

# ERAM – Functional, technical and security framework

## General presentation

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Support documentation for resource providers  
ERAM release 7.1 – June 2023

[gar.education.fr](https://gar.education.fr)

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# 1 Organisation of the documentation

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The ERAM (Educational Resource Access Manager) technical, functional and security framework documentation for ERAM partners, both digital resource providers and VLE (Virtual Learning Environment) operators, is organized into three different parts and a package of supporting documents and examples:

- Opus general presentation (current document)
- Opus administrative and legal framework (not translated, original version in French)
- Opus technical framework (translated)
- Support documents and examples (not translated, original version in French)

## 2 Abbreviations and definitions

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### **ERAM contract**

Public law contract setting the conditions for membership of the ERAM for digital resource providers.

### **Commercial Distributor of Resources (CDR)**

The Commercial Distributor of Resources (CDR) is the broadcaster/distributor responsible for providing the ERAM with subscription information on the digital resources.

### **Technical Distributor of Resources (TDR)**

The Technical Distributor of Resources (TDR) is the technical operator of the resource. He/She is appointed by the publisher of the resource, signatory of the ERAM Contract, to exploit the resource on his/her behalf. TDR is unique for a given resource.

### **ERAM Enrollment Package**

Any partner that begins its work to benefit from the services of the ERAM must complete a registration file. This folder contains all the administrative and technical information necessary to initialize the partner's accounts that are used for interfacing the resource with ERAM's information systems.

### **EduGAR**

Territorial project deployed at the request of a local educational authority with the ERAM for territories not yet having a VLE project.

### **Operating VLE**

The VLE operator means the organization that operates the VLE Solution, as part of an VLE Project. The VLE operator is linked to the VLE Project Leader in the context of a public contract.

### **Identity federation**

Device federating the services of several identity providers in order to make federated services of access to digital resources and management of the transmission of identity information.

### **GAR (ERAM)**

Educational Resource Access Manager (*Gestionnaire d'Accès aux Ressources*). A project initiated by the French Ministry of Education. The aim of ERAM is to provide a secure access service to digital resources for school users, and protect all personal data of individual users. The use of digital resources in the context of the ERAM is the subject of specific data processing, known as 'ERAM Data Processing', entered in the Ministry's Processing Register and under the responsibility of the Minister. School principals (secondary education) and Academic directors for education services (primary education) are thus removed from the obligations relating to the status of controller, which are generally carried out at national level.

## **MENJS (MEN)**

Ministry of National Education, Youth and Sport. French Ministry of Education.

## **ERAM Brand**

The ERAM Brand is awarded to all ERAM partners (VLE and digital resource providers) who have successfully conducted the ERAM interfacing process. Then the partner can use ERAM trademark in its communication.

## **ERAM Partner**

ERAM Partners are the VLE project leaders and their operators, and digital resource providers, who collaborate with ERAM to interface their solutions with ERAM services.

## **ERAM Portal**

<https://portail.gar.education.fr>.

Set of online services for ERAM partners (resource providers, project leaders and VLE operators, school/institution resource allocation managers).

## **VLE project leader**

The «VLE Project Leader» refers to the the public authority that ensures the project management of the VLE Project.

## **VLE Project**

The «VLE Project» refers to the overall project (governance, deployment, support, evaluation, etc.) generally carried out in partnership between local governments, the French Ministry of Education.

## **Resource Allocation Manager**

For a school using ERAM services, the Resource Allocation Manager is responsible for allocating digital resources to final users (teachers, students, other staff in the school). In highschool education, principals are responsible for the allocation of digital resources, whereas in primary education, this responsibility is given to the Academic Directors of Education services (DASEN). The Resource Allocation Manager acts on their behalf, by delegation.

## **GDPR**

General Data Protection Regulation.

European reference text on personal data protection, entered into force on 25 May 2018.

## **RTFS (TFSF)**

The technical, functional and security framework is a set of documents which provides administrative legal and technical information regarding ERAM. The TFSF is updated with each release of a new version of the ERAM.

## **SDET**

Virtual Learning Environments Master Plan (*Schéma directeur des environnements de travail*). The SDET is published by the French Ministry of Education. It sets the architecture and the target services in Virtual Learning Environments (VLEs), and defines the associated organizational,

functional and technical recommendations for VLE suppliers  
(<https://eduscol.education.fr/1559/schema-directeur-des-ent-sdet-version-en-vigueur>).

### **ENT (VLE)**

Virtual Learning Environment (*Espace numérique de travail*).

An integrated set of digital services designed for all actors in the education community of one or more schools within a trusted framework defined by a master plan for VLEs (SDET).

### **Data processing**

Personal data processing is an operation, or set of operations, related to personal data, regardless of the type of process used (collection, registration organization, conservation, adaptation, modification, extraction consultation, use, communication by transmission or dissemination or any other form of provision, reconciliation).

For ERAM uses, all data holdings are placed under the «ERAM Data Processing», under the responsibility of the French Minister for Education, and established by a ministerial decree.

## 3 Educational Resource Access Manager (ERAM)

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### 3.1 Digital resources

Digital resources<sup>1</sup>, like digital textbooks, reference resources, production resources, educational multimedia, information resources such as press titles, etc. have become popular in teaching and learning practices.

Because of their diversity and number, a need to structure their management within schools has been identified. Therefore, we must define, at each stage, which digital resources must be accessible to which users, and according to what modalities.

In addition, a growing number of digital resources now provide interactive tools and evaluation of students by their teachers. This requires collecting users' personal data. Therefore, protecting personal data is a central issue for using these digital tools in the field of education.

### 3.2 The ERAM solution

The ERAM solution is provided free of charge by the French Ministry of Education to its partners. The ERAM solution aims to facilitate and secure access to digital resources for users within schools, and education staff.

Accessing digital resources is the purpose for the user.

To make this possible, processes are necessary, upstream and downstream of the actual use.

Standard process where ERAM is not involved:

1. **Know / Discover** (prescribers):

Process that allows to discover a digital resource, notably through a catalogue of described and qualified digital resources;

2. **Select** (institution/school):

Process which identifies and selects digital resources to be used within schools;

3. **Order** (institution/school):

Process of ordering from a resource provider or through the procurement process implemented in each territory;

4. **Subscribe** (resource provider, commercial distributor of resources):

Process of defining the subscription of an institution/school based on the elements of the order received for a paid or free digital resource;

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<sup>1</sup> Digital resources for education are digital content and interactive services specifically designed for pedagogical use in primary and secondary education.

## With ERAM

**5. Transmit the subscription information** (resource provider, commercial distributor of resources) :

Process which transmits subscription information from the resource provider to ERAM;

**6. Allocate** (institution/school, Resource Allocation Manager)

Process which allocates rights to use a resource across an institution/school, for a given user or set of users;

**7. Access to digital resources** (institution/school; teacher, student, or other staff) :

Process which allows a given user to access his/her digital resources , through exchange protocols (SSO) between the user and the resource provider;

**8. Monitor quality of service and access to digital resources** (school/institution, resource provider, ERAM):

Process which monitors resource utilization and quality of service.

Only the processes of collecting data related to subscription, allocation, and resource access, as well as quality of service monitoring are covered by ERAM. The institution or school allocates corresponding digital copies of subscriptions from resource providers (whether free or paid).

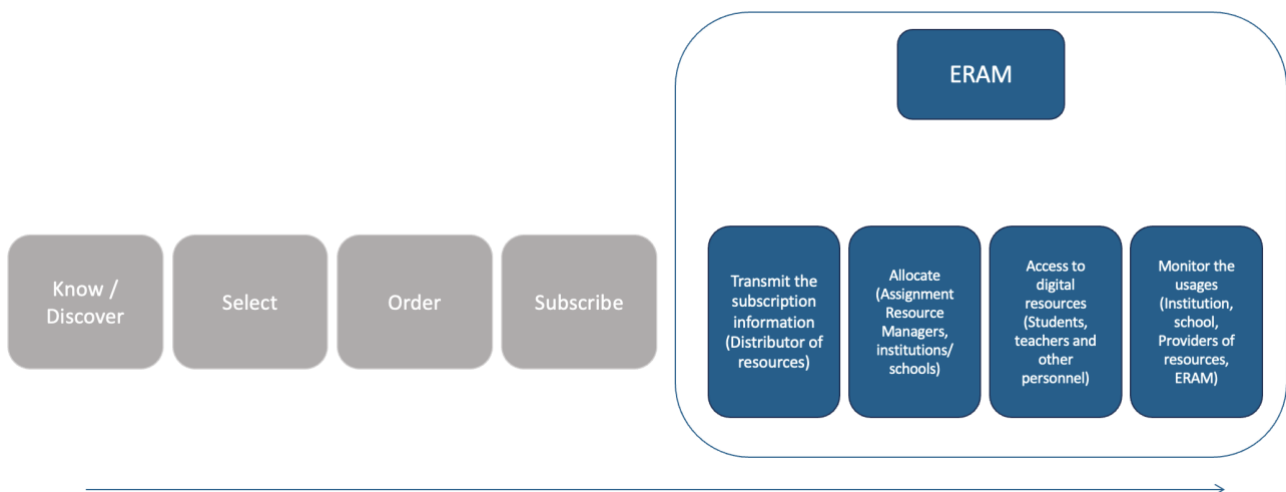


Figure 1 - Resource Utilization Process and ERAM Perimeter

*ERAM facilitates the access and connection to digital resources.*

*It allows to place these accesses in a legal framework offered by the Ministry, in strict compliance with legal and regulatory provisions, in particular the French Education Code and the GDPR.*



*Its objectives are to :*

- support the development of the use of digital resources;*
- guarantee the protection of the personal data of students and education staff.*

### 3.3 The confidence framework

The ERAM is based on a voluntary participant approach:

- ▶ Voluntary registration of VLE project leaders, French academies and local governments, who thus commit to respect all the rules of ERAM;
- ▶ Schools that do not have a territorial VLE project deployed with ERAM, can access ERAM services at the request of a local educational authority, using an alternative solution called "EduGAR".
- ▶ A partnership with the resource providers, formalized by the signing of a contract with the French Ministry of Education (the «ERAM Contract» for resource providers).

The use of digital resources via the ERAM is part of a legal framework created by a decree issued by the French Minister of Education

(<https://www.legifrance.gouv.fr/loda/id/JORFTEXT000036249969>), in particular as an extension of the confidence framework of VLEs. This decree establishes a specific processing of personal data, called «ERAM processing», under the responsibility of the Minister of National Education.

The purpose of this data processing is to enable:

- ▶ The validation by the Ministry of data requests strictly necessary for using the provided service and resources;
- ▶ The transmission of data strictly necessary for the use of digital resources by students, teachers and other education staff , to resource providers. The data can vary according to the users' profile.
- ▶ Hosting user generated data within digital resources;
- ▶ Statistical monitoring of access to digital resources for analysis of the quality of service delivered and monitoring the use of these resources.

The legal framework allows the Ministry to fulfill all the obligations devolved to the controller by the GDPR, exempting the school principal or the Academic Director of Education services from the responsibility for the processing of personal data for all digital resources connected through ERAM.

### 3.4 The deployment prospects of ERAM

From January 2024, ERAM is already deployed in more than 30,000 primary and secondary schools in France (metropolitan and overseas territories). It continues its deployment with new VLE projects or with EduGAR projects in territories without a VLE.

The objective is to generalize the use of ERAM as access resource solution by September 2025, because it is a preferred solution by the French National Commission on Information Technology and Liberties (CNIL). A list of schools and institutions deployed is available at <https://gar.education.fr>. This list is also available in real time via the Subscription Webservice available to ERAM's commercial distributors of resources.

ERAM is deployed:

- ▶ In local public and private schools contracted with the French Ministry of Education;
- ▶ In local public agricultural education, vocational training establishments and private agricultural highschoools in relation with the Ministry of Agriculture and Food;
- ▶ In maritime highschoools under the Ministry of the Sea;

More than 13,000 digital resources are available through the ERAM, including more than 1,700 for the primary education. Over a hundred publishers and resources providers have signed the ERAM contract. The list of ERAM partners is also available on <https://gar.education.fr>.

All digital resources covered by resource procurement contracts carried by the French Ministry of Education are delivered through ERAM services. In addition, a complete range of digital resources designed for the "Digital Education Territories" program (TNE) are available with ERAM since the fall 2022 (Réseau Canopé procurement contract).

## 4 ERAM and its partners

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The ERAM is a solution that intervenes (as a «hub» of identity federation) to connect the actors who provide the identity of the users and the actors who provide the services and digital resources.

This “background service” allows a smooth and secure flow of data (especially personal data) between the VLE and the suppliers of digital resources.

Using ERAM services guarantees compliance with the legal and regulatory rules applicable in an educational institution or school:

- ▶ for the VLE, through compliance with the Master Plan for Virtual Learning Environments (SDET);
- ▶ for digital resources, by complying with the terms of the “ERAM Contract” signed by all resource suppliers.

### 4.1 VLE projects

The VLE acts as an identity provider. It identifies users (students, teachers, other staff in the school), and transmits this identification to ERAM.

ERAM addresses the SDET-compliant VLEs (<https://eduscol.education.fr/1559/schema-directeur-des-ent-sdet-version-en-vigueur>), and in particular VLEs that exist within territorial projects, in collaboration with local educational authorities.

#### *Eligibility Criteria:*

- The VLE candidate for the ERAM must be strictly compliant with the SDET;
- The VLE operator performs the technical connection phase (SSO) and sustains the solution.

ERAM intervenes during the access phase as a background service that receives the identification information from the VLE and gives access to the digital resources to the technical distributor of resources.

#### 4.1.1 The operator of the VLE solution

For the VLE operator, ERAM provides centralized access to over 13,000 resources, without the need to build or maintain specific connectors with each digital resource supplier. The Ministry of Education is responsible for data processing. To be compatible with ERAM, the VLE solution must:

- ▶ Export its identity data daily to the ERAM, through an export module, for all users who benefit from the ERAM;

- ▶ Provide access to the ERAM Allocation Console for users declared as Resource Allocation Managers;
- ▶ Set up a “mediacenter”, as defined by the SDET, and manage its display from the list of digital resources accessible to the user provided by the ERAM, through a specific webservice;
- ▶ Allow access to digital resources, through the ERAM Resource Access Module.

#### 4.1.2 The VLE Project Leader

The management of VLE projects is undertaken by local educational authorities. Therefore, the ERAM, for the VLE Project Leader, is a means of having a range of digital resources subjected to contracts between the Ministry and resource providers, in a process that strictly respects the digital identities of users, and in particular minors.

*Benefits for VLE projects and their operators:*

- A single solution and a single connector for all digital resources deployed with ERAM;
- A national support service and assistance provided by ERAM;
- An industrial roadmap, notifications and other regular information from the Ministry;
- Personal data protection guaranteed by the Ministry.

*All actors of the ERAM collaborate to protect the digital identity of users and can avail themselves of it.*

## 4.2 EduGAR projects

EduGAR projects have been operating since September 2022.

It is the local educational authority that asks the Ministry to deploy an EduGAR project for a defined list of institutions/schools.

Access to the digital resources offered in these territories will be possible thanks to the provision of an autonomous and specifically developed Mediacenter. As with most VLE projects, EduGAR projects rely on authentication with EduConnect for students and “Guichet Agents” for teachers and other personnel.

## 4.3 Digital resources projects

For local governments that implement digital resource acquisition contracts for schools under their scope of responsibility, the ERAM framework provides a qualified offer, as ERAM teams verify with resource providers that their digital resources are compliant with the Confidence Framework.

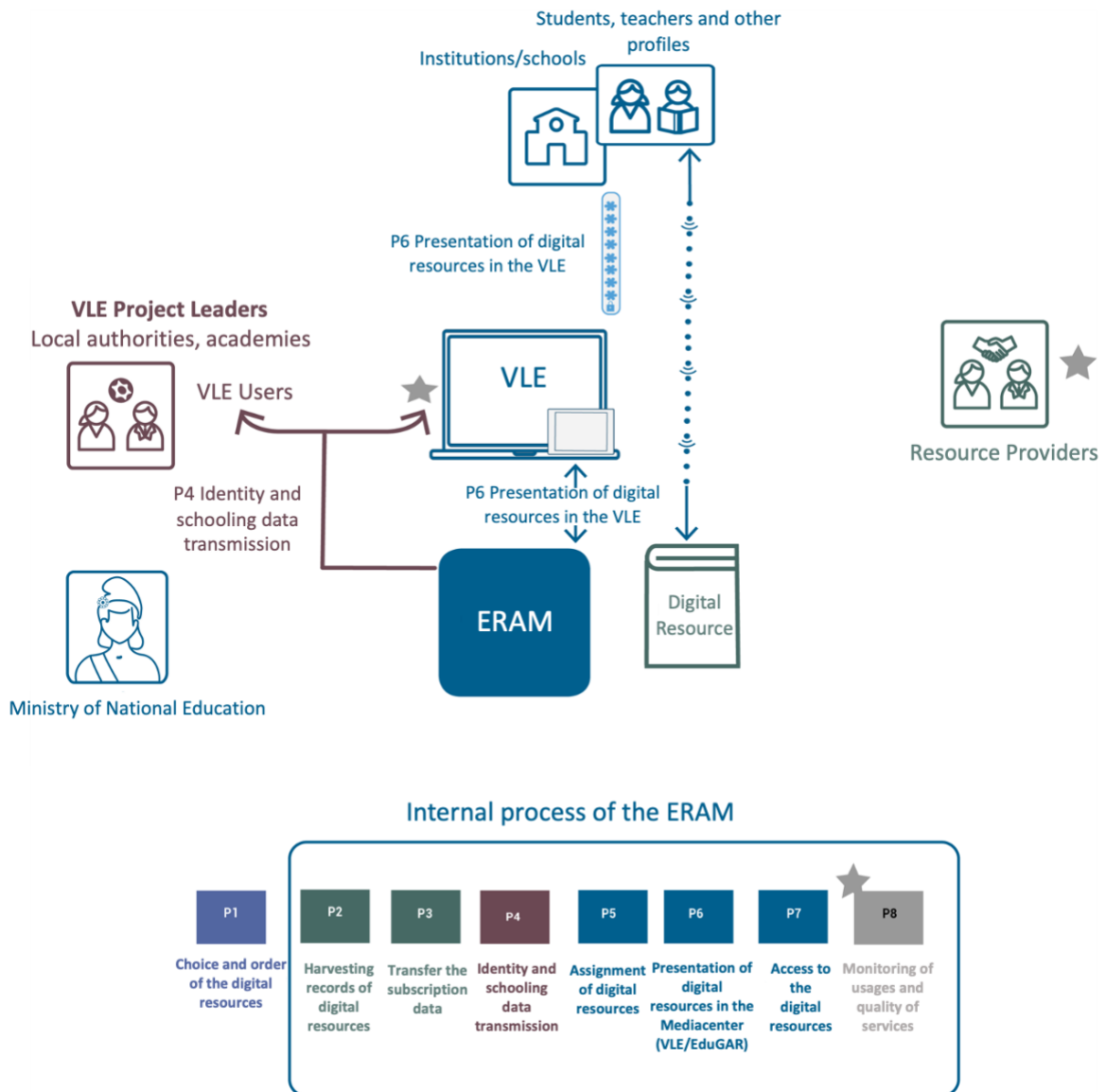


Figure 2 - The VLE as an identity provider for the ERAM

## 4.4 Resource providers

### 4.4.1 Contracting

Resource providers sign the “ERAM Contract” with the Ministry of Education which defines the respective commitments of both parties.

The ERAM Contract is signed by the entity responsible for editing the resource. It may be a publishing house, but also companies operating in other sectors and distributing content or digital services in education, running associations, etc.

The contractor, as legal entity, can be a company, a public institution or even an association located in the European Union, or outside the European Union. Contracting with ERAM means being compliant with the GDPR (pursuant to Article 3, points 1 and 2), Law No. 78-17 of 6 January 1978 on information technology, files and freedoms and all European and French regulatory standards for the management and publishing of digital resources.

*Resource providers working with ERAM have agreed:*

- *to deliver their digital resources exclusively through ERAM to all institutions and schools connected to the service;*
- *to deliver their digital resources only if a subscription has been ordered by each school, including free of charge resources.*

*Eligibility Criteria:*

- *The resource provider is a legal entity who is responsible for signing the "ERAM Contract";*
- *The resource provider relies on a technical distributor of resources and one or more commercial distributors of resources who ensure connection and operation with ERAM services, each within its perimeter of responsibility;*
- *ERAM resources meet a specific set of criteria, in particular the protection of students' digital identity and personal data.*

#### 4.4.2 The publisher and the technical/commercial distribution functions

##### ▶ The publisher

ERAM allows access to digital resources within a specific contractual framework, and guarantees the protection of personal data under the responsibility of the French Minister of Education.

The publisher is responsible for signing the «ERAM contract», , and agrees to provide digital resources in strict compliance with legal principles such as the Education Code, the Intellectual Property Code, and other regulations related to data protection.

As a publisher, the resource provider assumes responsibility for the contents delivered and the guarantee of peaceful enjoyment.

The publisher relies on two functions; he may choose to delegate to other entities or subcontractors:

- ▶ **Technical distribution**, including all responsibility for technical operation;
- ▶ **Commercial distribution**, which consists, within the framework of the ERAM, of the transmission of the characteristics of the subscriptions contracted by the schools.

The commercial and technical distributors have access to a number of tools to manage their ERAM activities: information on subscriptions and allocations, transmission of subscriptions, statistics of access to digital resources within their scope, etc.

*Benefits for resource providers:*

- *A contract signed with the Ministry exempts the School Principal or "Academic Directors for Education Services" from being responsible of data processing related to the access to digital resources;*
- *A single solution, a single connector, to simplify and operate access for all the institutions and schools deployed with the ERAM;*
- *Technical support and assistance to partners provided by ERAM teams;*
- *Higher levels of security: no requests for the institution/school to transmit personal data of users a priori, for example no need to manage the creation of users' accounts;*
- *An organized access to reliable and structured data from the French ministry of education's information system;*

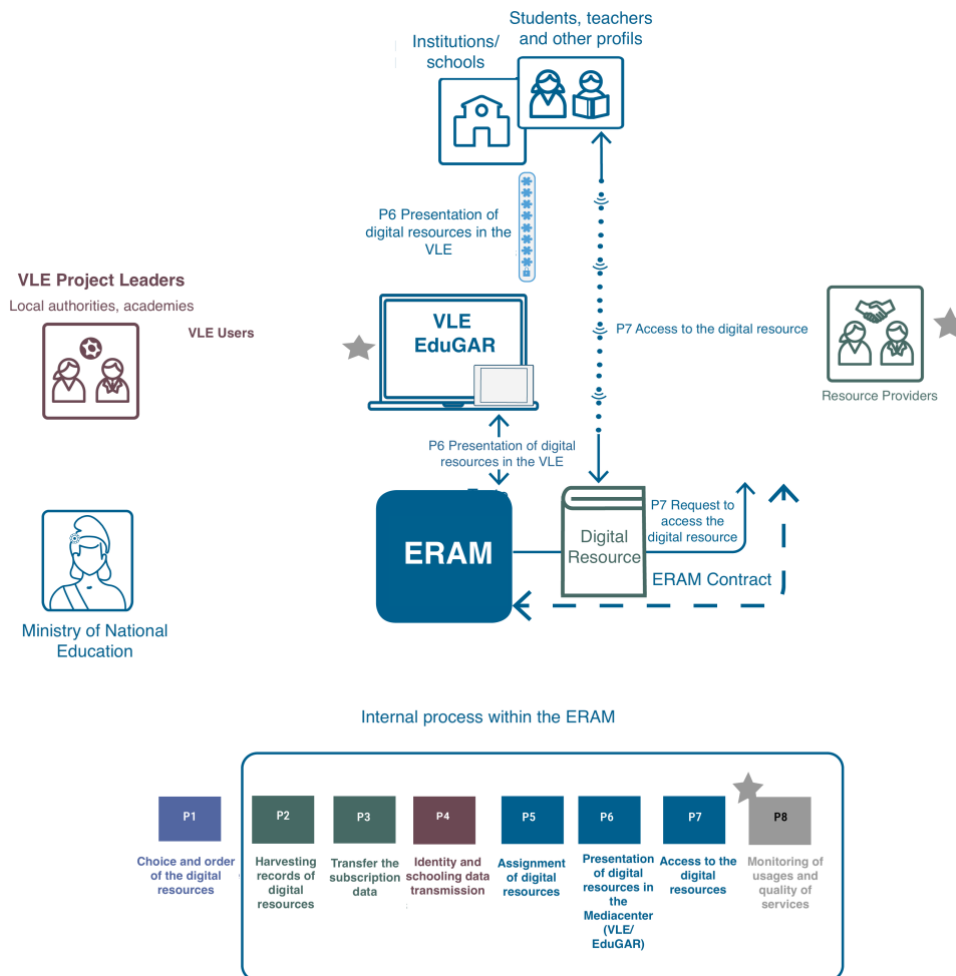


Figure 3 – Resource providers sign a contract with the Ministry and to ensure access to their digital resources through ERAM.



## 5 Detailed functional description

### 5.1 For the user accessing a resource

Students, teachers and other profiles (including non-teaching staff) can access the “mediacenter” of their VLE. The “mediacenter” displays to the user all digital resources that have been assigned by their institution/school. The digital resources whose access is managed by the ERAM are identifiable by an «ERAM badge» and recognizable as such..

When the user clicks on the title/sticker of the digital resource they want to access, ERAM implements a background process that verifies access rights, requests the opening of the digital resource from the provider, and sends personal data that are strictly necessary for the connection to the resource.

ERAM service is invisible to the user; access the digital resource will be immediate once the connection is requested.

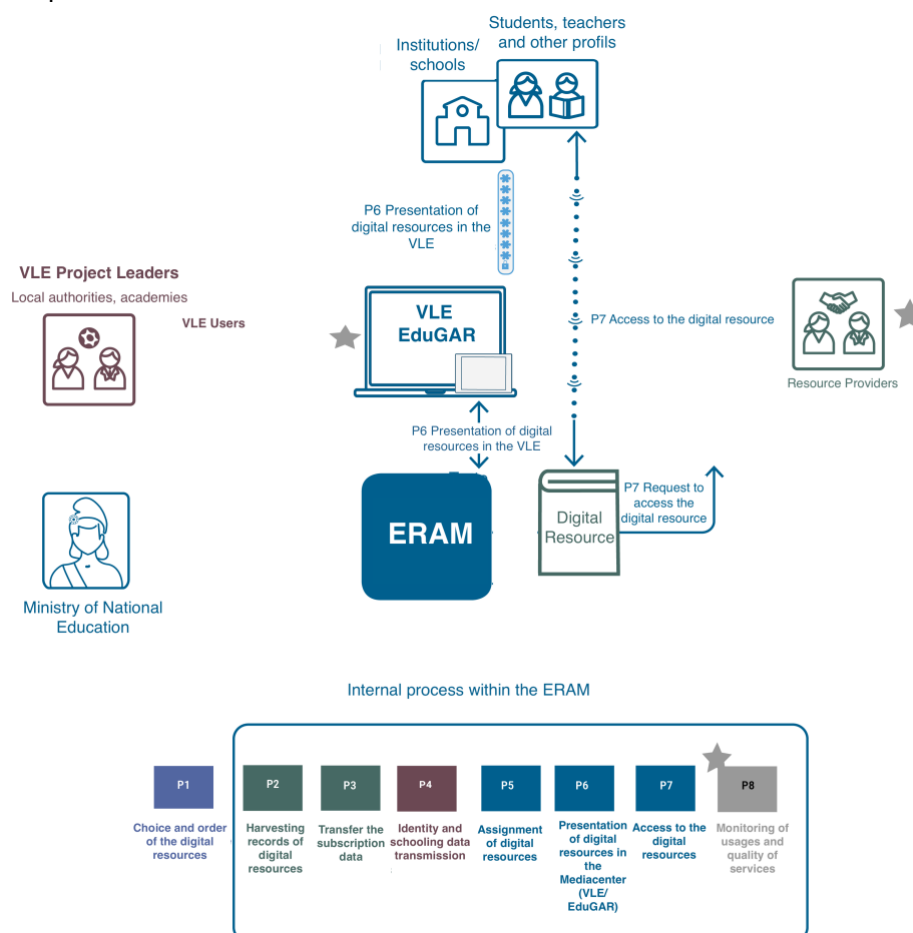


Figure 4 - Users accessing resources

## 5.2 For the institution/school

### 5.2.1 The school principal

The school principal is responsible for allowing all authorized users (pupils and teaching staff) of his/her school to access digital resources, as part of his/her documentary policy. He/She is in charge of subscribing to digital resources (either free of charge or paid orders) and assigning them to the final users.

With ERAM, personal data transfers necessary for using digital resources are under the responsibility of the French Minister of Education (ERAM data processing). This exempts the school principal from the responsibility of data processing and related obligations (eg. declaring each digital resource in the Data Processing Register, contracting with each resource provider, carrying out heavy and complex impact analysis).

### 5.2.2 The Resource Allocation Manager

The Resource Allocation Manager is delegated by the school principal to implement the established policy on digital resources. The Resource Allocation Manager has access to a dedicated online interface called "Allocation Console", designed for viewing and allocating subscriptions that have been delivered by digital resource providers. He/She is responsible for allocating the digital resources acquired by the institution/school to the users.

Allocations can be done by a single click to all users regardless their profiles (for example: digital books such as dictionaries and encyclopedias, press titles, etc.) or individually, depending on the profiles of users and available resources.

The Resource Allocation Manager has an access for assistance when needed, either through the local support system or directly (depending on the support services implemented in his/her territory).

### 5.2.3 In secondary schools

Digital resources, whether accessible through the ERAM or not, represent an increasingly important component of the educational policy in secondary schools within the framework of local acquisition plans. Each year, the subscriptions contracted may be reviewed to determine whether they are renewed, abandoned, or if other digital resources will be chosen.

### 5.2.4 In primary schools

In primary schools, digital resources, whether accessible through the ERAM or not, paid or free of charge, are chosen for the school year by teachers and school staff, within the framework of a defined acquisition policy.

Each year, subscriptions may be reviewed to determine whether they are renewed, abandoned or replaced by different subscriptions of other digital resources.

*Benefits to the institution/school:*

- *The school principal has the tools to manage digital resources and allocations;*
- *All digital resources are presented in the mediacenter, facilitating their access;*
- *There is no need to transmit any personal data of users a priori, for example to create all accounts before use;*
- *Within the framework of ERAM, the school principal or Academic Director for Education Services is no longer in charge of controlling personal data for any digital resources chosen by the teaching team. This processing is placed under the responsibility of the Minister;*
- *Only necessary personal data for using the digital resource are automatically transmitted to the resource provider;*
- *Data protection is guaranteed by the Ministry, in particular for data produced by the user and hosted on the platforms of resource providers;*
- *Resource providers are contractually committed to abide by strict rules of non-disclosure of users' personal data; as well as all rules of compliance of the use of these resources;*
- *All ERAM stakeholders collaborate to protect the digital identity of users;*
- *The tools provided by the ERAM allow simplified management of digital resources.*

*The ERAM provides an organization and services, including a support service to facilitate the use of digital resources. The ERAM Portal also provides access to subscriptions or statistics to monitor access to school digital resources.*

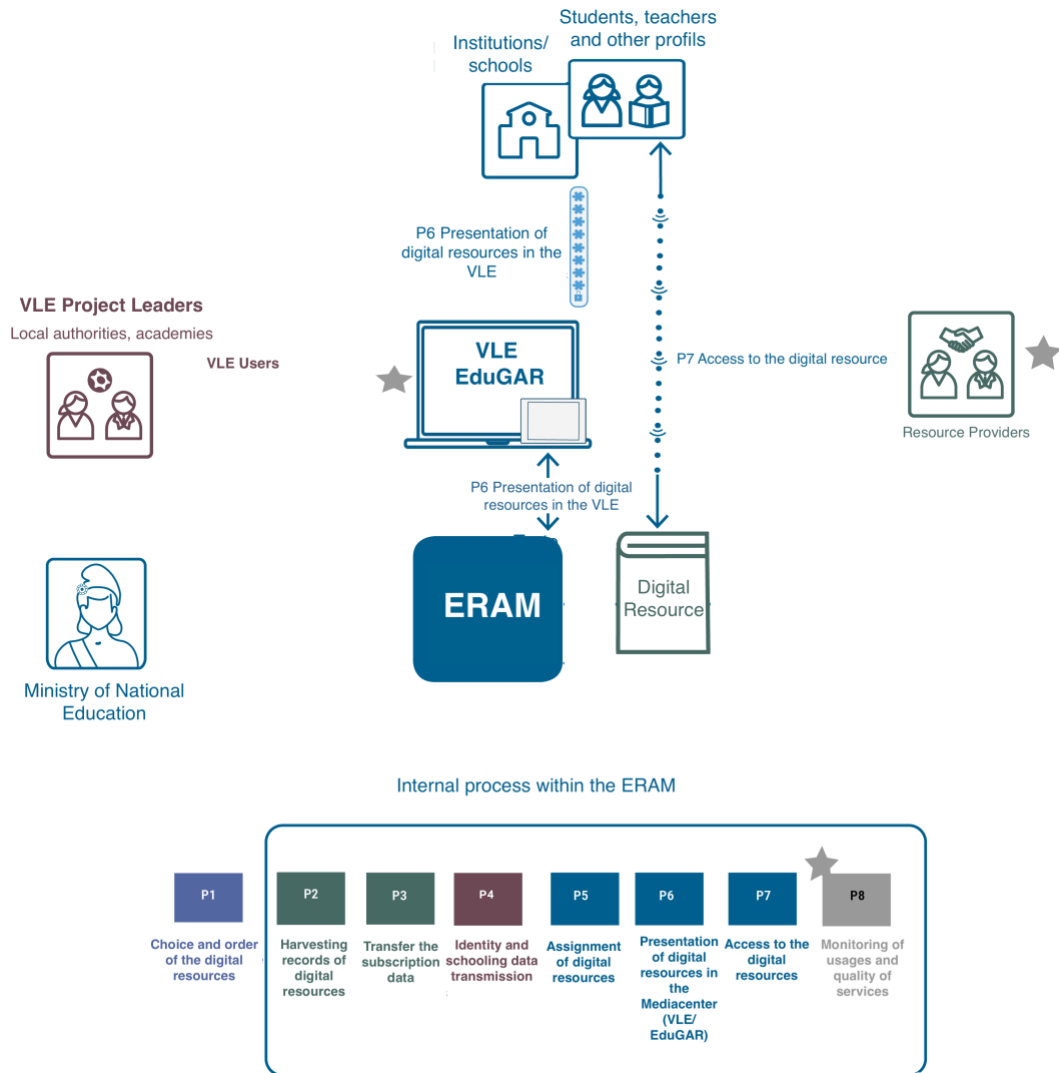


Figure 5 – The institution/school manages its range of digital resources

## 6 The ERAM Portal

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For the management of their activities, partners, VLE project leaders, VLE operators, resource project leaders, resource providers, publishers, commercial distributors of resources and technical distributor of resources have individual accounts on the ERAM Portal.

Different tools allow Portal users to monitor the quality of the service and access a number of indicators defined for each profile of users: eg. List of digital resources available with ERAM, number of subscriptions, statistics, etc.

The ERAM portal also allows resource managers (at the national, territorial or school-level) and resource allocation managers to generate and download the list of resource allocation managers within their own scope (school ID, first and last name, email).

The rights and features of the ERAM Portal are specific to the user's profile and related account.

## 7 The ERAM Brand

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Once the technical connection and validation from the French Ministry of Education is confirmed, the ERAM partners are allowed to use the «ERAM Brand», which attests to their compatibility with ERAM standards.

Being an ERAM partner means benefiting from an attractive brand that is easily identifiable by institutions, and more generally by resource acquisition managers.

ERAM provides a complete set of logos, designed to adapt to the media and graphic charts of its partners.

*With the ERAM brand, each partner proves its involvement in favour of:*

- Data protection for students and school staff;*
- Increase the use of digital resources;*
- Simplification of access and management of digital resources in schools.*

## 8 The ERAM Team

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For more information, you can contact the ERAM Team:

Email

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