



French interoperability framework

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 - **Action 10: Health Terminology Center**
- **International activities and participation**



French agency for e-health

ANS - Agence du Numérique en Santé

<https://esante.gouv.fr/>

ANS: Agence du Numérique en Santé

- **ANS** (old name ASIP Santé) was **created in 2009** to strengthen public ownership of the information systems being developed in the healthcare sector.
- **It merges two existing entities: GIP DMP and GIP CPS.** It takes the form of a “Public Interest Group (GIP)”, under the supervision of the Ministry of Health
- **ANS's general assembly** is the guarantor of the agency's general policy. It is made up of administrators representing the State, the National Health Insurance Fund (CNAM) and the National Solidarity Fund for Autonomy (CNSA)
- The **agency's resources come from public funds** dedicated to the evolution and modernization of our health system. In 2013, the CNAMTS financed 92% of ANS's work through the Intervention fund for quality and coordination of care (FICQS) and the National management fund (FNG). The remainder is financed by state subsidies (3%) and the agency's own funds
- ANS is **placed under the supervision of the Delegation for Health Information Systems (DNS)**, itself attached to the general secretariat of the ministries responsible for social affairs

ANS is the French agency for e-health

- Created in 2009, ANS has the responsibility of promoting the development of **shared information systems and digital technologies in the health field.**
- ANS contributes to the reinforcement of the efficiency of health policies and to the improvement of coordination, efficiency and quality of care.
- It holds a wide portfolio of projects organised around 3 missions.
- ANS is member of IHE int., HL7 int. and IHE France

MISSION 1 REGULATE

Create a framework for e-health development

- **Enable interoperability of healthcare IT systems (CI-SIS)**
- Securitisation of healthcare IT systems (PGSSI-S, health data hosting, cyber security ACSS)
- Patients identification; healthcare actors identification (RPPS and directory)
- Authentication of healthcare actors (CPS personal cards, IGC Santé certificates)
- Description of the healthcare offers (ROR)
- Quality certification and labellisation of hospital, health centres and nursing homes' IT projects

MISSION 2 BUILD

Lead national e-health projects

- Secured e-mail system for healthcare data exchange (MSSanté)
- Implementation of an IT system for emergency units (SI SAMU)
- Adverse events reporting portal ; modernisation of poison control centers' IT systems
- Convergence of IT systems disabled persons within local centres' network
- Support on simplifying patient's hospital pathway
- Website for public health information service (Service public d'information en santé - SPIS)

MISSION 3 SUPPORT

Speed-up e-health usage by promoting innovation

- Support to regional health agencies and regional branches deploying e-health (ARS/GRADeS) and to interregional e-health cooperation
- Support to hospitals network in convergence of their IT systems
- Expertise contributions to care givers coordination IT , Telehealth,....
- Monitoring/support in decree implementation (structuration of biology analysis results)
- Communicate , train on E-health legal framework



French interoperability framework

CI-SIS: Cadre d'Interopérabilité des Systèmes d'Information de Santé

<https://esante.gouv.fr/interoperabilite/ci-sis>

- <https://esante.gouv.fr/interoperabilite/ci-sis>
- First version in 2009
- Based on IHE profiles, HL7 and DICOM standards
- Initially, focused on :
 - DMP - Dossier Médical Partagé- a national ePHR based on an XDS repository of CDA documents <https://www.dmp.fr>
 - MSSanté – Secure eMail system for healthcare professional <https://mssante.fr>
- Involved in IHE (ITI, PCC), monitors for the NA and EU Connectathons

Levels of interoperability

Levels of interoperability



Legal

Legal interoperability covers the legal framework with which the exchange partners must comply (national and international law, intellectual property, confidentiality, etc.) and the contractual agreements established between these partners (exchange modalities, service levels, etc.).



Organisation

Organisational interoperability is linked to processes, implemented in particular to promote and operate exchanges. It also concerns the skills and knowledge associated with the operation of these processes.



Semantic

Semantic interoperability ensures that the precise meaning of the information exchanged is preserved and understood by all exchange partners, in other words it means that "what is sent is what is understood".



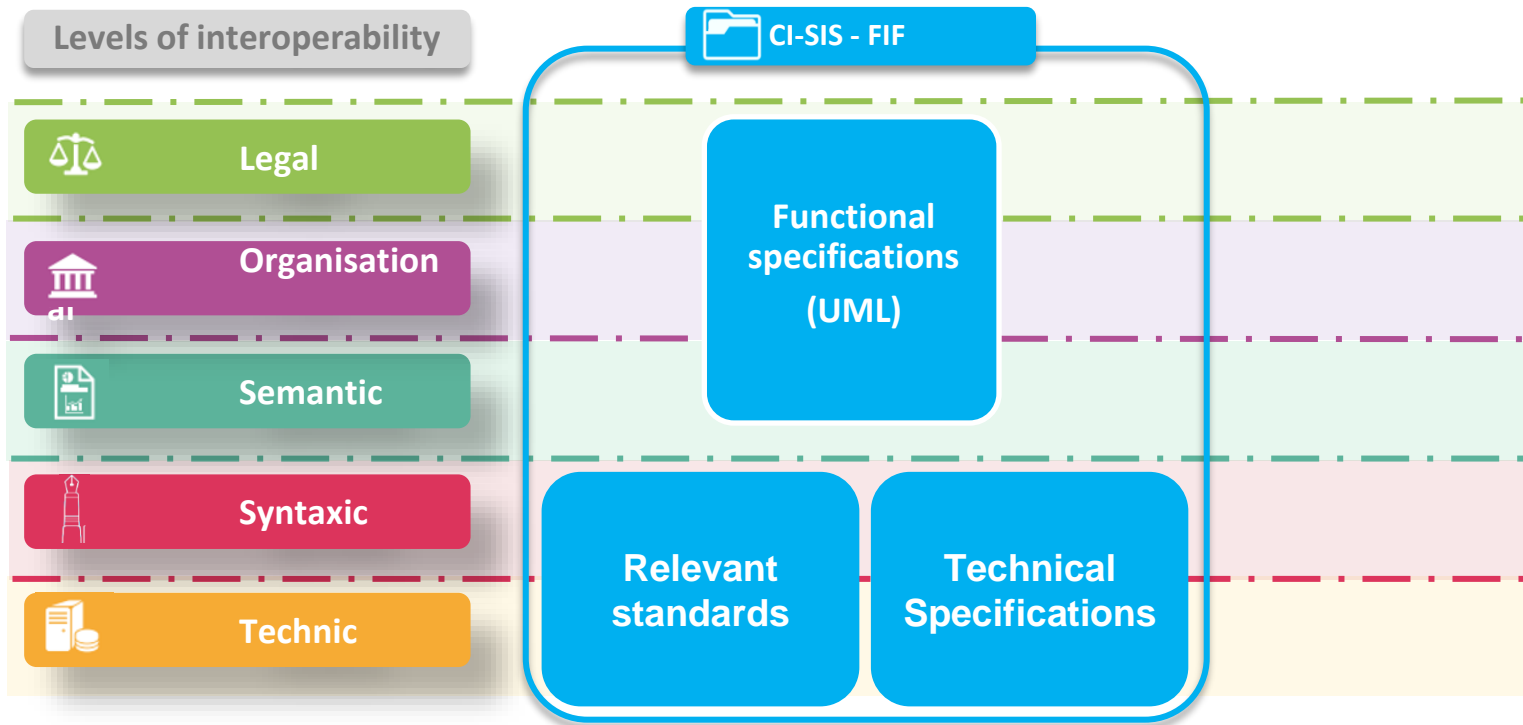
Syntactic

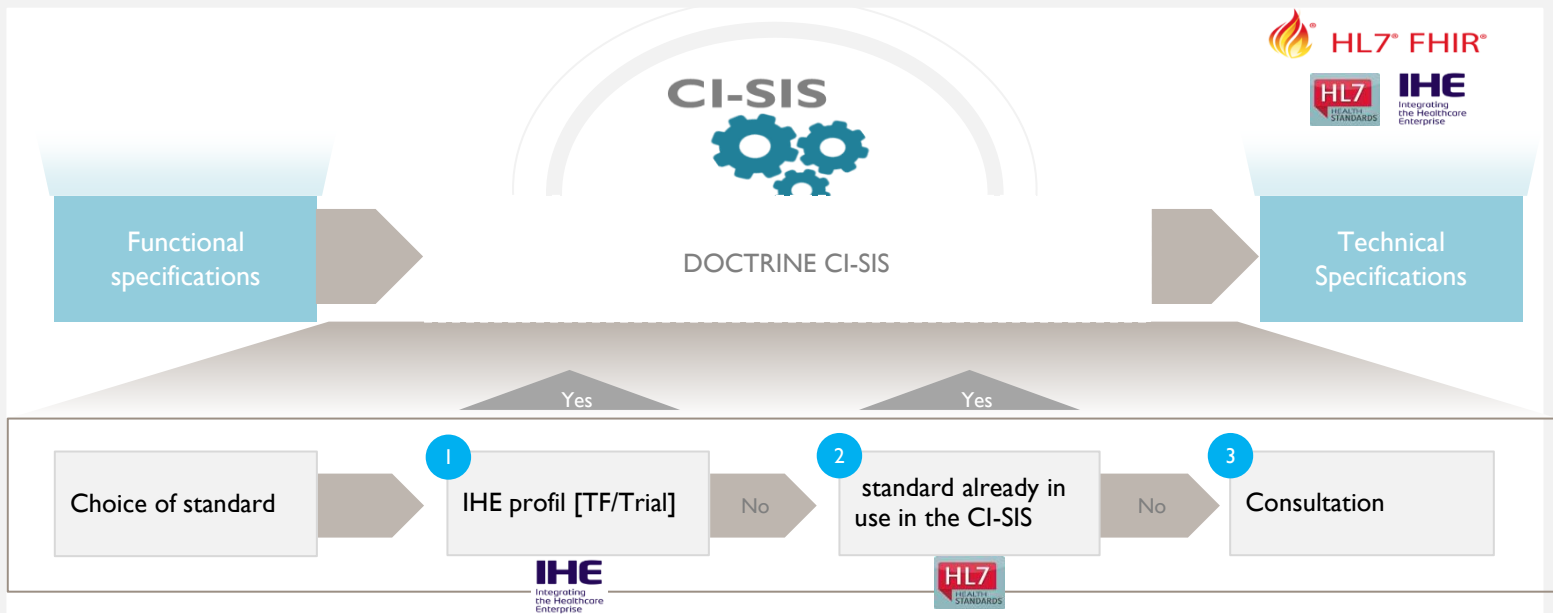
Syntactic interoperability refers to the accurate description of the information exchanged, in terms of grammar and format, regardless of the meaning of that information.



Technic

Technical interoperability covers interface specifications, interconnection services, data integration services and secure communication protocols.





- **Transparency**

- Open data

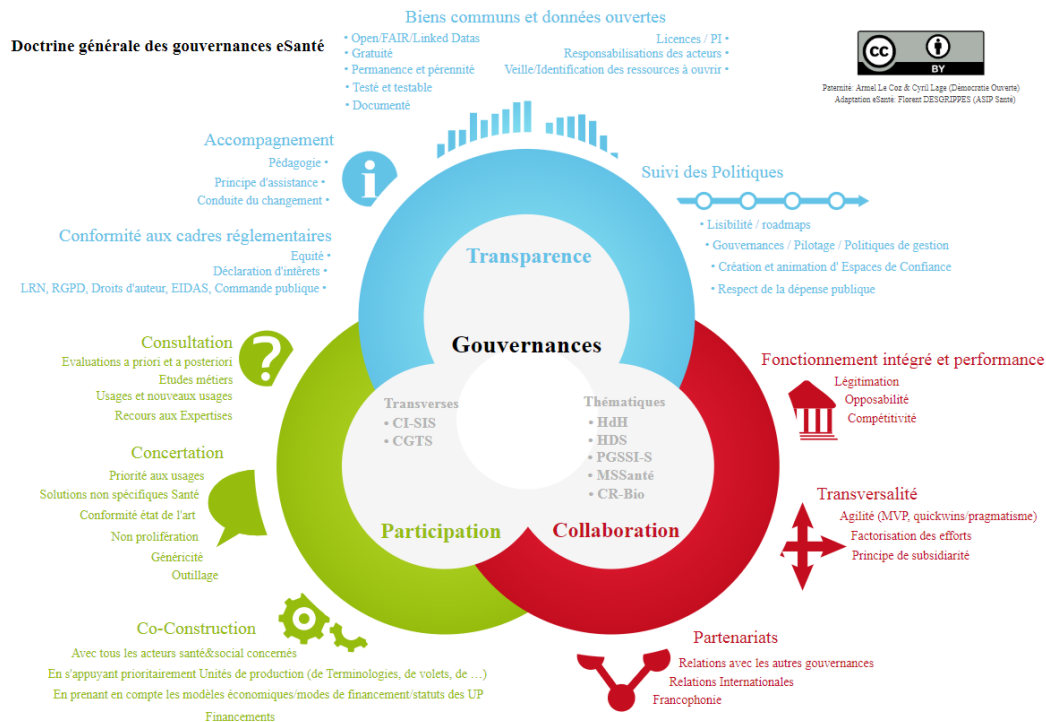
- **Collaboration**

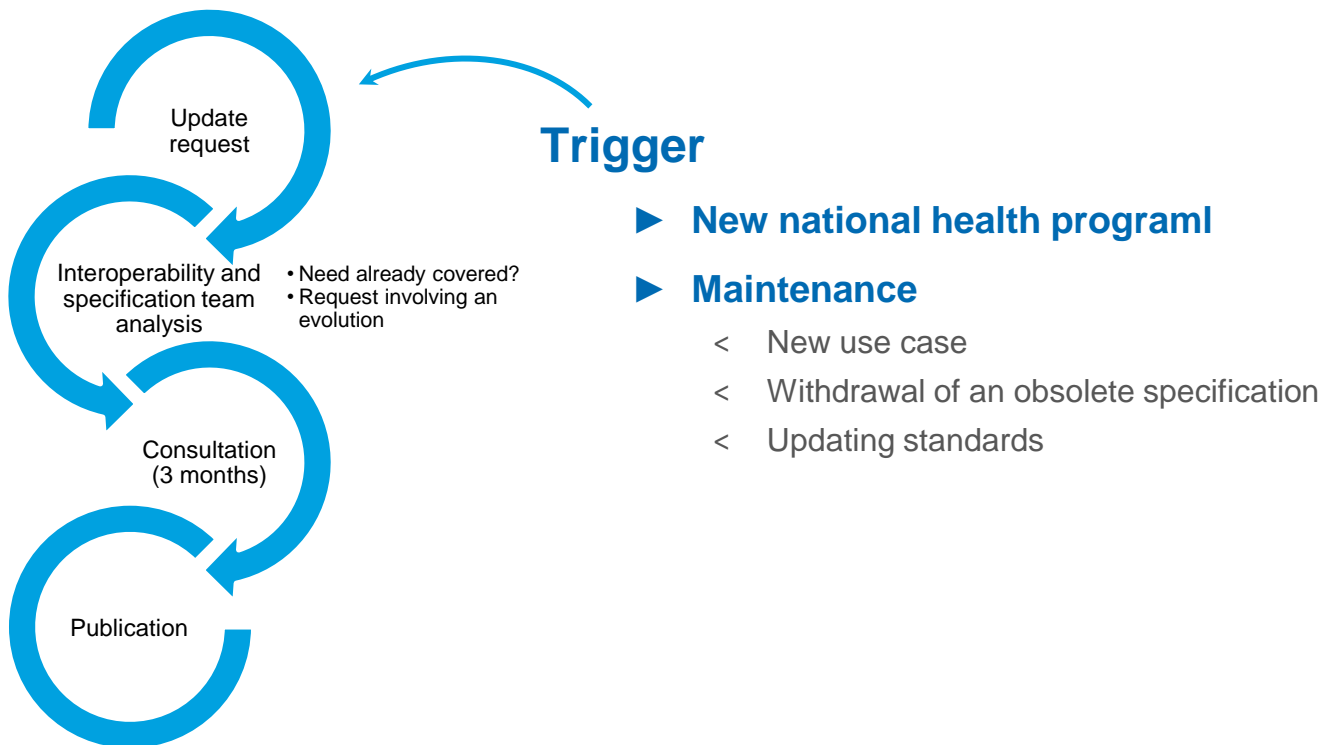
- Transversality

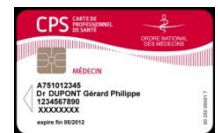
- **Participation**

- Consultation
- Concertation
- Co-construction

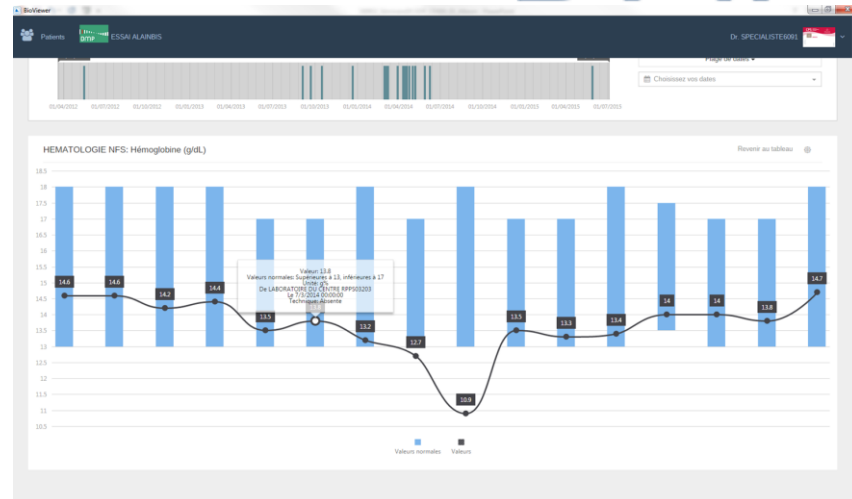
- **Evaluation in case of new needs**

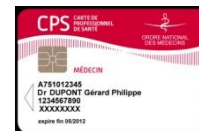






- pEHR based on a XDS repository of CDA documents
- > 8 millions of DMP, > 170 Softwares, mobile application, web portal
- Level 3 CDA documents
 - Biological report [IHE XD-LAB]
 - Breast cancer screening [IHE PCC]
 - Medical synthesis [IHE PCC]
 - Reimbursement data [IHE PCC]
 - Immunization content [IHE IC]
- Future work
 - Anesthesia report [HL7 WG]
 - Child health report [IHE PCC]
 - Eye evaluation [IHE GEE]
 - Anatomy and pathology report [IHE APSR]

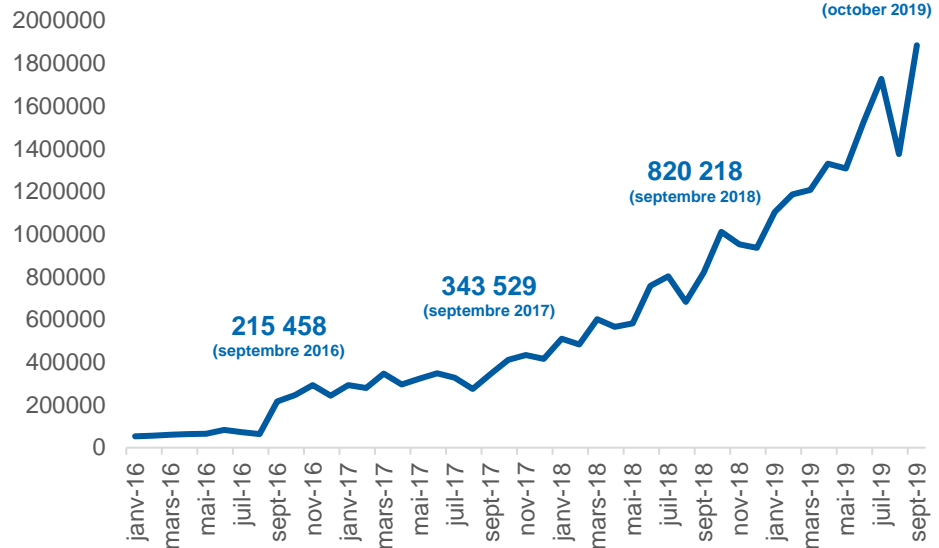




- Exchange of CDA document using IHE XDM profiles



Nb of mails



- 1 244 healthcare institutions
- 176 000 healthcare professionals
- 163 biological laboratories (2 177 sites)



#MyHealth2022

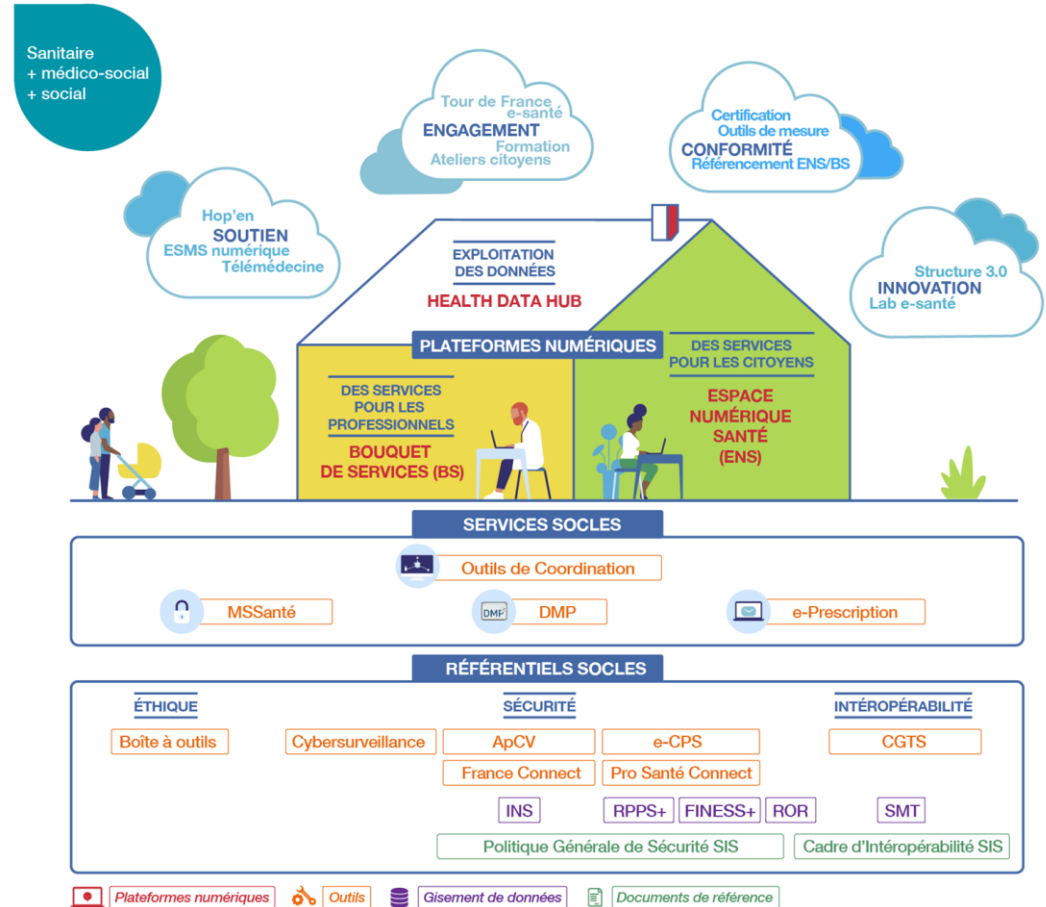
#MaSanté2022

<https://solidarites-sante.gouv.fr/systeme-de-sante-et-medico-social/masante2022>

<https://esante.gouv.fr/MaSante2022>

Road Map for Digital Health #MyHealth2022

- **Four priorities**
 - Careers of health professionals, including training
 - Healthcare provision
 - Legal simplification
 - Road Map for Digital Health



25 April 2019

5 MAIN ORIENTATIONS

26 ACTIONS

1ST ORIENTATION

STRENGTHENED
GOVERNANCE
IN DIGITAL HEALTH

2ND ORIENTATION

ENHANCED
SECURITY AND
INTEROPERABILITY
IN DIGITAL HEALTH

3RD ORIENTATION

ACCELERATED
ROLL-OUT OF
REFERRAL
DIGITAL
SERVICES

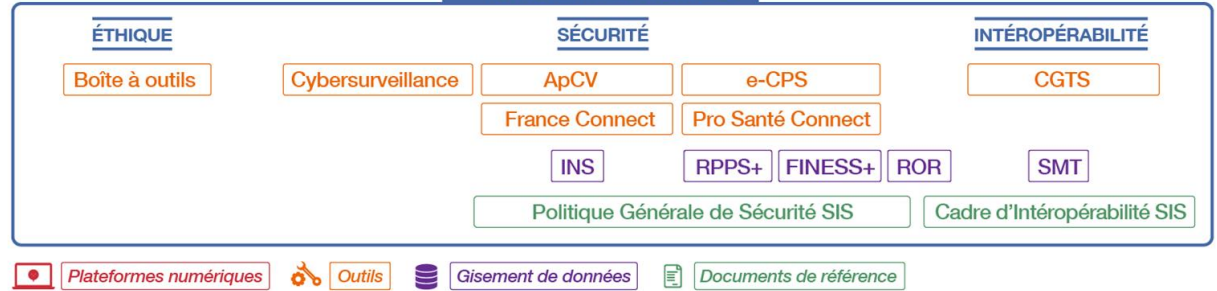
4TH ORIENTATION

EXTENDING
NATIONALLY
DIGITAL HEALTH
PLATFORMS

5TH ORIENTATION

SUPPORTING
INNOVATION AND
STIMULATING
STAKEHOLDER
INVOLVEMENT

RÉFÉRENTIELS SOCLES



Enhanced SIS Security and Interoperability

2TH ORIENTATION

Cyber Oversight National System Implementation
End 2019

National Health ID Implementation
Trial period : End 2019/2020
Generalization : January 2021

Digital ID Generalization for Medical Professionals (RPPS+, FINESS+)
End 2021

Trial period ApCV
From Sept.2019

Trial period e-CPS
From Sept.2019

Interoperability testing tools upgrade
End 2019-2020

Terminology Management Center
Start 2020

Multi-terminology Server
Start 2020

**Accelerated
 roll-out of Referral
 digital services**

3TH
 ORIENTATION



MSSanté
 Secure e-mail

● An increasing roll-out
 From 2018

● POC users mailbox
 Mid-2020

● Extension to other professionals
 By the end of 2021



DMP
 Document repository

● Intensifying service launch
 From 2018

● A service opening from birth lately voted in the French Law
 July 2019



e-Prescription

● Medical Digital prescription
 From July 2019



Coordination Tools

● Digital Path Program National Master Agreement : Notifications
 End of Sept. 2019



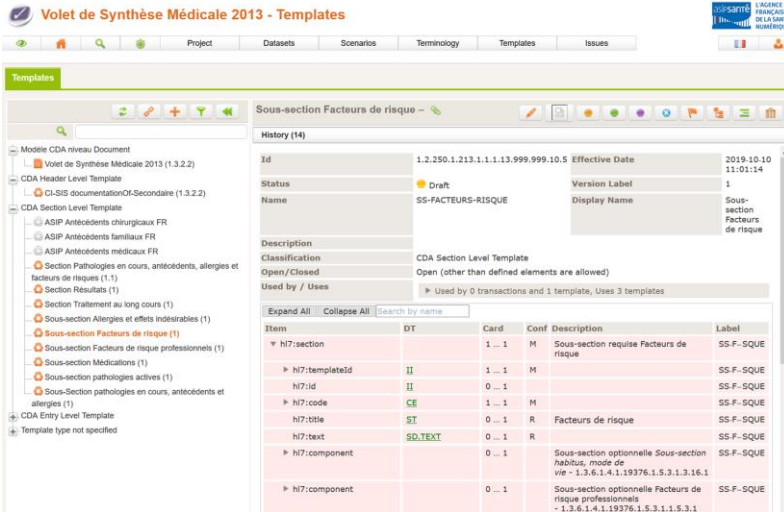
#MyHealth2022

Action 8: interoperability

#MaSanté2022

<https://esante.gouv.fr/MaSante2022>

ArtDecor tool for CDA profiling



Voilet de Synthèse Médicale 2013 - Templates

Project Datasets Scenarios Terminology Templates Issues

Templates

Sous-section Facteurs de risque -

History (14)

Id	1.2.250.1.213.1.1.1.13.999.999.10.5	Effective Date	2019-10-10 11:02:14
Status	Draft	Version Label	1
Name	SS-FACTEURS-RISQUE	Display Name	Sous-section Facteurs de risque
Description			
Classification	CDA Section Level Template		
Open/Closed	Open (other than defined elements are allowed)		
Used by / Uses	Used by 0 transactions and 1 template, Uses 3 templates		

Item	DT	Card	Conf	Description	Label
h7:section		1..1	M	Sous-section requise Facteurs de risque	SS-F-SQUE
h7:templateId	II	1..1	M		SS-F-SQUE
h7:id	II	0..1			SS-F-SQUE
h7:code	CE	1..1	M		SS-F-SQUE
h7:title	ST	0..1	R	Facteurs de risque	SS-F-SQUE
h7:text	SD,TEXT	0..1	R		SS-F-SQUE
h7:component		0..1		Sous-section optionnelle Sous-section habitus, mode de vie - 1.3.6.1.4.1.19376.1.5.3.1.3.16.1	SS-F-SQUE
h7:component		0..1		Sous-section optionnelle Facteurs de risque professionnels - 1.3.6.1.4.1.19376.1.5.3.1.1.5.3.1	SS-F-SQUE

Gazelle interoperability testing tool (ANS, ...)

Validation basée modèle Fiche d'évaluation

Document bien formé **REUSSI**

The document you have validated is supposed to be a well-formed document. The validator has checked if it is well-formed, results of this validation are gathered in this section.

The document is well-formed

Résultat de la validation avec le schéma **REUSSI**

Your document has been validated with the appropriate schema, here is the detail of the validation outcome.

Le document est conforme au schéma

Résultat de la validation Gazelle Objects Checker **ECHOUÉ**

Résumé des vérifications **83** 5028

Severity	Count	Test Location	Description
Errors	8	rmm086	/ClinicalDocument/componentOf/encompassingEncounter/location/healthCareFacility
Alertes	3		If healthCareFacility has not a null of flavor and its enclosing location has not a null of flavor, it SHALL have a location or a serviceProviderOrganization (RMM-086) [Constraint...] [Assertion...]
Informations	0		Context
Inconformes	0		
Rapports	200	cdadt011	/ClinicalDocument/component/structuredBody/component[0]/section/component[0]/section/entry[0]/act/entryRelationship[0]/procedure/participant[0]/participantRole/id[0]
Type	3		When root is UUID, the hexadecimal digits A-F SHALL be in upper case (CDA DT-011) [Constraint...] [Assertion...]
Cardinality	3		Context
Vocabulary	13		

- **Testing sessions dedicated to specific projects using a set of IHE Profiles in their interoperability specifications**
 - **DMP**
 - **MSSanté**
- **Projectathons ANS**
 - **EU Connectathon – Rennes - April 2019**
 - Biological report [IHE XD-LAB]
 - Communication diary [HL7 FHIR]
 - **ANS vendors day – November 2020**
 - Medical synthesis [IHE PCC]
 - **Next projectathons**
 - Hospital medical report [IHE PCC]
 - Immunization content ? [IHE IC]





#MyHealth 2022

Action 10: Terminology

#MaSanté2022

<https://solidarites-sante.gouv.fr/systeme-de-sante-et-medico-social/masante2022>

<https://esante.gouv.fr/MaSante2022>

...because it's obvious we have to.
But we have new challenges:

**Diversity of terminological resources
governance and distribution processes in
France**



**Centralized governance
Normalization of distribution
“Trusted area”
National plan for semantic resources**

**Growing dependence over pure semantic
while “using” data**



Clarify Intellectual Property (IP)

**New “e-usecases” need terminologies
recommendations**

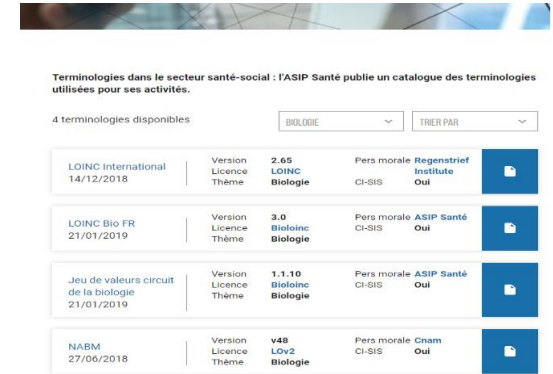
French interoperability framework



**Analyze the needs
Evaluate the candidate Terminologies**





Work on terminologies: how?

- **Explaining, convincing**
 - Endusers, management, ...
- **Working with other similar organizations**
 - Nictiz (NL), DIMDI (DE), HL7 HTA...
- **Collaborating with « semantic production units »**
 - Regenstrief, WHO, HPO...
- **Collaborating with experts from outside the health sector**
- **Evaluating**
 - SNOMED CT study (under way)

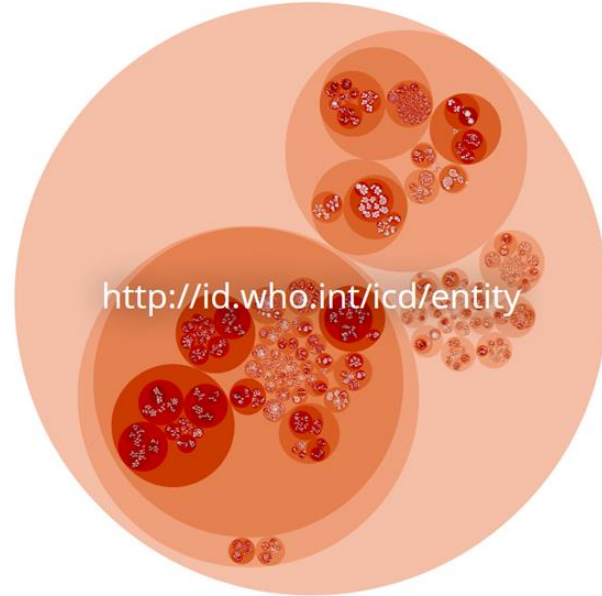


Terminologies dans le secteur santé-social : l'ASIP Santé publie un catalogue des terminologies utilisées pour ses activités.

4 terminologies disponibles

Terminologie	Version Licence Thème	Version Thème	Pers morale CI-SIS	Regenstrief Institute Oui	
LOINC International 14/12/2018		2.65 LOINC Biologie			
LOINC Bio FR 21/01/2019		3.0 Bioloinc Biologie	Pers morale ASIP Santé CI-SIS	Oui	
Jeu de valeurs circuit de la biologie 21/01/2019		1.1.10 Bioloinc Biologie	Pers morale ASIP Santé CI-SIS	Oui	
NABM 27/06/2018		v48 LOv2 Biologie	Pers morale Cnam CI-SIS	Oui	

- **Priority to deployed terminologies**
- **Evaluating**
 - Snomed-CT study is under way
 - Looking for some RETEX
- **Managing a « Catalog »**
 - Up-to-date informations
 - Metadatas
 - Publications
- **Tooling**
 - Multi-Terminology Server
 - Web portal (Opendata-like)



- **Looking informations**
 - ICD-11
 - ICHI, ICF, ...
 - Looking for some RETEX

The HTMC - Health Terminologies Management Center will be in charge of :



National management of health terminologies activities through the coordination and animation of a network of terminologies producers (Production Units)



Publication of semantic resources (terminologies, value sets, alignments) in use among healthcare community (required by law texts, used for national statistics, agreed for interoperability, used as performance indicators) , through a terminology server



Support services to health terminologies users (helpdesk, training, documentation)

Target users

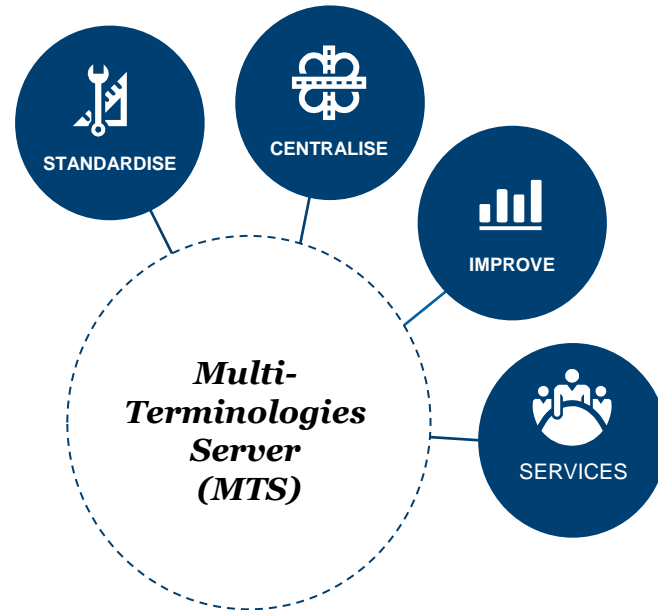
The French health terminologies management centre addresses all users of terminologies in the health and welfare sector :

- Software editors and industrials
- E-health project managers
- Health professionals and institution

The health terminologies management center offers services to final users based on the functionalities offered by a Multi-Terminologies Server (MTS).

The MTS allows to :

- **Standardise the terminologies publication process** through an institutional point of entry to professionals and the general public.
- **Centralisation of terminologies distribution**
- **Improve terminologies management** (versioning, format, value set, quality management)
- **Make available to users, ANS's services** in terminologies management and publication



Classification Internationale des Soins Primaires > Chapitre > Cardio-vasculaire > Cardiopathie ischémique avec angor

Active ontology | Entities | Individuals by class | DL Query | Individual Hierarchy Tab | SPARQL Query

Data properties | Annotation properties | Datatypes | Individuals

Classes | Object properties

Class hierarchy: Cardiopathie ischémique avec angor

Annotations: Cardiopathie ischémique avec angor

skos:altLabel [language: fr] Angor

skos:altLabel [language: fr] Artérite coronaire

skos:altLabel [language: fr] Douleur thoracique ischémique

skos:altLabel [language: fr] Infarctus myocardique ancien ou cicatriciel

code [type: xsd:string] K74

consider 'Douleur cardiaque'

consider 'Infarctus myocardique aigu'

criteria [language: fr] Notion d'infarctus myocardique ancien démontré à l'ECG ou par imagerie; ou mise en évidence d'une ischémie myocardique à l'ECG de repos ou d'effort; ou démonstration d'un rétrécissement artériel coronaire ou d'un anévrisme ventriculaire

criteria [language: en] History plus ECG or imaging evidence of old aneurysm

dcterms:title [language: fr] Description: Cardiopathie ischémique avec angor

Equivalent To

SubClass Of

- Autres diagnostics'
- Cardio-vasculaire

ICPC-2 concept

Concept URI

Search

Main label [en, fr]

Synonyms [en, fr]

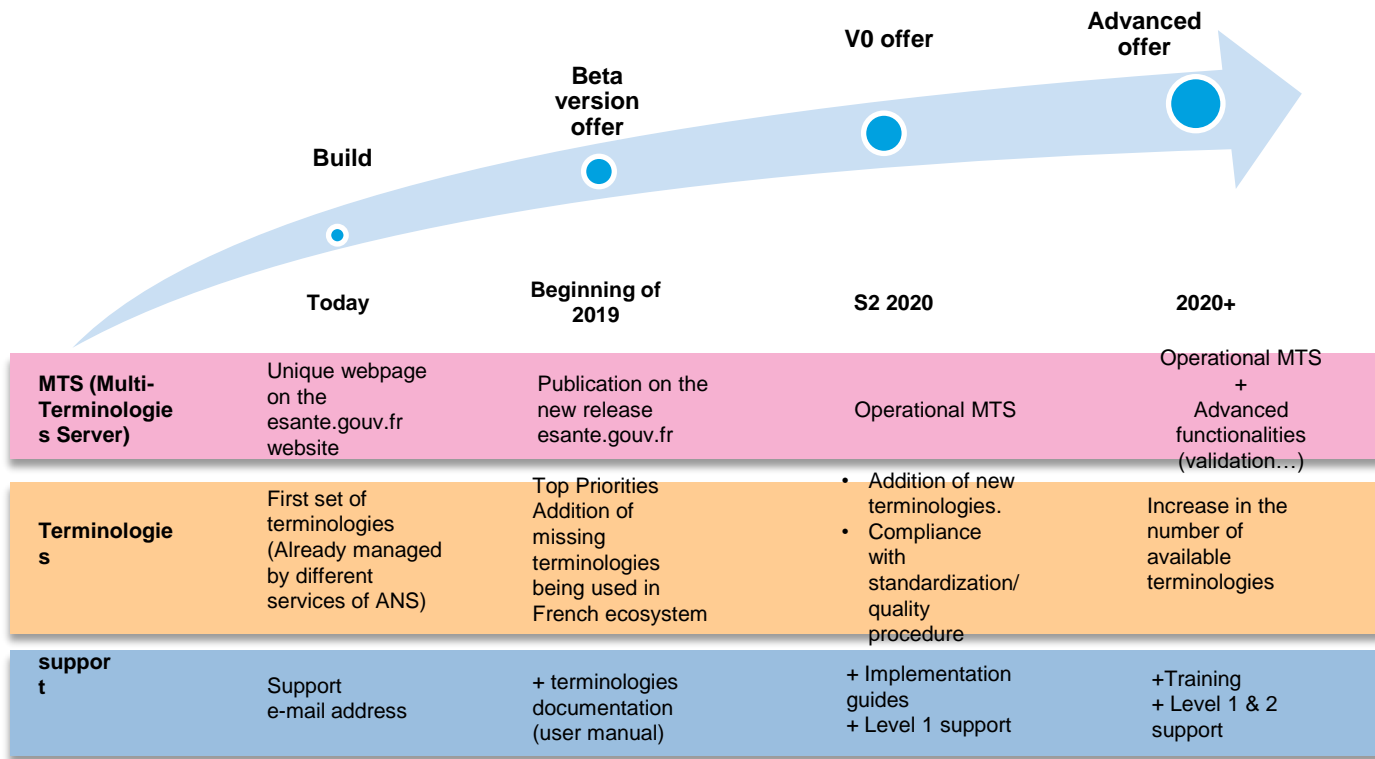
Code

Link between ICP-2 and ICD-10

Inclusion and exclusion criteria

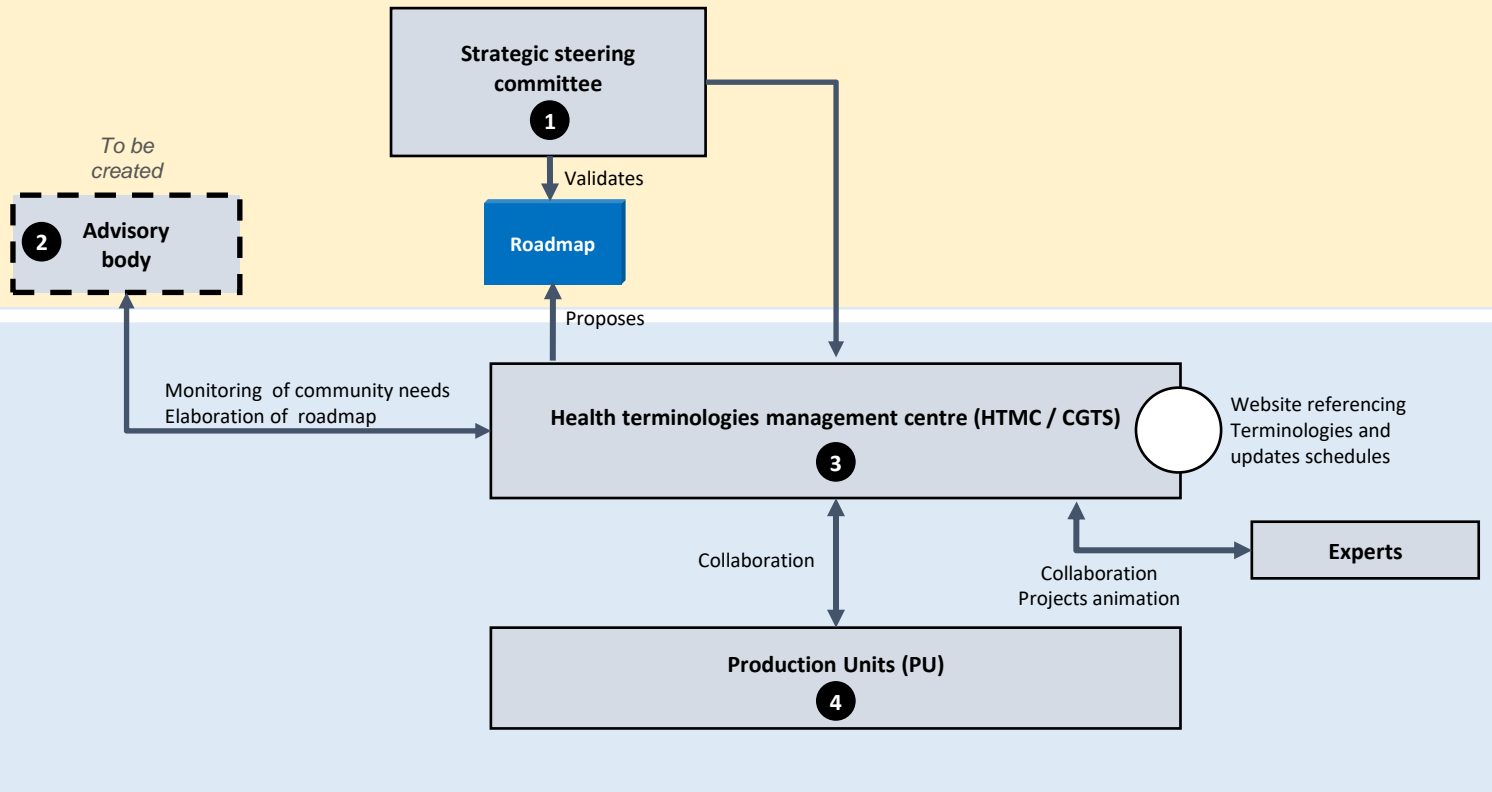
French interoperability framework

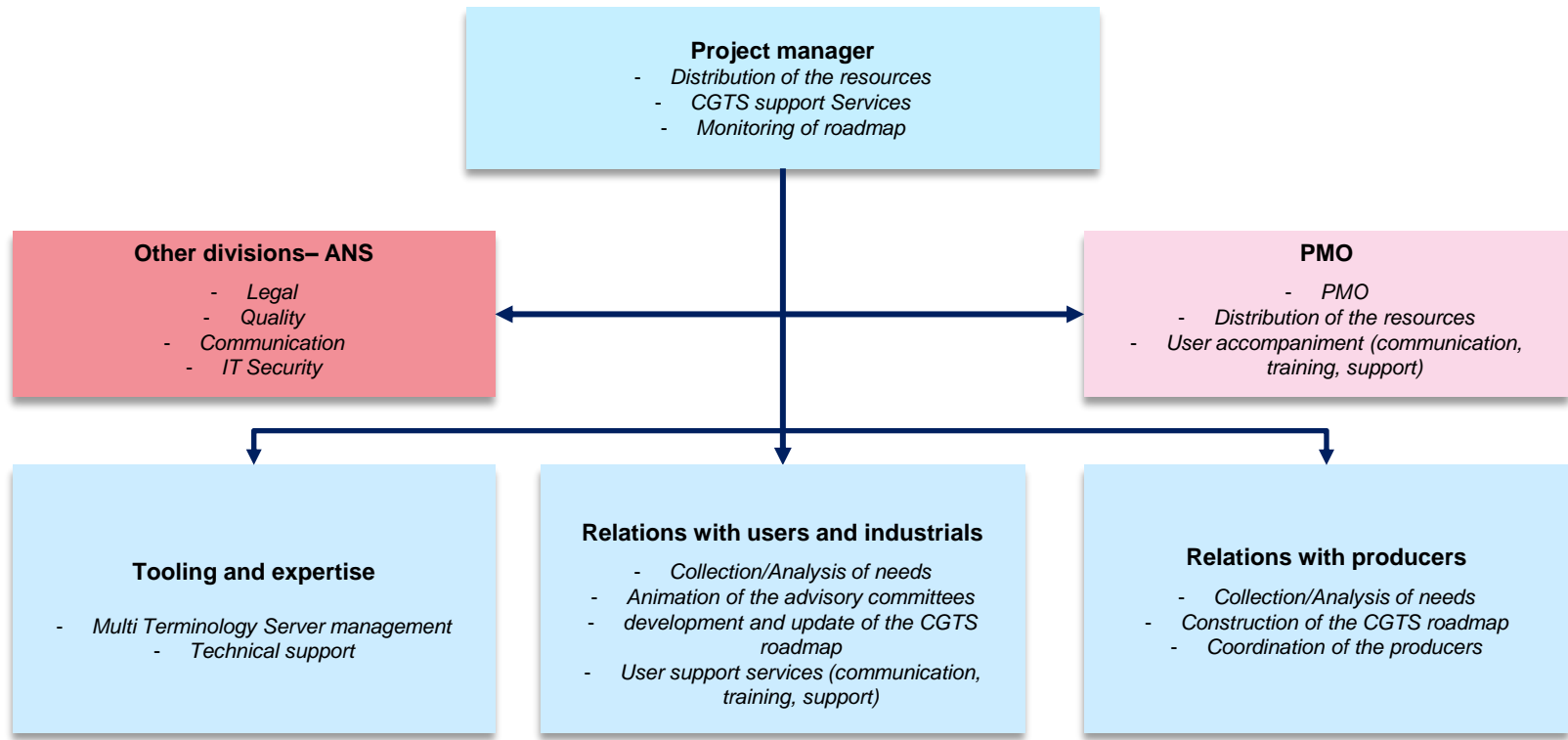
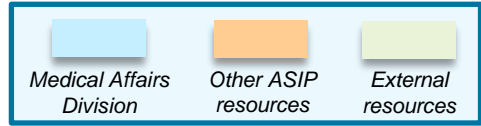
The HTMC services to users are progressively implemented



Terminology governance

National
strategic
level





Current scope

- 32+ Terminologies gathering 700 000 terms (1+ millions including NCBI taxon, Wordnet...)
- Diversity in :
 - Producers
 - Formats
 - Licenses
 - Lifecycles
 - Disclosure points
- Problems in the sustainability of producers and their terminologies

Unique page on the esante.gouv website

<http://esante.gouv.fr/Terminologies/read/asipsante/metadatas/catalog/index.htm>





International activities and participation



Logos and standards included in the French interoperability framework:

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A row of flags at the bottom left includes Germany, Switzerland, France, Hungary, USA, and EU.



esante.gouv.fr

Le portail pour accéder à l'ensemble des services et produits de l'agence du numérique en santé et s'informer sur l'actualité de la e-santé.



@esante_gouv.fr



[linkedin.com/company/asip-sante](https://www.linkedin.com/company/asip-sante)