school. To operate this ecosystem, ensure access rights, and maintain security, local authorities receive data from State services that allow them to populate a user directory.

The Élaine study[32] from the Directorate for Evaluation, Foresight, and Performance (DEPP) shows that students aged 6 to 15 with individual equipment more easily develop digital fluency and skills. However, the context of use and the progressive nature of learning - particularly regarding online content and services - remain central considerations.

Digital educational resources, tools, and disruptive technological innovations - such as artificial intelligence or immersive resources - that teachers can integrate into their teaching sequences must be considered when reflecting on individual equipment.

Similarly, the rise of social networks, the proliferation of inappropriate online activities and content - for which regulation remains insufficient or ineffective for age-appropriate protection - and health considerations linked to screen overexposure must also inform this reflection.

The ultimate goal is to define, in consultation with local authorities and in alignment with scientific knowledge and the educational objectives pursued by teachers, the characteristics and conditions of provision of a standard individual digital device for students in lower and upper secondary school. For primary school students, individual digital equipment is neither necessary nor desirable, except for certain students with special needs. Shared devices are fully appropriate to begin working in class on responsible digital use. The equipment policy will necessarily include an eco-responsibility criterion.

Evidence from multiple experiments conducted since the health crisis indicates that the provision of individual digital equipment to students should always be part of a wider educational or inclusion project at school level, coordinated between teaching teams and the relevant local authority. Finally, parents must have the option to exercise parental control over this individual equipment.

Shared governance and the definition of a standard student equipment policy should make it possible to:

- improve the exchange of directory data necessary for fine-grained and optimal management of access rights and the security of IT devices connected to the network;
- extend the lifespan of equipment and minimise purchases;
- reduce the environmental footprint of the devices;
- automate the management, maintenance, and reliability of equipment;
- establish local governance in collaboration with stakeholders, including primary and secondary schools, to anticipate medium-term needs;
- rationalise the number of software applications - and their versions - deployed on devices;
- optimise knowledge of the IT environment of each primary and secondary school and harmonise it within a given local authority;

31 https://www.education.gouv.fr/les-referentiels-450069.

32 https://www.education.gouv.fr/evaluation-multidimensionnelle-de-l-impact-d-equipements-numeriques-mobiles-sur-les-apprentissages-309284

- define a reference framework for eco-responsible individual devices along with implementation modalities based on educational use (for lower and upper secondary school) by the start of the 2026 school year.

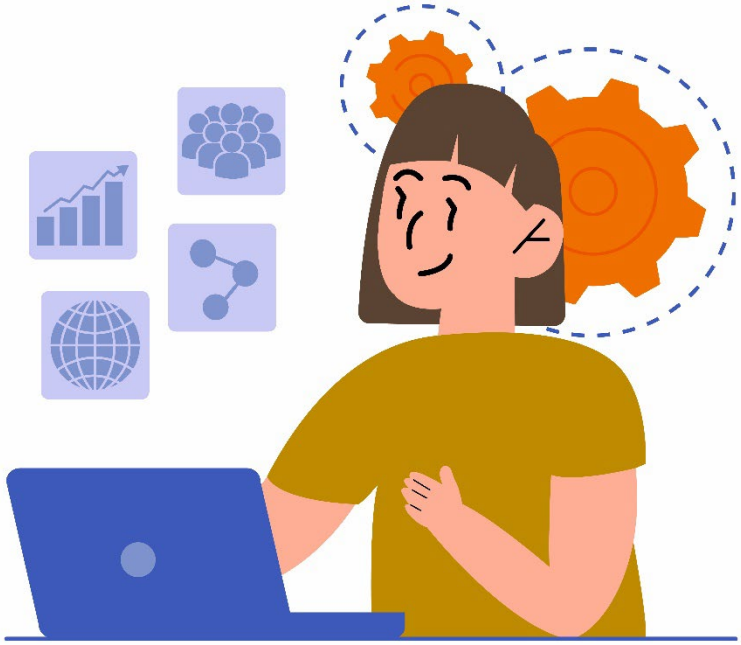
2. Digital education that develops citizenship and digital skills

Objectives

- Update the basic digital equipment package for primary schools, lower secondary schools (*collèges*), and upper secondary schools (*lycées*) for the start of the 2025 school year.
- Define a standard individual student equipment policy by the start of the 2026 school year.

One of the core missions of the education system is to educate free and informed citizens, equal in rights and aware of their shared future. It equips learners with the skills and critical thinking needed for autonomy and fosters active citizenship.

Digital education begins as early as primary school, in view of the growing role played by social media and the need to foster critical thinking and an understanding of the relationship with machines from a very young age. There is a strong need to develop digital and computing skills, as highlighted by reports from the Conseil supérieur des programmes or CSP[33] *(Higher Council for Curricula)* and the Economic, Social and Environmental Council (CESE)[34], as well as recent reports by the IGÉSR[35] and the Cour des comptes on the national AI strategy[36]. It is also essential to ensure that digital education supports and enriches human relationships, rather than undermines them. These orientations are widely shared across Europe: for example, nearly all European countries have integrated computer programming into their curricula, notably through the development of STEAM (science, technology, engineering, arts and mathematics) approaches in teaching practices and school curricula. The development of STEAM, particularly at primary level, is fully aligned with the strategy for digital education.



33 *Opinion on the contribution of digital technologies to knowledge transmission and the improvement of teaching practices*
34 *Ibid.*
35 IGESR: *Uses of Digital Technology in School-Family Relationships*, *Preparation for Digital and Computing Education and Careers in Upper Secondary School*, *Artificial Intelligence in Schools.*
36 https://www.ccomptes.fr/fr/publications/la-strategie-nationale-pour-lintelligence-artificielle-consolider-les-succes-de-la

4. Ensuring the progressive acquisition of digital and computing skills throughout the school pathway

Education in digital technology and computing must make it possible:

- to progressively provide every student with a strong level of skills, ensuring digital fluency that is essential for understanding the world and for successful professional integration throughout life;
- to enable everyone to integrate the digital dimension of citizenship, so as to fully exercise their rights and duties and to safeguard democracy and the rule of law;
- to encourage students, through a wide diversity of curricula and pathways - both in general and technological education as well as in vocational education - to pursue further studies and careers in the digital sector, with the aim of training an additional 80,000 digital professionals per year by 2027, while consistently striving for gender parity.

This strategic orientation entails providing age-appropriate education in digital technology and computing, based on the Digital Competence Framework (CRCN), in order to offer, through a well-defined progression, the development of digital skills from primary school through to the baccalaureate:

- **In primary school**, the challenge is both to develop an understanding of digital concepts and the digital environment, in connection with language mastery and the strengthening of fundamental knowledge in mathematics and science education - and to minimise screen time, except for certain students with special needs. Mastery of basic mathematics makes it possible to acquire the first foundations of computational thinking: understanding decomposition and abstraction in order to solve problems and grasp algorithms. Responsible use of digital technology helps students become comfortable with tools, notably office software (giving priority to open-source and sovereign applications) and screen-free objects ('unplugged computing', as detailed in a robotics kit developed by the Ministry in collaboration with stakeholders). Such use also makes it possible to experiment through trial and error, thereby supporting all learning processes. This necessarily involves raising awareness of good online practices and the prevention of risky behaviour, particularly with regard to cyberbullying and digital security. In support of this approach, experimentation with the Pix Junior platform will continue and be expanded.
- **In lower secondary school (collège), the objective is to enable all students to master the responsible use of equipment (computers, tablets, etc.), key tools (office software, web browsers, artificial intelligence, etc.), and media (notably social networks), as well as to understand how these function (algorithms, the digital economy, data use, etc.).** To this end:
  - the acquisition of minimum skills required to use digital equipment and key tools will be developed in the first year of lower secondary education (sixième, age 11–12);
  - during lower secondary education (Cycle 4, 5e, 4e, 3e ages 12–15), students acquire key digital skills (algorithmics, programming, databases, user experience, data protection, data science, artificial intelligence, ethics, cybersecurity). A further objective is to make computer science an attractive field of learning for students, in order to encourage them to continue in general education (Digital and Computer Science and Engineering Sciences specialisations), technological education (notably STI2D or vocational education (notably the vocational baccalaureate CIEL - cybersecurity, computing and networks, electronics);
  - in coordination with regional authorities, which are responsible for providing information on careers and training pathways, half-day career discovery sessions in Cycle 4 from 5e to 3e (age 12 to 15) will give particular emphasis to digital professions and to the transformation of more traditional occupations under the influence of digital technology.
  - the role of digital school management software and digital work environments (ENTs) in the processes of assigning, completing, submitting, and assessing homework will be reassessed;

- the assessment of digital skills will be strengthened through the Pix platform. From Cycle 3 (CM1, CM2, 6e in the French school system, age 7 to 10) through to the baccalaureate, each student will benefit from regular and progressive education in digital technology and computing, with proficiency levels attested or certified at three stages (6e age 11, 3e age 14-15, and the final year of upper secondary school). This education is delivered primarily through subject teaching, with Pix serving to support and enhance the development and assessment of digital skills.

Thus, by the end of the four years of lower secondary education (collège), students will have acquired a broad digital culture, a technological understanding of how digital tools and processes function, and an initial practical awareness of professional fields at the heart of digital transformation.

In upper secondary education (lycée), the objective is to lead students toward autonomous and responsible use of digital technology by encouraging reflection on their own practices - particularly in relation to generative artificial intelligence and digital security - while continuing to develop their computing skills and digital culture.

- **In general and technological upper secondary education**, the challenge is to review the content of the *Sciences numériques et technologie* (SNT) course and to strengthen the momentum of the *Numérique et sciences informatiques* (NSI) specialisation in the final two years of general education, particularly among girls. In practical terms:
  - a review of the SNT curriculum will be undertaken in order to further develop content related to computer science;
  - the proportion of upper secondary schools offering the NSI specialisation on site will increase from 62% in 2022 to 67% in 2027;
  - specific initiatives to promote science - particularly digital sciences - will be implemented for girls in lower and upper secondary education in partnership with research or higher education institutions, along with awareness-raising actions on digital security and information manipulation in connection with distinct national Cyber and Information Manipulation strategies (LMI)[37];
  - objectives will be set in the local education authorities to substantially increase the proportion of girls enrolled in digital specialisations in upper secondary schools, with at least a doubling of their share by 2027.
- Finally, in vocational upper secondary education, the objective is to accelerate the dual process of modernising qualifications (such as the vocational baccalaureate *CIEL* – Cybersecurity, IT and Networks, Electronics) and restructuring the training provision map, in cooperation with the regions responsible for these areas of action, notably through investment in digital technical platforms. This process is supported in particular by strengthened partnerships with companies (such as the P-TECH programme) and enhanced teacher training.

Thus, throughout their educational pathway, all students will have progressively developed general competences, the level of which will be certified through Pix in the last year of lower secondary education, (3e age 14-15) and at the end of upper secondary education, and, if they so wish, acquired specific expertise that is highly valued both for further studies and for entry into the labour market.

37 *Fighting information manipulation* (Lutte contre les manipulations de l'information).

Substantially increasing the proportion of girls in digital specialisations in upper secondary education

Studies show that **gender inequalities in mathematics and science** emerge as early as primary school. As a result, girls remain underrepresented in digital specialisations at general and technological upper secondary schools. Although their participation slightly increased between 2019 and 2023, the share of girls in the NSI (Computer Science) specialisation remains low: 19.1% in the second year (1re) and 15.2% in the final year (Terminale) of upper secondary education. Girls are also heavily underrepresented in technological and vocational baccalaureates preparing students for digital careers.

From lower secondary school (collège) onwards and throughout upper secondary education, an **action plan to enhance the attractiveness of computer science specialisations and digital baccalaureates - primarily targeting girls** - will be implemented, with strong measures introduced as early as lower secondary school. These include career discovery initiatives, work experience placements in the last year of lower secondary education, 3e - age 14-15, and mathematics and science classes with adjusted timetables (*CHAMS*), with mandatory gender parity, drawing on partnerships with associations, science and technology culture organisations (*CSTI*), research institutions, and committed companies.

In general education, the objective is to achieve gender parity by 2027 in mathematics and physics-chemistry, and to move toward parity in other subjects such as engineering sciences (SI) and NSI. The *Sciences numériques et technologie* (SNT) curriculum will be revised for the 2026 school year. In technological education, the objective is to move toward parity in the STI2D track and to strengthen enrolment in the *Systèmes d'information et de gestion* (SIG) option within the *Management, Sciences de gestion et numérique* specialisation. In vocational upper secondary education, efforts to promote gender parity will also focus on access to the vocational baccalaureate *Cybersecurity, Computing and Networks, Electronics* (CIEL).

In the MP2I preparatory class (mathematics, physics, engineering, and computer science), the proportion of girls remains low, at 14.4%, but has improved each year since its launch in 2021. A target of 30% girls in preparatory classes has been set for 2030, with no fewer than 20% by 2026.

The Ministry will implement a range of actions to achieve these objectives. These include training initiatives in primary education. Alongside the targets at the level of local education authorities mentioned above, **more targeted actions will be launched or encouraged in partnership with stakeholders in the digital sector**, such as the systematic organisation of meetings with female role models from the last year of lower secondary education through to the last year of upper secondary education, the *TechPourToutes* programme, the initiative *'Un scientifique, une classe : chiche !'*, and mandatory gender parity in national digital challenges and competitions, such as *'Passe ton hack d'abord'*. In vocational upper secondary education, the transformation of the training provision will incorporate this objective. Career discovery in digital professions at lower secondary school level and strengthened links between schools and businesses will also play a significant role.

These actions will be carried out as part of the **'Girls and Mathematics' plan** announced by the Minister of State (Minister of Education) in May 2025.

Objectives

- In line with the ongoing developments in lower secondary education (collège), strengthening students' digital and computing skills.
- Contribute to the objective of training an additional 80,000 professionals each year by 2027.

5. Enabling students to become informed citizens in the age of artificial intelligence

While the development of digital skills is a key factor in student autonomy, as well as in the country's economic and technological sovereignty, it is also a major issue for enabling students to exercise their rights and duties.

The Ministry's action will be structured around two main pillars:

- Promoting the responsible use of digital technology particularly social media, through:
  - the dissemination of guidance on digital use in schools to the entire educational community;
  - the development and dissemination of a framework for the use of artificial intelligence in education;
  - the promotion and enforcement of the Charter for Education in Digital Culture and Citizenship in schools;
  - the continuation and intensification of efforts to combat bullying and cyberbullying, within the framework of the Phare program;
  - awareness-raising on digital hygiene practices and the identification of information manipulation practices (password management, phishing, etc.).
- Strengthening media and information literacy (MIL) and the development of critical thinking. Democracy presupposes pluralism and, consequently, citizens' ability to receive, analyse, and debate information from diverse sources. Digital tools - particularly social media and generative artificial intelligence - by enabling everyone to become a producer and disseminator of information, profoundly reshape the relationship to information, notably through the emergence of 'fake news' and various forms of manipulation, including visual manipulation. It is therefore essential that students benefit not only from structured education on how information is processed and produced, but also from initiatives that allow them to experience these processes firsthand. For this reason, the network of MIL coordinators in the local education authorities, has already been strengthened. The challenge now is also to reinforce the implementation of this priority directly with students, particularly in connection with moral and civic education, which has been in place for Cycle 4 (lower secondary education, 5e, 4e, 3e ages 12–15) since the start of the 2024 school year.
- In practical terms, by 2027, 100% of lower secondary students will benefit each year from at least one media and information literacy awareness activity, such as participation in a school webradio or in the SPME (Press and Media Week), which already reaches 4.7 million students annually. Support provided by the Centre for Media and Information Literacy Education (CLEMI) to field teams - particularly teachers responsible for school libraries and information literacy (professeurs-documentalistes) - together with partnerships with the CNIL, ARCOM, ARCEP, Viginum, and Cybermalveillance, will be aligned with the Ministry's overall policy.

Objective

By 2027, 100% of lower secondary students and a majority of upper secondary students will benefit each year from at least one media and information literacy (MIL) activity.

Raising awareness of digital risks and cybersecurity; preventing cyberbullying

Digital risks are manifold. They include, in particular, cybersecurity and the protection of privacy (viruses, hacking, scams, etc.), information manipulation (entrapment in 'filter bubbles'[38], the reliability of information and of content generated by artificial intelligence, foreign digital interference, 'conspiracy theories', etc.), cyberbullying, exposure to harmful or shocking content, as well as the impairment of attention capacities. Raising awareness of these societal issues and educating young people**,** together with training and supporting the adults around them, is essential. This must be complemented by targeted regulation of digital platforms, their recommendation algorithms, and persuasive technologies, as highlighted in the April 2024 report *Children and Screens: In Search of Lost Time* (Enfants et écrans : à la recherche du temps perdu).

The national education system plays an active role in combating these risks by educating and training students, who are particularly exposed due to their digital practices. It also plays a decisive role in **raising awareness of cybersecurity issues**, which are fully integrated into digital education throughout schooling. Action is also taken to combat bullying, particularly through the *Phare* programme, which includes the **prevention of cyberbullying**. Risks related to information manipulation are addressed notably through **media and information literacy education**, while those related to exposure to harmful content are also covered under the ***Education for Emotional, Relational, and Sexual Life*** **(EVARS[39]) programme**.

The Pix 6e certificate (*6e is the first year of lower secondary school*), rolled out nationwide at the start of the 2024 school year, is a key tool for this awareness-raising effort. It ensures that students have benefited from such education. It includes a specific 'Protection and Security' pathway, targeting four competencies:

- securing the digital environment;
- protecting personal data and privacy;
- protecting health, well-being, and the environment;
- preventing cyberbullying.

More broadly, strengthening digital and computing education will contribute to a better understanding and consideration of all the risks outlined above.

38 The CNIL defines the filter bubble as a '*phenomenon mainly observed on social media, where recommendation algorithms - which, for example, feed news feeds with content likely to interest users - may sometimes offer only similar types of content*'. Other phenomena are also described on the website www.cybermalveillance.gouv.fr : astroturfing, typo squatting, copy-pasta, bots and trolls, lack of transparency among influencers regarding the operating methods of foreign digital interference, and so on.

39 https://www.education.gouv.fr/un-programme-ambitieux-eduquer-la-vie-affective-et-relationnelle-et-la-sexualite-416296

Digital challenges and parents

Parents, teachers, and extracurricular stakeholders help children and young people become aware of their place in society. Digital literacy has become essential both as a support for learning and as a key competence to acquire in order to fully develop as a citizen. Digital technologies are also present at home, which places parents at the forefront of their child's digital citizenship education[40].

Schools provide tools related to school life, in paper or digital format, such as school rules, communication notebooks, homework diaries, timetables, assessments, report cards, and digital learning environments (ENTs). However, digital tools must be used appropriately and should help maintain a calm environment outside the classroom. In particular, it must be recognised that handwriting plays a key role in structuring students' thinking. Certain rules - such as suspending updates in digital learning environments and school management software in the evenings and at weekends, or applying good practices for entering homework and grades - must therefore be established. Consequently, in line with the recommendations of the report *"Children and Screens: In Search of Lost Time"* (April 2024) [41], the IGÉSR report no. 24-25 140B *"Uses of Digital Technology in School–Family Relations"* (June 2025) [42], and the circular of 10 July 2025 *Promoting Thoughtful Use of Digital Technology at School* [43] (Promouvoir un numérique raisonné à l'École), the dissemination of new information between teaching and education staff, students, and families via digital learning environments and school management software is suspended in the evenings and at weekends, except in emergencies managed by school principals or headteachers. This measure responds to expectations expressed by students and their representatives, who are calling for a reduction in intrusive digital uses.

To define the role of digital technology in schools according to educational needs while fostering a positive school climate, the school development plan may include a dedicated section, co-designed with students, parents, and teaching teams. The Ministry provides educational teams with the vademecum *Promoting Thoughtful Use of Digital Technology at School* [44], which is intended to support them in implementing the school's digital policy and in carrying out the expected regulation measures.

The Ministry also distributes a document intended for families: *Growing Up Well with Screens: Guidelines for Each Age Group* [45] (Bien grandir avec les écrans : des repères pour chaque âge). This document provides recommendations for a gradual and supported use of digital technology. Indeed, inappropriate or excessive use may have negative effects on physical health (sedentary lifestyles, vision problems, lack of sleep) and mental health (addiction, distress, loneliness, risky behaviours), as well as on the quality of relationships, concentration, and motivation.

Finally, in view of the positive effects observed during the pilot phase involving the restriction of mobile phone use among lower secondary school students, the *Phones on Pause* (Portable en pause) scheme is being rolled out across all lower secondary schools. Primary schools that wish to do so may also adopt the *Phones on Pause* scheme[46] and incorporate the chosen method for restricting mobile phone use into their school rules, following consultation with the school council and in coordination with the relevant local authority. Upper secondary schools may likewise adopt the *Phones on Pause* scheme, in coordination with the regional authority, where the headteacher determines that awareness-raising, responsibility-building, and dialogue on digital use within the framework of the school development plan are insufficient to maintain a school climate conducive to high-quality learning.

Supporting parents in the appropriate use of the digital tools made available by schools is also essential. Parents will therefore be supported in their digital parenting through access to the *Pix*

Parents pathway[47] or through sessions held within schools[48], providing them with information and practical advice on the tools and resources that will be used throughout the year by teachers or school leadership.

Education and family stakeholders (local authorities, family allowance funds [CAF], popular education organisations, recreational and educational structures, etc.), involved in multi-year local programmes**,** such as Cités éducatives *(coordinated education networks in priority neighbourhoods)*, Territoires numériques éducatifs, Rural education Territories[49] (local partnerships coordinating education and support services in rural areas), parent listening, support and guidance networks[50], etc.**,** are well placed to help parents better understand digital issues, particularly those linked to education. This support enables parents to guide their children in their online activities and to propose alternative activities (board games, sports, etc.). These initiatives should be prioritised at the beginning of the school year[51] and may also be organised at other key moments throughout the year, ensuring a continuous approach adapted to families' needs. Communication may also be offered during events (for example, school celebrations or parent–teacher meetings), drawing where appropriate on parent ambassadors[52], who are often better positioned to understand other parents and their potential difficulties (non-native-speaking parents, parents affected by the digital divide, etc.).

3. An educational community supported by a balanced, sustainable and inclusive digital provision

Teachers choose and adapt learning methods, assessment approaches, and teaching resources such as exercises or memorisation and remediation tools, in accordance with the principle of teachers' professional autonomy. Drawing on research findings and institutional recommendations, the educational community selects, recombines or creates the resources it considers most appropriate to support students' progress and to develop the competencies set out in the curricula.

Teachers must be able to rely on robust training in digital technology and computer science. This helps to strengthen their professional skills and to support the evolution of their teaching practices. In particular, they must be supported in identifying and adopting relevant uses of digital technology within their specific contexts, always in the service of students' success. By way of example, using artificial intelligence in a considered way can support the design of learning activities tailored to each student's needs and pace of progression, in compliance with the framework for the use of AI published by the Ministry in June 2025.

40 To support children and families in a constantly evolving digital world, the Ministry of National Education and its partners have developed a family-oriented educational game: L'Odyssée du numérique.
Cf. https://www.education.gouv.fr/l-odyssee-du-numerique-450604
41 https://www.elysee.fr/admin/upload/default/0001/16/06a9854b34d98bb3e4fbf72b2b28ed3b0dd601a1.pdf
42 https://www.education.gouv.fr/usages-du-numerique-dans-la-relation-ecole-familles-450666
43 https://www.education.gouv.fr/bo/2025/Hebdo28/MENE2519904C
44 https://eduscol.education.fr/document/66054/download
45 https://www.education.gouv.fr/bien-grandir-avec-les-ecrans-des-reperes-pour-chaque-age-451121
46 https://www.education.gouv.fr/interdiction-du-telephone-portable-dans-les-ecoles-et-les-colleges-et-pause-numerique-7334
47 https://pix.fr/parents
48 Article L312-9 of the code de l'éducation: https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000049571494.
49 https://www.education.gouv.fr/les-territoires-educatifs-ruraux-308601
50 https://sante.gouv.fr/archives/archives-famille-enfance/dispositifs-d-aides-aux-familles/article/les-reseaux-d-ecoute-d-appui-et-d-accompagnement
51 https://www.education.gouv.fr/la-mallette-des-parents-au-numerique-323786
52 About parent ambassadors: https://tne.trousseaprojets.fr/parent/devenir-parent-ressource.

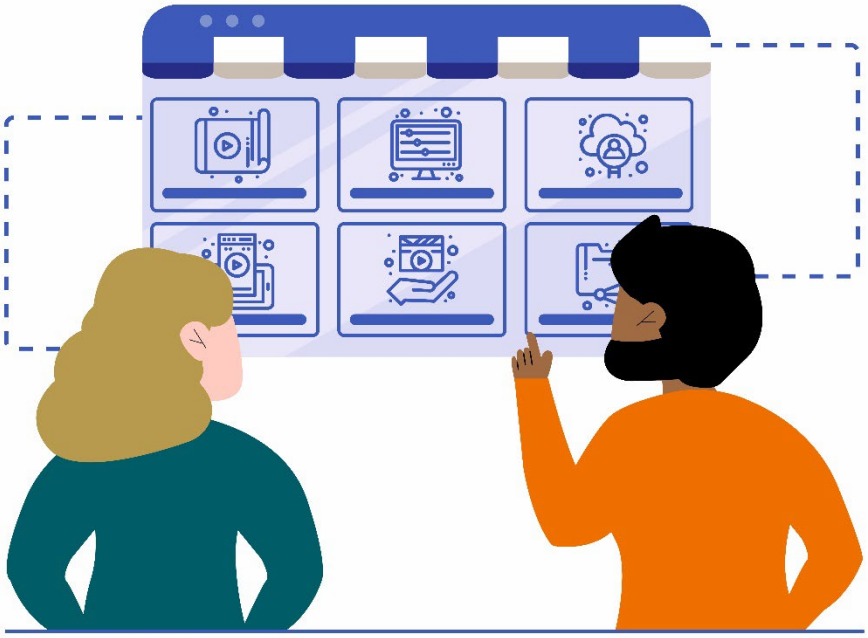
With regard to digital tools and educational resources, teachers must be able to rely on digital commons - forms of collective organisation structured around shared, open and sustainable digital spaces and resources - that encourage co-construction and peer-to-peer sharing, while also drawing on innovations from the private sector. These innovations notably incorporate artificial intelligence to better take individual needs into account. The aim is to combine these complementary contributions in order to offer a range of resources that best meets the teaching and learning needs of as many teachers and students as possible. In this respect, certain services and teaching scenarios - whether stemming from the E-Fran research programme, artificial intelligence innovation partnerships (P2IA) supported by France 2030, or community-based platforms - open up promising avenues.

The objective is therefore to facilitate access to a sustainable and inclusive range of digital educational resources:

- by supporting the development of digital educational commons;
- by supporting a simplified procurement process for digital educational resources developed by EdTech companies and aligned with the curricula and the technical guidelines;
- by guaranteeing the accessibility of digital services for students with disabilities, while supporting the development and deployment of tools and content that meet the special educational needs of the widest possible range of students.

To support the rollout of these new digital services made available to teachers, it is necessary to work along five pillars:

1. teacher training;
2. support for teachers in selecting and using digital educational resources;
3. evaluation of digital services;
4. organisation of the digital services offer in line with the State-as-a-platform approach, whereby the State reduces complexity through shared public digital infrastructures provided by the State, and through interoperability, security and design rules that enable a better user experience;
5. mobilisation of data.



Artificial Intelligence and Education

The **rapid and ongoing development of artificial intelligence, and in particular generative AI**, its ease of use and the diversity of content it is capable of producing - often with free access but limited respect for personal data - are prompting intense reflection on its applications in education, both in France and internationally.

Indeed, AI may profoundly reshape certain core aspects of schooling, such as the relationship to knowledge and learning, the design of lessons, the production of assignments and their assessment.

AI can also serve as **a tool to support teaching and learning**, as well as to assist the 'teaching practices' (le geste enseignant) in lesson planning, support for assessment, and so on, and to simplify administrative tasks, provided that staff understand the associated issues and uses.

Schools must equip students with the tools to understand this technology, to grasp both its opportunities and its limitations, to develop a critical mindset towards it and, for some - girls and boys alike - to enable them to pursue further study and careers in the field of artificial intelligence. It is with this objective in mind that the **Pix AI pathways** will be rolled out from January 2026.

While AI represents both **a challenge and a potential contribution to education**, it must nevertheless be used **within an ethical and legal framework, in a conscious and balanced manner**, at a time when the tools currently available are largely non-sovereign, non-open-source, opaque in their functioning and training data, and demanding in terms of resources and energy consumption.

The framework for the use of AI in education[53] aims to provide clear answers to the legitimate questions raised by the entire educational community and by staff regarding the use of AI in education. The use of AI is therefore authorised in education provided that it complies with the defined framework.

This framework includes a teacher training plan to ensure the responsible and well-managed development of AI uses in education. Resources are already available, such as the AI4Teachers initiative and its MOOC[54], the modules offered on the Magistère platform, and peer learning communities that foster exchange and the sharing of experience (the Community of Reflection on Artificial Intelligence in Education - CREIA - and the Innovation Campus). In addition, a national training programme (Lab'IA) aims to train a large number of "trainers of trainers", ensuring that all schools have access to training on the teaching uses of AI.

This framework will evolve in line with practices and developments in technological solutions.

The Ministry also encourages lower and upper secondary schools to engage school democracy bodies (such as the CVC, CVL, etc.) in discussions on the challenges posed by AI and, more broadly, by digital technology, in order to incorporate them into the school development plan and to define rules for their use within school regulations.

The Ministry's work is shared through European working groups under the Digital Education Action Plan (DEAP): https://education.ec.europa.eu/fr/focus-topics/digital-education/actions

53 Framework for the use of AI in education, English version : https://edunumrech.hypotheses.org/15271 ; French version : https://www.education.gouv.fr/cadre-d-usage-de-l-ia-en-education-450647

54 https://www.fun-mooc.fr/fr/cours/intelligence-artificielle-pour-et-par-les-enseignants-ai4t/ - 54,500 teachers have already taken this MOOC to train in AI.

6. Supporting the development of digital commons

A 'common' refers to the organisational arrangements put in place and sustained by a group of individuals and/or legal entities in order to collectively manage a resource. To manage this resource, the community defines its own rules and governance. The digitisation of the resource and the associated open licences make it a "digital common", freely accessible for use, study, improvement and sharing by all members of the community.

The Ministry provides teachers with tools based on open-source, sovereign and sustainable software, enabling them to create, pool and share open educational resources. Some of these tools can also be used with students.

- apps.education.fr is a digital services platform providing collaboration and communication tools such as Classe virtuelle and Visio-agents, both based on the open-source software BigBlueButton, as well as tools for file sharing or video publishing on secure infrastructures hosted in France, in line with the State's digital sovereignty strategy.
- The distance learning and teaching ecosystem, comprising Éléa, Magistère and the Réseau des concepteurs, is based on the open-source software Moodle. Éléa enables teachers to create and share open educational resources and to design structured digital learning pathways for their students. Magistère allows teachers and staff to undertake online training and develop their skills through a wide catalogue of resources. The contributor community of the Réseau des concepteurs brings these two services together and enables the co-construction of open educational resources for students and teachers.
- Capytale, developed by the Paris education authority under shared governance with the Directorate for Digital Education (DNE), is an online studio for the creation and sharing of teaching activities in programming and, more broadly, in STEAM (science, technology, engineering, arts and mathematics).
- The forge des communs numériques éducatifs is an open public platform for collaboration and dissemination. It enables teachers and their partners to develop, document and publish open-source software and open educational resources (such as PrimTux or MathALÉA), within a governance framework in which the stakeholders involved jointly participate in decision-making, maintenance and the ongoing development of projects.

The Ministry supports teachers and associations working for the benefit of the educational community in the development of digital commons. Awareness-raising and training initiatives, such as the annual *Free Educational Software Day* (Journée du libre éducatif), illustrate this support. A scheme for digital commons was launched in 2025 to increase investment in digital educational commons and to build a sustainable, structured and scalable offer (capable of being used by a large number of users), in coherence and coordination with the EdTech sector. This offer and its governance arrangements will be specified and detailed in the digital commons roadmap shared with all stakeholders, local authorities and EdTech companies.

Objectives

- A multi-year roadmap in 2025 for the development of digital commons for education
- A national platform ('la forge') to bring together, support and encourage the production and sharing of digital educational commons
- A support mechanism to stimulate innovation and to collectively and sustainably maintain digital educational commons, in particular those emerging from the 'forge'.

7. Clarifying the private offer of digital resources and simplifying access for teachers

Alongside digital commons, and in order to facilitate access and use by teachers, the procurement of innovative digital educational resources developed and offered by private EdTech actors will be simplified for public purchasers (schools and local authorities) through a structured offer.

As a first step, a new digital catalogue implemented by the Directorate for Digital Education will help to improve the visibility of digital educational resources approved by the Ministry, through its support and incentive schemes implemented with and within local areas. This catalogue is intended to serve as a source of information for education professionals and to facilitate access to resources, complementing existing catalogues offered by publishers and distributors, and aligned with the curricula and the Ministry's technical guidelines.

Objectives

- To put in place a first version of the catalogue of digital educational resources certified by the Ministry by the first quarter of 2026.
- To implement structuring actions with the industrial sector in order to promote an offer that complies with the technical guidelines.

The digital school textbook

Alongside digital educational resources, the digital school textbook offers features that are native to the digital environment, as it is no longer constrained by the printed format: content can be updated, a variety of media can be used to diversify learning (resource files, audio, video, animations, interactive exercises and quizzes), and activities can be organised for group work or differentiated learning. It is both a book and a medium for a wide range of learning activities. It represents a new teaching and learning pathway, provided that teachers are trained and that equipment, connectivity and infrastructure are in place. However, its successful adoption depends on several factors: training for teachers and students, accessibility of tools, quality of content and textbook design, cost, etc.

- **In primary school**, only the printed textbook is used, with the digital textbook reserved, where applicable, for certain students with special educational needs. Reading and writing are initially taught using paper-based materials, with some digital tools that may be used as a complement.
- **At lower secondary level (collège)**, the printed textbook may be complemented by its digital version, as well as by other digital resources, in line with the available equipment and the guide to educational uses of digital technology (currently under development).
- **At upper secondary level (lycée)**, the printed textbook may be complemented or replaced by its digital version, in consultation with the local authority responsible for providing equipment, and alongside other digital resources. In this case, the school's teaching team must do so on a voluntary basis and must be trained and supported, which is a prerequisite.

A review and analysis of practices will be carried out in 2026 in order to assess the most appropriate ways of using school textbooks across their different formats (printed, digital with or without modular components).

8. Harnessing digital technology in support of inclusive education

Digital technology is a major lever for ensuring accessibility in teaching and learning and, more broadly, across the entire school environment. The aim is to fully harness its potential by providing teaching teams, students and their families with tools, services and resources tailored to each individual's specific needs, from the very first stages of schooling.

The Ministry is pursuing three objectives: to ensure the accessibility of digital services from the design stage; to guarantee the accessibility of teaching resources; and to promote the use of specific tools and equipment for the benefit of students with disabilities or special educational needs, through a holistic approach that takes into account the different aspects of a child's school life.

Within this framework, the Support Hubs for Schooling (Pôles d'appui à la scolarité – PAS), which are currently being rolled out nationwide, play a key role. They support teams in assessing students' needs and in rapidly mobilising the most appropriate responses. In this context, they may, without prior notification from the Departmental Office for Persons with Disabilities (MDPH), arrange the provision of adapted teaching equipment (MPA) for any student with special educational needs. All relevant resource persons from the national education system and the health and social care sector may also be mobilised to support students in becoming proficient in the use of digital tools, with a view to strengthening accessibility to learning.

A good practice guide on adapted teaching equipment (MPA), published on Éduscol for education authorities and MDPHs, brings together recommendations and inspiring examples aimed at improving allocation procedures and reducing delays in the provision of equipment.

At the same time, the rollout of the Inclusive Learning Pathway Record (Livret de parcours inclusif – LPI) is continuing. This educational tool makes it possible to formalise the adjustments and adaptations implemented in the classroom, in the school and within the educational institution, while facilitating dialogue with families and the PAS. It thus contributes to the development of a more coordinated, flexible and tailored response to each student's needs.

From the start of the 2025 academic year, PAS coordinators will be able to rely on the LPI to monitor and adjust the measures put in place, in order to offer each student the conditions necessary for academic success.

These orientations are in line with the milestones set out at *the National Disability Conference - CNH* (Conférence nationale du handicap).

Objectives

- 100% of contracts awarded to include accessibility clauses and monitoring criteria from 2023 onwards
- An accessibility roadmap for digital services and teaching resources
- More responsive provision of 'adapted digital teaching equipment' as part of the nationwide rollout of Support Hubs for Schooling

9. Improving training for educational teams in teaching with digital technology

Almost all teachers use digital technology to prepare their lessons (Profetic survey 2015 and 2018). However, only 16% of primary school teachers and 29% of lower secondary teachers consider that they were well or very well prepared during their initial training to use it (Cnesco study 2021 and the OECD TALIS 2018 survey respectively). The TALIS 2024 survey shows that fewer than 50% of French teachers use digital technology in the classroom. Teacher training is a core pillar of the strategy (see the recommendations of the Cour des comptes[55]: 'strengthen initial and in-service teacher training, in particular in order to promote better integration of digital technology as a tool in support of teaching').

More than one third of teachers surveyed as part of the IGÉSR report *Artificial Intelligence in Schools: Administrative and Educational Perspectives* (May 2025) (L'intelligence artificielle dans les établissements scolaires, sur le plan administratif et pédagogique) indicate that they use artificial intelligence in their professional practices.

Teacher training – initial, pre-service, and in-service – needs to be strengthened so that teachers can, on the one hand, better identify situations in which digital technology is relevant and appropriate, drawing on research findings and peer feedback, and, on the other hand, master core skills, related learning practices and associated risks. This is a key pillar of the 'training, equipment and resources' triad tested in *Digital Education Territories* (Territoires numériques éducatifs - TNE). It combines theoretical input and practical implementation thanks to support from France 2030, and is a prerequisite for the effective and appropriate use of digital technology in the classroom and in learning situations.

The reform of initial teacher training, which has been gradually implemented since the start of the 2025 academic year, will place greater emphasis on content related to the teaching of computer science and the responsible use of digital technology for educational purposes.

A Pix scheme specifically designed for teachers, known as Pix+ Édu, is being developed and piloted. It plays a major role in supporting the gradual upskilling of teachers, within a continuum of learning that spans initial training through to in-service professional development. Pix+ Édu takes the form of online pathways through which teachers can not only self-assess their professional digital skills against the Digital Competence Framework for Education (CRCN-Édu), but also identify training opportunities suited to their skill level and undertake self-directed learning using a wide range of online resources, including those available on the Magistère platform and those provided by agencies such as Réseau Canopé (for example, video learning modules). In this way, teachers can develop their professional digital skills in a personalised manner, with a view - should they wish - to obtaining an attestation, a certification or taking on an ambassador role in supporting their colleagues.

In addition, the offer of in-service training for teachers and staff working within schools - such as teaching support staff, extracurricular facilitators, administrative and social staff - needs to be strengthened in order to ensure consistent and coherent support for students in relation to digital technology and the tools deployed. Online learning communities enable peer-to-peer learning and the provision of thematic micro-training modules, accessible via the Magistère platform.

55 https://www.ccomptes.fr/fr/publications/lenseignement-primaire

Objectives

- 100% of new trainee teachers to hold a certificate confirming their level of digital competence through Pix+ Édu (those who do not reach the required level will be offered a remedial pathway as part of in-service training after taking up their position).
- A majority of practising teachers engaged in a self-assessment pathway for their digital skills through Pix+ Édu, enabling them to pursue training leading to a certificate.
- AI training to be rolled out for all staff across all local education authorities by 2027.

10. Supporting teachers in the use of educational digital technology

Beyond training, providing support to teachers who voluntarily choose to use digital technology in their teaching can bring significant added value.

This support should first take the form of a clear presentation of the digital educational resources recommended by the Ministry, shared with local authorities, as well as resources made available by publishers and distributors that comply with the curricula and the technical guidelines, so that teachers can make informed use of them in exercising their professional autonomy. For example, the Ministry provides teachers with a range of resources through its public partners e.g. the *Lumni Enseignement* platform[56], coordinated by the National Audiovisual Institute.

This issue is particularly acute in vocational and technological education, which requires advanced technical tools and must be able to benefit from technological innovations such as virtual immersion or digital twins - innovations that are poorly suited to fragmented initiatives. To ensure that tools and resources - particularly modular content units - can be quickly identified by teachers according to their needs, they should be characterised using a range of criteria, to be defined in consultation with the educational community. These may include, for example, the education cycle, year group, modes of use (in class, at home, independently or with guidance), adaptability, the implementation of exercises, the teacher's ability to view students' results, or the concentration time required to complete the activity.

In addition, it is essential that teachers and other education staff are able to benefit locally, within their own areas, from support, exchanges and feedback through learning communities, as well as from peer-to-peer support, in order to better understand the possibilities offered by digital technology and to facilitate its implementation before, during and after lessons. Teachers may also draw on the inspectorate for advice and support.

Consultation conducted prior to defining this strategy revealed that this mode of learning, which complements formal training, is desired by teachers. A local approach is therefore required to encourage, organise and equip these peer exchanges and learning communities.

Beyond work within learning communities, support must also be grounded in research findings and the monitoring[57] of pedagogical and technical developments in local innovation. In particular, the findings of the e-Fran research programme must be disseminated. To this end, a dissemination and exchange platform has been published on the Ministry's website to present the results of this programme. Similarly, with support from France 2030, efforts will be made to make the practices and tools developed through these projects available to the widest possible

56 Lumni enseignement: https://enseignants.lumni.fr/;
57 Cf. publications from the digital thematic working groups available online: https://edunumrech.hypotheses.org/10768;

audience. In particular, the CNED is piloting digital solutions that draw on AI in the context of distance learning, in compliance with the framework for the use of AI in education.

Finally, a guide to effective teaching and learning uses of digital technology will be provided to teachers. This guide will provide a framework for making the most effective use of digital technology in the classroom, thereby promoting thoughtful, balanced and appropriate use.

Objectives

- 100% of new trainee teachers to hold a certificate confirming their level of digital competence through Pix+ Édu (those who do not reach the required level will be offered a remedial pathway as part of in-service training after taking up their position).
- A majority of practising teachers engaged in a self-assessment pathway for their digital skills through Pix+ Édu, enabling them to pursue training leading to a certificate.
- AI training to be rolled out for all staff across all local education authorities by 2027.

11. Evaluating digital educational services

For several years, innovative projects have been implemented at various levels - schools, regional education authorities and central administration - to improve teaching practices and better meet students' needs. These initiatives demonstrate strong commitment on the part of educational teams, but often struggle to be capitalised on and shared beyond their original context.

In order to systematise the evaluation of digital educational services, the first step is to develop a culture of evaluation and to define evaluation criteria and methods, from the design stage onwards. The evaluation process requires combining different methods, whether scientific or otherwise, in order to develop robust evidence indicators. Assessment should be based on indicators that bring together research data, usage statistics and feedback from practice, in order to better capture the complexity of the contexts in which digital practices evolve.

Objective

To systematise an evaluation process for digital educational services.

12. Organising digital educational services according to an interoperable platform approach

The range of digital services, including tools and teaching resources, must be structured according to an interoperable platform logic, in order to provide an easy, clear and accessible experience for teachers, students and parents. This involves:

- unified authentication via **ÉduConnect**;
- centralised access to resources via the **Resource Access Manager (GAR)**;
- enhanced interoperability between the Ministry's information system, digital learning environments (ENT), school management software, and teaching resources;
- secure data sharing, in line with the '*tell us once*' principle[58].

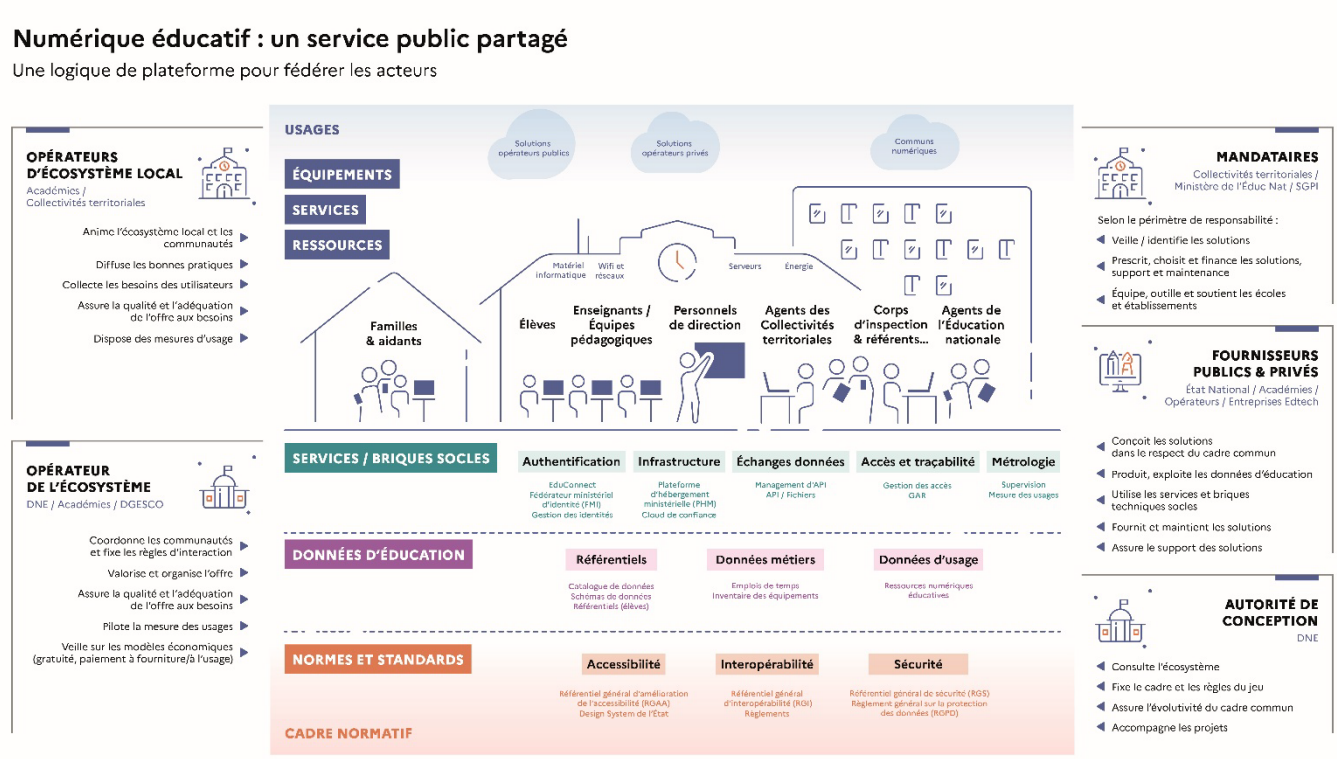
58 This principle consists in avoiding the need for users to provide, during online procedures, information or supporting documents that are already held by other public administrations, by relying on the automatic sharing of data via APIs.

In accordance with the State-as-a-platform principle[59], the State acts as a regulator to ensure a simple, coherent, relevant and sustainable range of services for all users, students, families, teachers and school leaders, across the entire territory.

This regulation is based on a set of common rules (design, interoperability, security, data protection) aligned with the GDPR. It establishes a trusted framework for the sharing and ethical use of data, including that of minors.

Users therefore benefit from greater interface consistency, the elimination of duplicate data entry, improved ease of use, and enhanced data security.

By stabilising this framework, the State enables each stakeholder - administrations, teachers, local authorities, EdTech companies, and publishers - to integrate their services within a coherent and seamless environment that respects public values and fair competition. This approach also promotes flexible deployment of solutions that best meet local needs.



This platform logic is built on a progressive planning strategy: a transformation based on service modularity, data interoperability, and the sharing of national reference frameworks.

It is based on technical guidelines for digital education, which set out the rules, requirements and tools necessary for interoperability, security, data flow, and the use of national core services.

These technical guidelines are intended to enable each stakeholder to build a coherent set of services around public digital infrastructures[60] provided by the State, such as ÉduConnect and the Resource Access Manager (GAR), in accordance with their principles.

59 A concept introduced in the book *L'âge de la multitude* by Henri Verdier and Nicolas Colin.
60 Or *Digital public infrastructures* (DPI).

The first components of these technical guidelines focus on:

- identity and access management,
- interoperability and data portability,
- security and the protection of personal data,
- the sharing of data for purposes of general interest (for example, timetables),
- design and accessibility,
- responsible digital use.

Finally, a unified student data framework will be implemented, in full compliance with the GDPR. It will ensure data quality, fluidity of data flows, and data protection, addressing the current fragmentation of data across multiple applications. This framework will simplify administrative tasks and, for example, eliminate the need for manual re-entry of student lists.

Objective

To standardise usage and learning traces in French digital educational services, drawing on existing international standards.

13. Harnessing data in the service of education

The gradual deployment of digital equipment and resources leads to the generation of new data, the use of which opens up opportunities for the benefit of students, families, teachers, and education stakeholders: developing tools to improve teachers' daily work, providing students with personalised learning, analysing errors and successes, experimenting with new teaching practices, generating new scientific knowledge, creating research opportunities, and more.

A consultation with stakeholders as part of the *Teaching and Digital Technologies* PEPR[61] (PEPR Enseignement et Numérique) identified several use cases for the collection, quality assurance, and effective use of data. With regard to exchanges between the Ministry and local authorities, these are addressed by projects under Axis 1 of the strategy. Concerning usage and learning traces, a collaborative effort between the Ministry, EdTech companies, and research laboratories has enabled the standardisation of the description of useful data models. This incremental standardisation, embedded in the technical guidelines for digital education, will improve learner monitoring and provide high-quality data to train and refine artificial intelligence systems, always in full compliance with the GDPR.

Objectives

- Publication of the first version of the technical guidelines for digital education and its interoperability framework in early 2023, with annual updates.
- 100% of new services to comply with the technical guidelines from 2025 onwards
- 100% of students to use their ÉduConnect identity to access education tools by the start of the 2026 academic year.
- Implementation of the unified student data framework by the end of 2027.

61 Priority Research Programmes and Equipment. The 'Teaching and Digital Technologies' PEPR aims to scientifically assess the impact of different teaching practices that make use of digital tools.

4. New rules for a ministerial information system that serves its users

The Ministry's information system serves a very large population: 1.2 million staff, including 850,000 teachers, 12 million students, and nearly 20 million parents. It manages student enrolment and guidance, teacher postings, examinations and competitions, social services and health, support and assistance, and more. It must therefore maintain a high level of robustness, availability and security throughout the year, particularly at key points in the school calendar such as enrolments, examinations and results, while also being highly adaptable to support the implementation of reforms.

The digital transformation of work processes should generate administrative efficiency, reduce certain tasks, streamline operations, and improve collaboration between stakeholders. Similarly, the digital transformation of interactions with users, without replacing the essential human relationships that must remain, should simplify administrative procedures, offer greater autonomy to users, and improve communication with the administration.

Two examples of digital transformation

- Cyclades, the new information system for managing exams and competitions, and its assignment digitisation module Santorin, have already simplified and automated a number of tasks, from registration for examinations to checking results and marking assignments online. Both systems are subject to a process of continuous improvement.
- The Scolarité Services portal, which brings together all online administrative procedures (school enrolment, scholarship applications, access to school reports, upper secondary school placement, etc.) in a single space, accessible via ÉduConnect and FranceConnect, provides parents with a range of ergonomic, accessible services, in line with the 'tell us once' principle.

14. Accelerating digital transformation

The Ministry's information system must be able to respond to regulatory and operational requirements and continuously adapt with efficiency, quality, robustness, and security. This transformation involves not only technological changes, but also cultural and organisational shifts. People must remain at the centre of the information system, with particular attention paid to their experience (UX design) and to the opportunities offered by new technologies, such as artificial intelligence.

Ongoing strengthening of cybersecurity for the Ministry's information system

In response to the increasing scale and sophistication of **cyber threats**, the Ministry's information system must incorporate protection mechanisms that are regularly audited to safeguard users and the data it contains.

The Ministry follows an ambitious roadmap structured around three axes:

- **Prevention**, through the strengthening of strategic and operational governance, staff awareness-raising, audit plans, and a system accreditation process;
- **Detection**, through the deployment of tools for monitoring and detecting security incidents;
- **Incident response**, including change management for handling incidents and crises.

Four actions accelerate this digital transformation**.**

The first action is to strengthen digital governance, including activity planning and monitoring of human and budgetary resources allocated by the Ministry to its information system.

This is an essential prerequisite for establishing more rigorous oversight of system evolution and project management, given the constrained budgetary context and the need to maintain innovation capacity. This priority initiative, implemented from 2023 within the central administration, will continue to cover national missions in regional education authorities.

An organisational study will be required to better embed the various activities contributing to the information system, moving towards a "product-based" organisation within national missions. The dissemination of good practice must also be strengthened, including the monitoring of usage-related indicators, robust governance processes with appropriate decision-making bodies, value-based prioritisation, quality management, project reviews, management by deadlines and value, and the integration of software quality and technical debt management into monitoring indicators, among others.

The second action is to strengthen data use within the Ministry information system to streamline operational processes.

National tools for school management and administration must reduce administrative burdens by leveraging interoperability, which eliminates the need to re-enter information already present in information systems, while also enabling simple, ergonomic, and secure use. In accordance with legislation, no supporting document should be requested if the information it contains is already known to the State or produced by it. School leaders and parents should be freed from providing information already held by any education stakeholder (schools, after-school and extracurricular centres, etc.) in order to simplify their administrative procedures. For example, the scholarship application process will evolve towards automatic allocation to prevent underuse. This 'zero re-entry' target is to be achieved by 2027 and requires the engagement of all education

The Ministry Action Plan on Data, Algorithms, and Source Code

The Ministry fully aligns with national and European policies on the opening, sharing, and use of data and source code, as well as the development of automated interfaces (APIs) for other public stakeholders. An action plan to structure work over the period 2024–2027 has been implemented, and organised around five axes:

- **Training and awareness-raising for staff on data issues**, to ensure a better understanding of how data is used;
- **Sharing and highlighting the value of data, algorithms and source code** available within organisations across the education ecosystem, to stimulate reuse, collaboration and innovation;
- **Continuous improvement** of tools, services and resources deployed in this area;
- **Ongoing exploration and use of artificial intelligence** in the public education service;
- **Strengthening data governance**, to increase effectiveness in achieving strategic objectives while paying particular attention to ethical issues linked to the use of educational data.

stakeholders, with shared responsibility for data. The 'tell us once' principle will also need to be fully implemented to simplify parent-school interactions.

To achieve these goals, a proactive policy must be implemented to promote data exchange and portability between digital services through APIs and ideally through international standards. For all new Ministry projects, the 'API by design' principle has been applied since 2023. For existing tools, a roadmap determines their API use and exposure. This 'API-isation' approach illustrates the progressive structuring of the Ministry's information system, moving towards modular, interoperable services that are loosely coupled and organised around transversal data frameworks.

Use of the Ministry's APIs is free of charge for all education stakeholders.

The third action is to foster digital innovation, particularly in artificial intelligence, among Ministry managers, staff, and across all entities within the Directorate for Digital Education.

Developing a collective culture of digital innovation is crucial for improving the functioning of a Ministry. For managers and public officials, this involves rethinking working methods, adopting new technological tools, and further developing digital skills. Key challenges include overcoming resistance to change, providing appropriate ongoing training, and encouraging experimentation. By cultivating this culture of digital innovation, the Ministry can not only improve the quality of its digital services and increase efficiency, but also attract scarce skills in a constrained labour market.

Moreover, a state-of-the-art information system should not hinder innovation, whether national or local, but rather accelerate it. The system must evolve to progressively adopt new technologies such as artificial intelligence, *no-code* or *low-code* tools, robotic process automation (RPA), and *security by design*. These developments must also integrate a sustainable and sovereign approach, including responsible digital practices aligned with the Sustainable Development Goals (SDGs), and prioritising free software and hardware, whether new or recycled, under free operating systems. A Ministry incubator was created in September 2025 to foster a culture of impact, using product methodology and experimenting with innovations, including generative artificial intelligence.

The Ministry relies on a coherent technical framework, on modern, industrial, and robust national infrastructures, as well as on cloud architectures, in accordance with the State technical guidelines. Since 2012, the Ministry has operated a shared hosting platform (PHM) and, since 2018, an automated development platform (Cloé: Cloud Éducation) coupled with a continuous integration and continuous deployment (CI/CD) pipeline, to host new or renewed projects. This platform provides a comprehensive range of automated infrastructure services. The Ministry also leverages inter-ministerial cloud procurement frameworks to host high-scalability services, such as Visio-Agents or the State's Webinar services. For the most sensitive data, the Ministry relies on hosting infrastructures certified under the *SecNumCloud* [62] label by the National Cybersecurity Agency (ANSSI).

The fourth action is to strengthen the internal digital skills of the Directorate for Digital Education through an internal training policy and an attractive recruitment strategy.

Workforce and skills planning (GPEC) for the 2,300 IT professionals working for the Ministry must be put in place in order to steer and support this necessary skills transformation, meet the challenge of modernising the information system, and enhance staff value by offering attractive career paths. A programme to bring skills back in-house and to provide training should be implemented to develop internal professional expertise, including project management based on the product approach, accessibility, eco-design, data use, and *devops*[63].

Objectives

In response to the increasing scale and sophistication of **cyber threats**, the Ministry's information system must incorporate protection mechanisms that are regularly audited to safeguard users and the data it contains.

The Ministry follows an ambitious roadmap structured around three axes:

- Conduct an organisational study to strengthen the planning of information system activities by the second half of 2023.
- Establish a process for structuring the Ministry's information system by the first half of 2024
- Strengthen the annual training programme for IT teams.
- Promote the "product" approach and agile methods across projects through the Ministry incubator by 2026.
- Ensure 100% accessibility of online procedures by the end of 2026.

62 https://cyber.gouv.fr/secnumcloud-pour-les-fournisseurs-de-services-cloud

63 A collaborative and automated approach aimed at integrating development (dev) and operations (ops) teams in order to accelerate continuous software delivery while ensuring reliability and stability in production.

Accessibility of Ministry Applications and Websites

Building a fully inclusive society requires that staff with disabilities are able, like all other staff, to use the Ministry's digital applications and tools in the course of their work. These tools must therefore be made accessible and compliant with the General Accessibility Improvement Framework (RGAA, in its latest version). This entails regular assessment and continuous improvement.

For any new digital service used by staff, the Ministry commits to **accessibility-by-design**. For existing tools, a roadmap will set out a schedule of accessibility audits along with remediation plans, with the objective of achieving **full accessibility**.

Similarly, ensuring the accessibility of public websites is a strong commitment of the State. In line with the objectives set, the Ministry will enhance the digital accessibility of its websites, applications and online procedures, while being transparent about their level of accessibility. By the end of 2026, 100% of online administrative procedures will be accessible**.** Work will also be undertaken to integrate accessibility "by design" into all new projects. By the end of 2025, an accessibility assessment of the Ministry's websites will be produced, together with a master plan to schedule future actions.

Modernisation of the Human Resources Information System (SIRH)

Launched in 2020, the Ministry's new SIRH trajectory is aligned with the strategy for digital education and has been implemented from 2022 through:

- se curing the oldest SIRH applications, relying on shared hosting and automated procedures across the entire maintenance lifecycle (*devops*);
- using interministerial solutions such as the RenoiRH and Estève SIRH, with strong involvement in their continuous improvement roadmap;
- providing the MéSIRH platform, which hosts the HRIS service catalogue and the structuring SIRH reference frameworks (a unified reference for staff data, organisational structures, classifications, etc.).

Building on these orientations, the Ministry has more broadly initiated a gradual restructuring of its SIRH, based on the MéSIRH platform, with the aim of rationalising its application portfolio and offering new services through a simplified user journey. This approach has led to the creation of a mobile application acting as a single-entry point for staff, enabling them to track their career and postings, complete HR-related procedures, and contact their HR manager.

15. Gaining Efficiency by expanding and supporting shared solutions

Innovation has led many actors in regional education authorities to design and develop new services to meet the expectations of their staff. This innovation - valuable insofar as it generates momentum at local level - is sometimes pursued without consideration of the expectations of other stakeholders nationwide and often outside the Ministry's information system architecture rules. Such an approach does not reduce the complexity of the information system. On the contrary, it disperses resources and fails to ensure the sustainability, security and industrial-scale deployment of digital services, whether at local or national level, for the benefit of users.

Pooling enables more effective use of the Ministry's capacities - both at central administration and regional authorities levels - while avoiding the fragmentation of initiatives to the detriment of users. A process for sharing and analysing current and future investments is being established with

the regional education authorities. This process supports stronger coordination between national and regional teams and better pooling of local and national investments. By way of example, a national platform for sharing artificial intelligence and generative AI initiatives is being piloted, with the aim of fostering collective dynamics.

To structure this pooling of resources, the Ministry must further develop its expertise through a better understanding of its information system, a shared methodological foundation for developing digital services, and a strong capability in system structuring and enterprise architecture. This will make it possible, on the one hand, to enable the alignment of work between regional education authorities and the national level, such as the consolidation of data and infrastructures still hosted regionally, and, on the other hand, to create capacity by reducing technical debt.

Launched in 2022, the new *digital working environment for staff* Etna (environnement numérique de travail des agents) illustrates this ambition for pooling. Its purpose is to provide a comprehensive, national and sovereign range of daily digital services covering collaboration and communication functions, such as email and shared calendars. This range, currently being deployed, is based on open-source software. By 2026, all Ministry staff - nearly 1.2 million agents - will have access to a new professional email service and a shared calendar.

Beyond this, the issue of inter-ministerial pooling of computing capacities must be taken into account, in line with the recommendations set out in the two reports on artificial intelligence in education and higher education[64], as well as those of the Cour des comptes in its November 2025 report[65] on the national AI strategy. Indeed, in view of future artificial intelligence needs, the infrastructure adopted by the Ministry must be consistent with its ambitions and capable of supporting the objectives of the strategy. In this context, the availability of computing resources linked to artificial intelligence will need to grow proportionately with the needs related to innovation and production deployment. For both budgetary and environmental reasons, it is desirable that these resources be pooled.

Objectives

- Deploy the shared collaborative offering 'email and shared calendar' to all staff by the end of 2026.
- Establish a shared platform for AI and generative AI initiatives.
- Implement a process for sharing national and regional education authority investments by 2026.
- Pool computing resources dedicated to artificial intelligence for experimentation and production.

16. Gaining fluidity and quality through the integration of agile approaches and user experience

In addition to traditional project management methods, a *product-oriented* approach combined with agile methods is essential to successfully deliver digital solutions. By mobilising cross-functional teams that combine domain expertise and digital skills - such as developers, data engineers, and designers – together with end users throughout the product development

64 https://www.education.gouv.fr/l-intelligence-artificielle-dans-les-etablissements-scolaires-450655 and https://www.enseignementsup-recherche.gouv.fr/sites/default/files/2025-07/rapport-intelligence-artificielle-et-enseignement-sup-rieur-formation-structuration-et-appropriation-par-la-soci-t--37540.pdf

65 https://www.ccomptes.fr/sites/default/files/2025-11/20251119-Strat%C3%A9gie-nationale-IA.pdf

lifecycle, solutions can be closely aligned with user needs. This product development cycle is based on the involvement of future beneficiaries at all stages of the process - design, development, testing and production deployment - and on impact, namely how users' problems are addressed through an iterative approach.

This governance approach is already applied to certain solutions within the Ministry. The aim is therefore to expand the use of these methods, which have proven effective, including in industry. In particular, this requires raising the quality of engineering processes, with robust technical architectures, better control of systems, and a gradual reduction of information system obsolescence (technical debt).

To achieve this, a shared methodological framework must be defined in order to establish a common vocabulary and consistent practices across all solutions. The community of managers - both technical and operational - whether acting as contracting authorities or delivery leads, as well as project managers, product owners and sponsors, must be trained to this shared framework by 2027.

Improving product quality also relies on the systematic adoption of user experience (UX) design from the outset, whether for new developments or major redesigns. Products designed in this way better meet users' needs and limit the subsequent costs of corrective developments. The richness of the *UX design* approach also lies in the involvement of key beneficiaries, enabling different perspectives to be confronted and reconciled. This approach, which promotes continuous improvement, is fully aligned with the agile approach.

In line with these principles, the establishment of a working group with representatives of school leaders makes it possible to involve them more closely in projects relating to the tools and services that concern them, by sharing short, medium and long-term roadmaps. Following the example of this working group, the creation of user communities (students**,** where relevant, parents and teachers) must be systematically implemented for all Ministry products and across product lines.

Objectives

- Adopt a shared methodological framework by early 2026.
- Train 100% of relevant project managers and managers to the shared methodological framework by the end of 2027.
- Ensure that 100% of strategic projects use the 'Forge des communs numériques éducatifs' (see page 34) and a continuous integration pipeline (devops) from 2025 onwards.
- Ensure that 100% of strategic projects display software quality and technical debt indicators from 2025 onwards.
- Ensure that 100% of new digital service projects or major redesigns incorporate a UX design approach

17. Developing eco-responsibility

The environmental impact of digital technology (energy, water and land resources) is increasing with the large-scale deployment of artificial intelligence. While the main impact on the planet is still largely linked to the manufacturing of equipment, data storage in hosting centres now represents a growing share of the digital footprint. Conversely, when used appropriately, digital technology can help reduce certain carbon emissions by replacing unnecessary travel, and can optimise energy consumption when used to analyse and anticipate situations.

The Ministry's ambition is to reduce its environmental footprint by controlling the impact of its equipment on natural resources, in particular by reducing energy and water consumption and by adopting eco-design principles.

Digital technology in education must therefore integrate an eco-responsible dimension as early as possible - starting at the design and procurement stages - and throughout the entire lifecycle.

A range of actions is already underway:

- rationalisation of data centres through the consolidation of regional data centres at national level (Phac programme);
- use of cloud computing services within a trusted cloud framework;
- extension of the lifespan of equipment;
- provision of a single, unified set of equipment for staff;
- preference in procurement for low-energy, repairable hardware;
- phase-out of fixed telephone networks and their replacement with software-based telephony;
- deployment of an IT asset management tool (Magenta project) linked to a system for assessing the environmental impact of the IT infrastructure.

These actions relating to infrastructure and equipment are complemented by measures aimed at reducing the environmental impact of software services. Examples include the development of the Etna programme to pool office productivity services; the Visio-agents videoconferencing tool based on the free and frugal open-source solution BigBlueButton, which helps reduce travel; training in the general framework for eco-design of digital services; and awareness-raising initiatives for staff, teachers and students on the responsible and frugal use of digital technology. This includes, in particular, guidance on the use of AI, as recommended by the framework for the use of AI in education: 'Refrain from using AI if another, less environmentally costly solution can meet your needs (for example, a simple web search).' Eco-responsibility in digital technology is also embedded in the technical guidelines for digital education[66], alongside the systematic inclusion of sustainability clauses in public procurement contracts in the digital domain.

Objectives

- Consolidate all regional hosting infrastructures at national level by the end of 2026.
- Generalise eco-design practices in digital services.
- Promote responsible and frugal uses of digital technology.

66 https://doctrine-technique-numerique.forge.apps.education.fr/numerique-responsable/texte/2-eco-responsabilite/