

Conference and Plenary Meeting of the Permanent Committee on Cadastre in the European Union (PCC)

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “



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The french technical Process RPCU



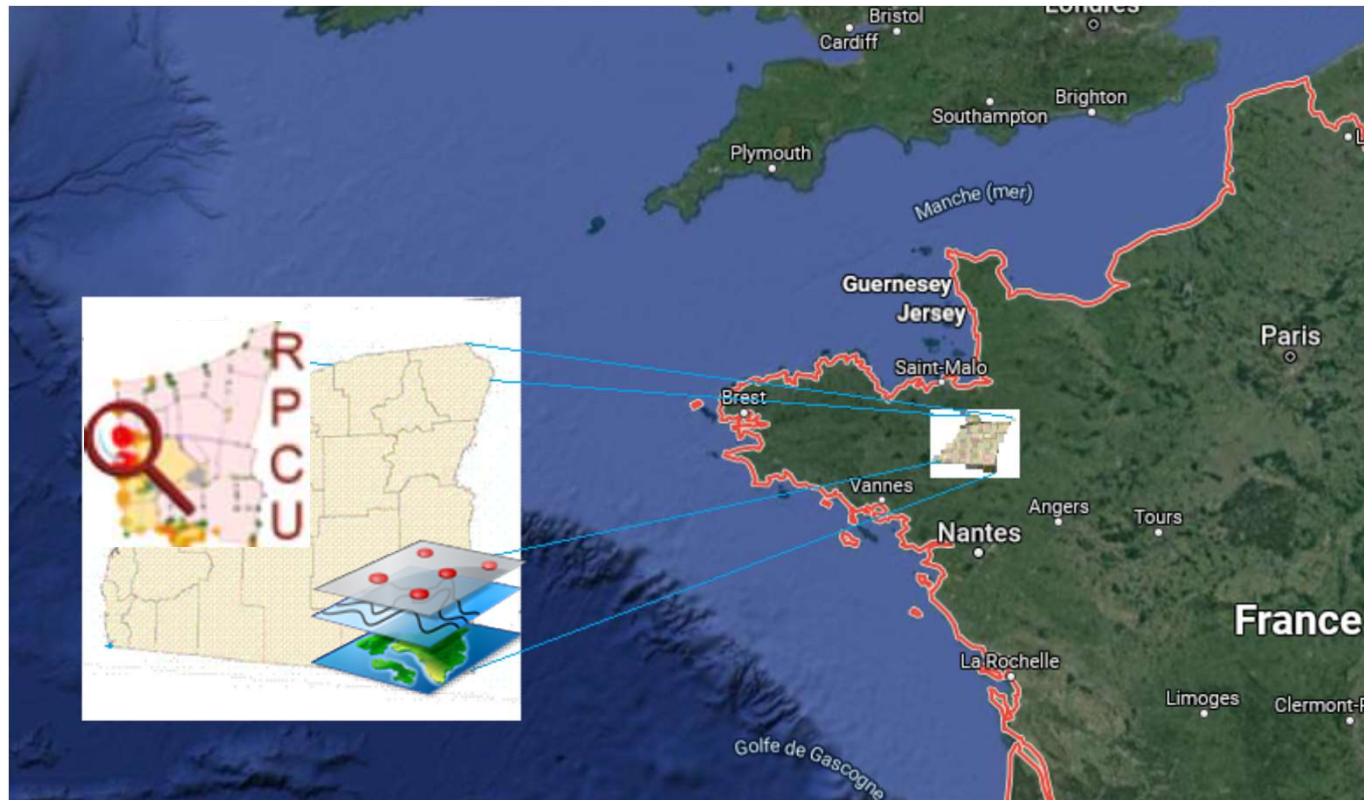
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THE SURVEYING AND MAPPING AUTHORITY
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Cadastre and Land Registry
Knowledge Exchange Network

Joint PCC and EuroGeographics CLRKEN Webinar
Slovenia, 10. and 11. November 2021

The French Technical Process RPCU



“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

The french technical Process RPCU



1. The RPCU : Why ?

- A. Two Representations of the cadastral plot
- B. Goal

2. The RPCU : Process Implementation

- A. Tripartite Agreement
- B. Legal Framework
- C. Organizational Framework

3. The RPCU : First Results

- A. The RPCU (Unique Cadastral Plot Representation) becomes the new cadastral map for six first departments
- B. Statistics of Undecided Boundaries

4. The RPCU : A successful Conclusion

5. The RPCU : Outlook 2022

“Role of National Mapping, Cadastre and Land Registry Authorities in Resilience and Recovery program “

1. The RPCU : WHY ?

A. Two representations of the cadastral plot

- the plot database, plot and built layer of the Large Scale Referential (RGE) since 2001, created and updated by IGN (National Institute of Geographic and Forest Information) from the cadastral map (data exchange agreement renewed on March 25, 2010)
- the cadastral map of the DGFIP, reference data in terms of the representation of the the division of plots and built environment (article L127-10 of the Environmental Code).

But neither the cadastral map nor the plot database are satisfactory, particularly with regard to geographic continuum :

- failure to respect the precision of the initial cadastral map,
- poor geographic positioning and (or) presence of empty scapes (holes) and overlaps between sheets of the map).

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1. The RPCU : WHY ?

B. Goal

Making a single map :

- of better quality and precision
- for the needs of users of the cadastral map
- within the DGFIP but also externally

The RPCU

(single plot cadastral representation)



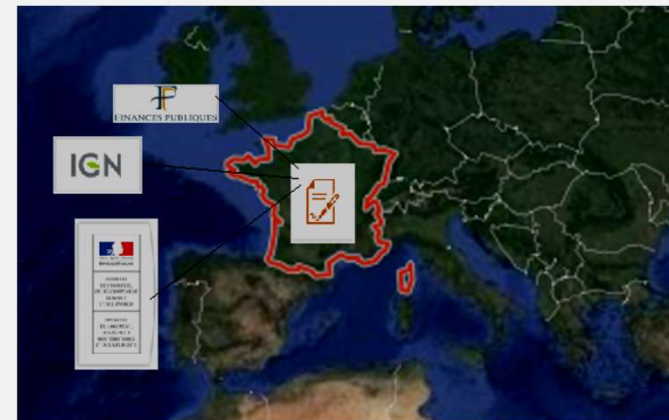
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2. The RPCU : Process Implementation

A. Tripartite Agreement on May 22nd 2014

a) A tripartite agreement was indeed signed on May 22nd , 2014 by :

- the Public Finances Director General
- the MEDDE and MLET General Secretary General (renamed Ministry of Ecological Transition in 2020)
- the IGN Chief Executive



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2. The RPCU : Process Implementation

A. Tripartite Agreement on May 22nd 2014

b) Four major founding principles

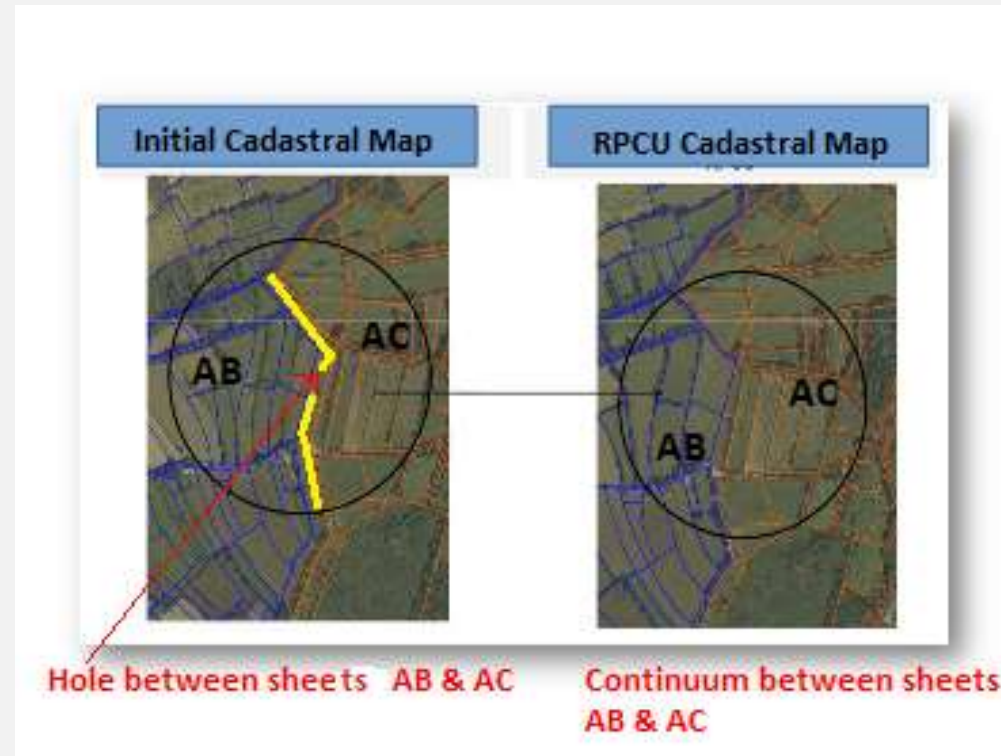
- Geographical continuum, throughout the national territory, of the boundaries of cadastral plots, cadastral sheets and municipal boundaries in accordance with the reality on land and regulatory acts
- Level of accuracy reaching at least the one of the Large Scale Referential (RGE) or the cadastral map
- Availability of data in vector mode throughout the national territory
- Consistency with the other layers of the RGE and the cadastral map

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2. The RPCU : Process Implementation

A. Tripartite Agreement on May 22nd 2014

c) Drawing



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2. The RPCU : Process Implementation

B. Legal framework : Article 51 of the amending finance law of December 29th , 2015

which authorizes :

- geometric adaptation of cadastral maps from the office
- and a collective communication of the results of the work. This collective communication of the new maps resulting from the constitution of the RPCU is carried out via a specific website :

rpcu.cadastre.gouv.fr

Mercredi 27 octobre 2021

rpcu.cadastre.gouv.fr

Bienvenue sur le site de consultation de la **Représentation Parcelaire Cadastrale Unique (RPCU)**.

Dans le cadre de la constitution de la RPCU, le plan cadastral actuel a été adapté géométriquement. Ce nouveau plan fait l'objet d'une communication, préalablement à son entrée en vigueur.

Dès lors que pour un département donné, les travaux de constitution de la RPCU sont achevés sur une ou plusieurs communes, ce site vous permet de rechercher et de consulter, durant la période de communication prévue, ces nouveaux plans.

Le plan cadastral actuellement en vigueur reste consultable sur le site cadastre.gouv.fr.

Département :
 Disponible
 Non disponible

Mayotte
Guadeloupe
Martinique
Guyane
Réunion

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2. The RPCU : Process Implementation

C. Organizational framework

The works of the process RPCU launched in 2014 :

- a) **DGFIP / IGN partnership** : the technical works of constituting the RPCU is carried out jointly by the DGFIP and the IGN from the cadastral map of the DGFIP
- b) **Test departments** :
 - The first works started in a limited number of departments before a gradual extension to the whole territory.
 - The process was been adapted based on feedback from these 6 pre-generationalization departments : Ain (01) , Ille-et-Vilaine (35) Loire -Atlantique (44), Loiret (45), Hauts de Seine (92) and Val de Marne (94) .

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2. The RPCU : Process Implementation

C. Organizational framework

The works of the process RPCU launched in 2014 :

c) Georeferencing, Continuum and quality of our 597,270 cadastral map sheets : constraints, principles and implementation

➤ Constraints

- Establishment of our current cadastral map : from the beginning of the 19th century for the oldest (around the 1890s), then from 1930 to the present day for the others.
- Quality of their establishment is intrinsically linked to the history, methods and tools used for their constitution but also to the geography and topography of the territories.

➤ Principles

The need to take a georeferencing of a geographical entity that is the cadastral map sheet, therefore depends directly **on its quality and accuracy**.

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2. The RPCU : Process Implementation

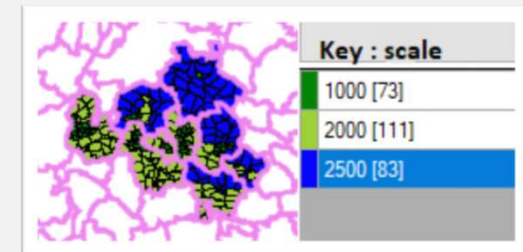
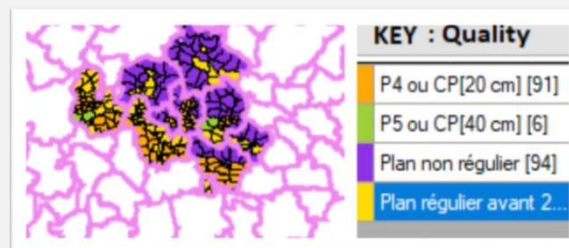
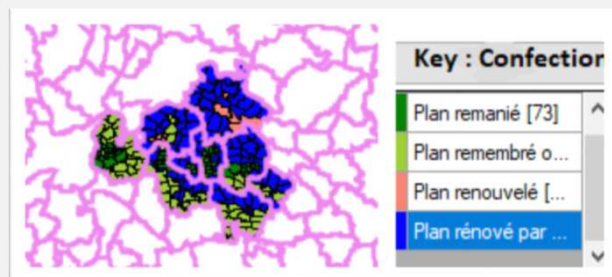
C. Organizational framework

The works of the process RPCU launched in 2014 :

c) Georeferencing, Continuum and quality of our 597,270 cadastral map sheets : constraints, principles, implementation and examples

➤ Implementation

- First : Constitution a first database by qualifying each cadastral map sheets by means of a new metadata , “**RPCU attribute**“ which summarizes the informations from the sheet such as scale, quality, method and year of manufacture, vectorization methods.



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2. The RPCU : Process Implementation

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The works of the process RPCU launched in 2014 :

c) Georeferencing, Continuum and quality of our 597,270 cadastral map sheets : constraints, principles, implementation and examples

➤ Implementation

- Secondly : Georeferencing recovery process if necessary with reference data points which must :
 - be expressed in the legal coordinate system
 - have a accuracy at least equal to that of the data to be repositioned
 - have a counterpart on the cadastral map



Mathematical transformations apply to every objects of the cadastral map

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2. The RPCU : Process Implementation

C. Organizational framework

1st example :
with possible georeferencing recovery
of cadastral maps



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2. The RPCU : Process Implementation

C. Organizational framework

2nd example :
*without georeferencing recovery
of cadastral maps*



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2. The RPCU : Process Implementation

C. Organizational framework

The works of the process RPCU launched in 2014 :

c) Georeferencing, Continuum and quality of our 597,270 cadastral map sheets : constraints, principles, implementation and examples

➤ Implementation

- Third : works of continuum

Decision trees were created based on the “**RPCU attribute metadata**”

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2. The RPCU : Process Implementation

C. Organizational framework

1st example : possible connexions between two cadastral maps to obtain the continuum



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C. Organizational framework

2nd example : connexion between two cadastral maps in department of Ille-et-Vilaine (35)

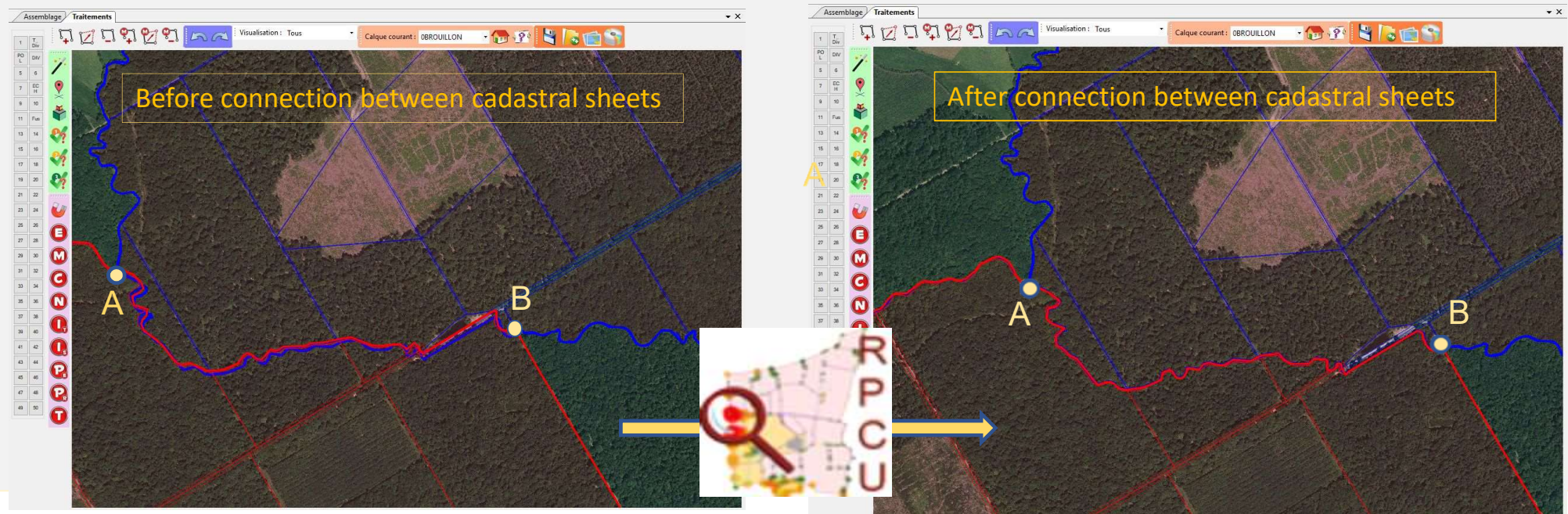


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2. The RPCU : Process Implementation

C. Organizational framework

3rd example : continuum between two departments, Ille-et-Vilaine (35) and Loire Atlantique (44)



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2. The RPCU : Process Implementation

C. Organizational framework

The works of the process RPCU launched in 2014 :

d) The impacts of the RPCU on property taxes

- Plots :

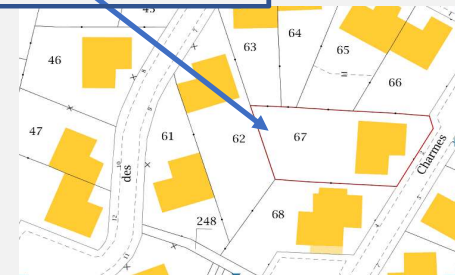
⇒ only the graphic surfaces of the plots will be modified

⇒ **But no modification of the “cadastral plot database” :**

- “cadastral surfaces” used for the computation of the property tax on unbuilt land (TFPNB)

- “cadastral references” used for the identification of plot : **section and map number**

Ex : Section AS , n° 67



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3. The RPCU : First Results



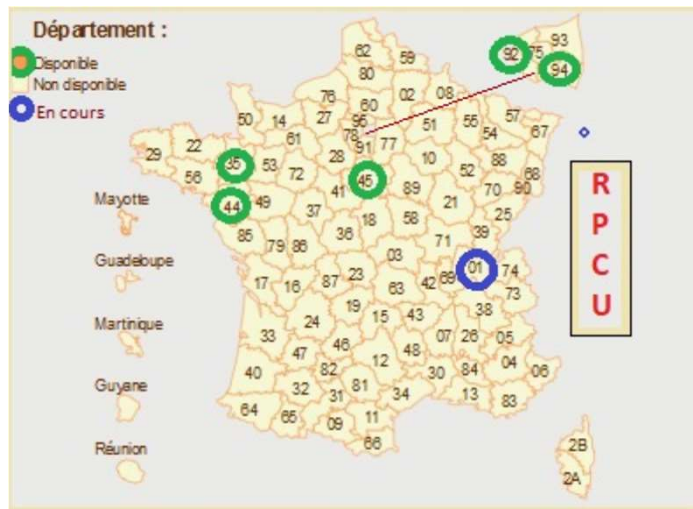
A. The RPCU (Unique Cadastral Plot Representation) becomes the new cadastral map for six first departments

Their new RPCU map was implemented :

- in 2019 for the Val de Marne (94): **January 25th**
- in 2021 for:
 - l'Île-et-Vilaine (35): **March 26th**
 - the Hauts de Seine (92): **May 21st**
 - the Loiret (45): **July 9th**
 - Loire Atlantique (44): **October 1st**
- followed by the department of Ain (01) **in 2022.**

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3. The RPCU : First Results



B. Statistics of Undecided Boundaries : empty spaces or overlaps between sheets of cadastral map

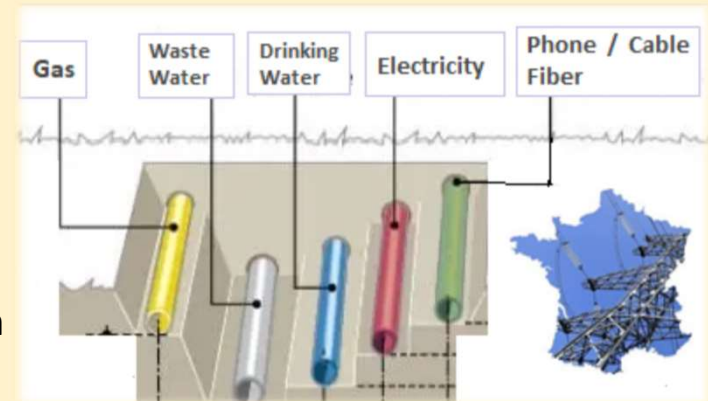
Undecided Boundaries Empty spaces or Overlaps between sheets of cadastral map Unit : linear km			
Department	Initial cadastral MAP	RPCU cadastral Map	
	Km	km	% Continuum reached
Ille-et-Vilaine (35)	3,388	12	99.99
Loire Atlantique (44)	7,278	538	99.93
Loiret (45)	5,866	8	99.99
Hauts de Seine (92)	8	0	100.00
Val de Marne (94)	21	0	100.00

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4. The RPCU : A Successful Conclusion

This new cadastral modernized map “RPCU” will henceforth :

- improve the performance of all the missions in the field of local taxation, description and identification of land ownership, town plan, network management, risk prevention maps and their regulatory zoning.
- be the new single repository for all the players in national planning : OGE , Notaries, and for local authorities and all players (urban network with infrastructure of roads, transport, pipes and cabling, etc.) in regional planning with their geographic information systems (GIS)



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5. The RPCU : Outlook 2022

At the time of the balance sheet :

- Report writing : Following the work carried out in the six pre-generalization, an evaluation report of the RPCU must be produced .
- Generalization : At the end of this evaluation, the generalization methods will be decided by bringing, if necessary, modifications or technical improvements, even organizational to the RPCU process for the next departments that will be engaged.
- Deployment : The annual programs of the future departments concerned will be drawn up in such a way as to obtain :
 - a balance between the territories
 - but also taking into account the departments already with a RPCU map to start work in neighboring departments



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Thank you all for your attention



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Département :
 Département
 Non disponible

Mayenne
Quadruple
Morbihan
Guyane
Réunion

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Afficher 10 résultats par page
RECHERCHER

Préferer une recherche par références cadastrales

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