

A historical cadastral map of a town, likely from the 18th or 19th century. The map shows a grid of streets and numerous small plots of land, many of which are shaded in red and blue. The map is titled "Commune de Dommie" at the bottom. A semi-transparent dark grey box is overlaid on the center of the map, containing white text. The text reads: "Using and harnessing Artificial Intelligence in the cadastre" and "PCC Conference and Plenary Meeting, Bruges, 17 – 19 June 2024".

# Using and harnessing Artificial Intelligence in the cadastre

PCC Conference and Plenary Meeting, Bruges, 17 – 19 June 2024

# Plan

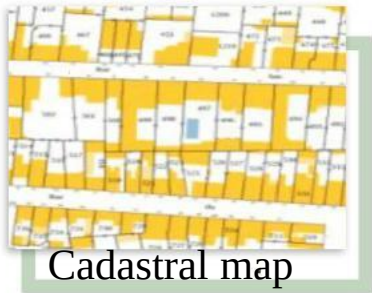
1. Overview of the project « Foncier Innovant »
2. Inconsistency processing chain
3. IA for property tax : swimming pools
4. IA for cadastral map
5. 2024 – Industrialisation

# Overview

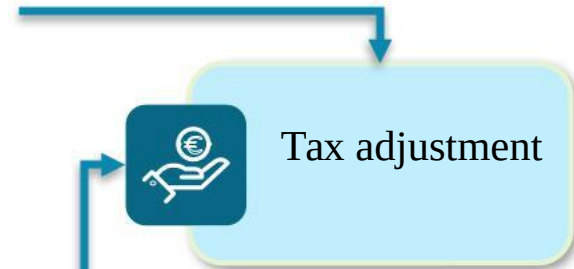
## Goals :

1. Optimising local authorities' tax bases
2. Increasing the efficiency of our real estate mission and providing tools to combat fraud
3. Providing agents with enhanced information and modernised tools
4. Provide users with an up-to-date cadastral map

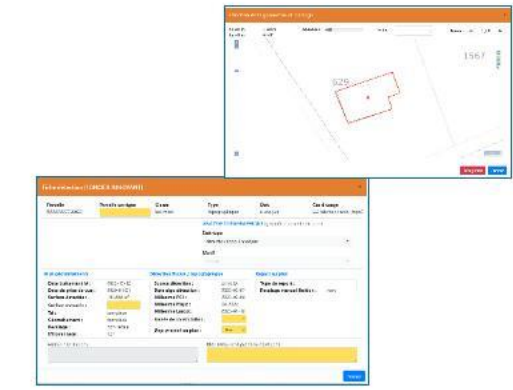
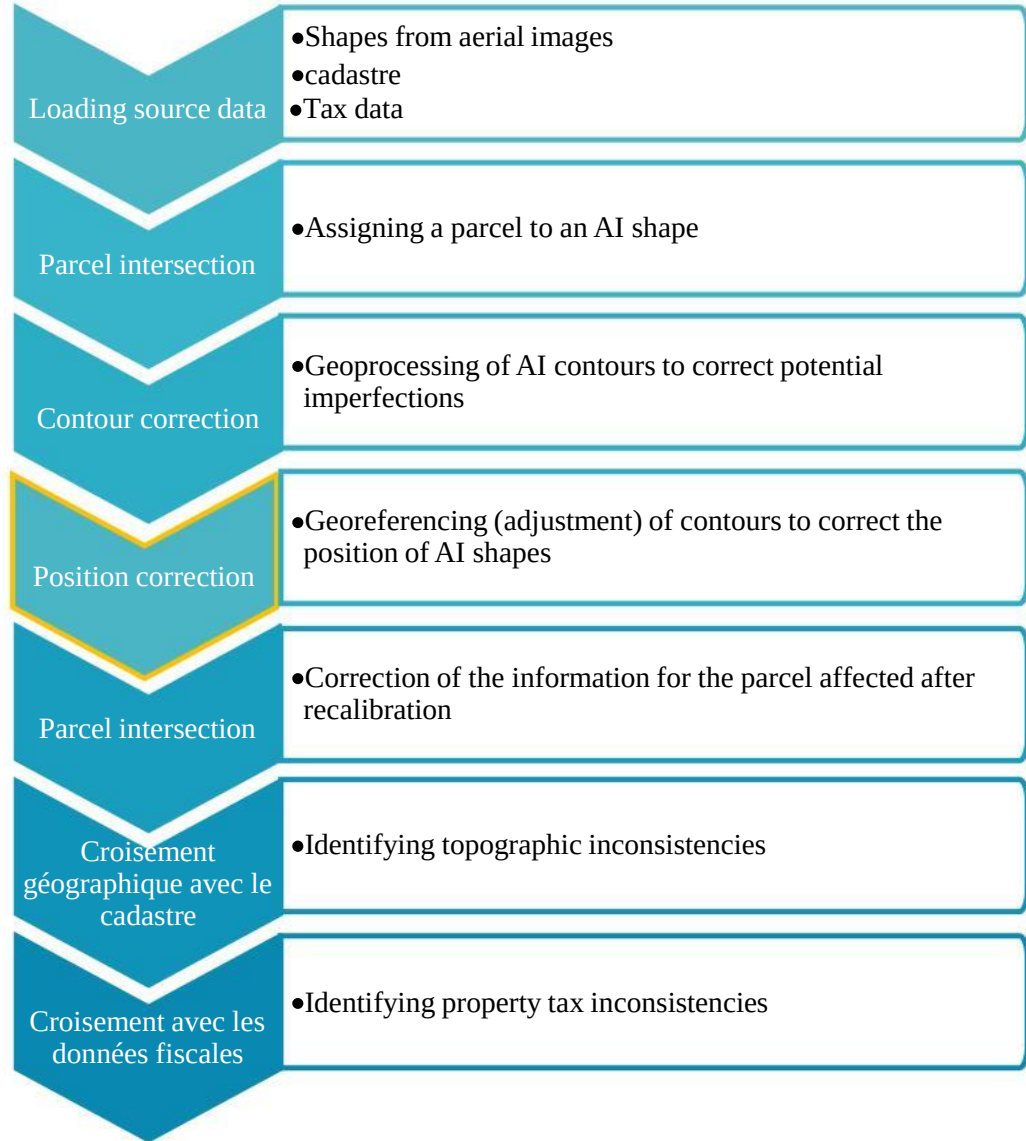
# 1 Overview



- Property tax inconsistency
- Topographic and property tax inconsistency
- Topographic inconsistency



## 2 Inconsistencies processing chain

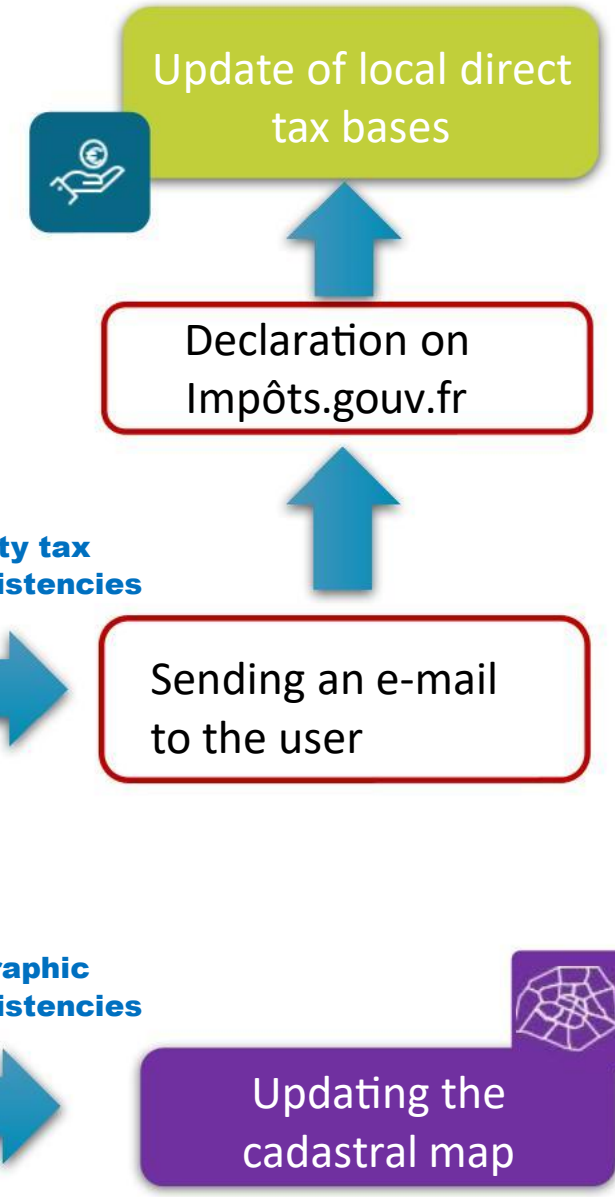


human control of inconsistencies :

- Control of tax information
- Contours checking and adjustment if needed

Property tax inconsistencies

Topographic inconsistencies



### 3 IA for property tax : swimming pools

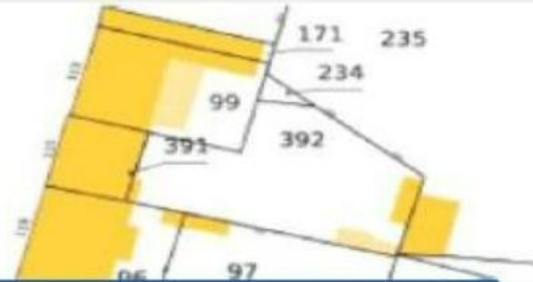
#### Illustrations of the detection and data cross-referencing steps

Detect a pool on the orthophoto



**In both cases, the swimming pool is well detected on the orthophoto**

cross with the cadastral plan



In both cases, the topographic intersection makes it possible to consider an absence in the cadastre plan

Cross-reference with tax data



In case 1, the swimming pool is not considered in the tax bases.  
In case 2, the swimming pool is well assessed but absent from the cadastre plan



### 3 IA for property tax : swimming pools

In 2022 :



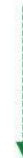
**96**  
départements



**208 800**  
Swimming pools  
detected and sent for  
human control



**148 700**  
**(+70%)**  
Validated as taxable



Potential property tax revenue  
of  
**40M€**

### 3 IA for property tax : swimming pools

## « Foncier Innovant », a national and regional impact :

- TADEUS 2022 \_ *Tax ADministration European Union Summit*  
France received 1st award for innovative use of data and AI to fight real tax fraud
- Le Figaro (septembre 2022).



L'intelligence artificielle révolutionne la manière de travailler de l'administration fiscale. *Adobe Stock*

**ENQUÊTE - Le fisc a recours à des technologies de plus en plus sophistiquées pour débusquer les contribuables indéliçats.**



## 4 AI for cadastral map

**HISTORICAL PROCESS :**

## 4 AI for cadastral map

### HISTORICAL PROCESS :

Urban planning  
authorisations



## 4 AI for cadastral map

### HISTORICAL PROCESS :

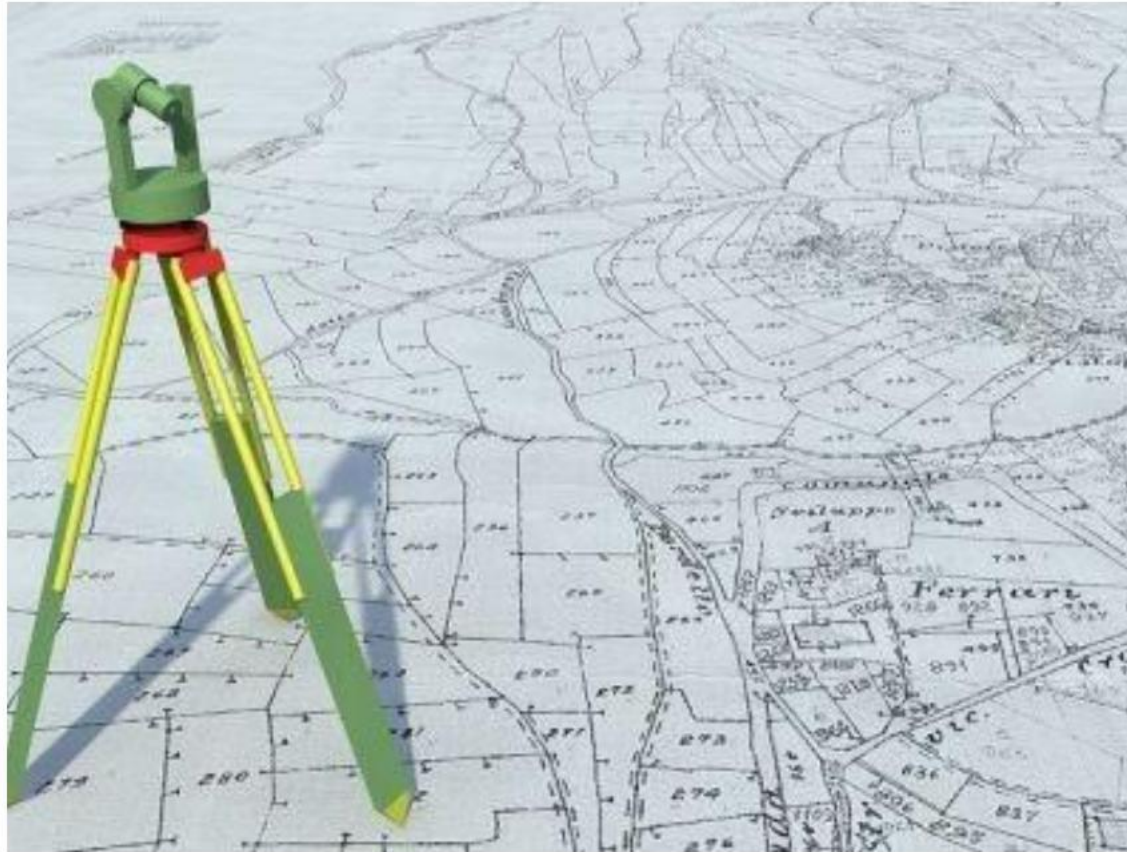
Cadastral surveyor's  
tour



## 4 AI for cadastral map

### HISTORICAL PROCESS :

Conservation  
sketches





# AI for cadastral map

## HISTORICAL PROCESS :

Cadastral map integration



## 4 AI for cadastral map

### « FONCIER INNOVANT » PROCESS :

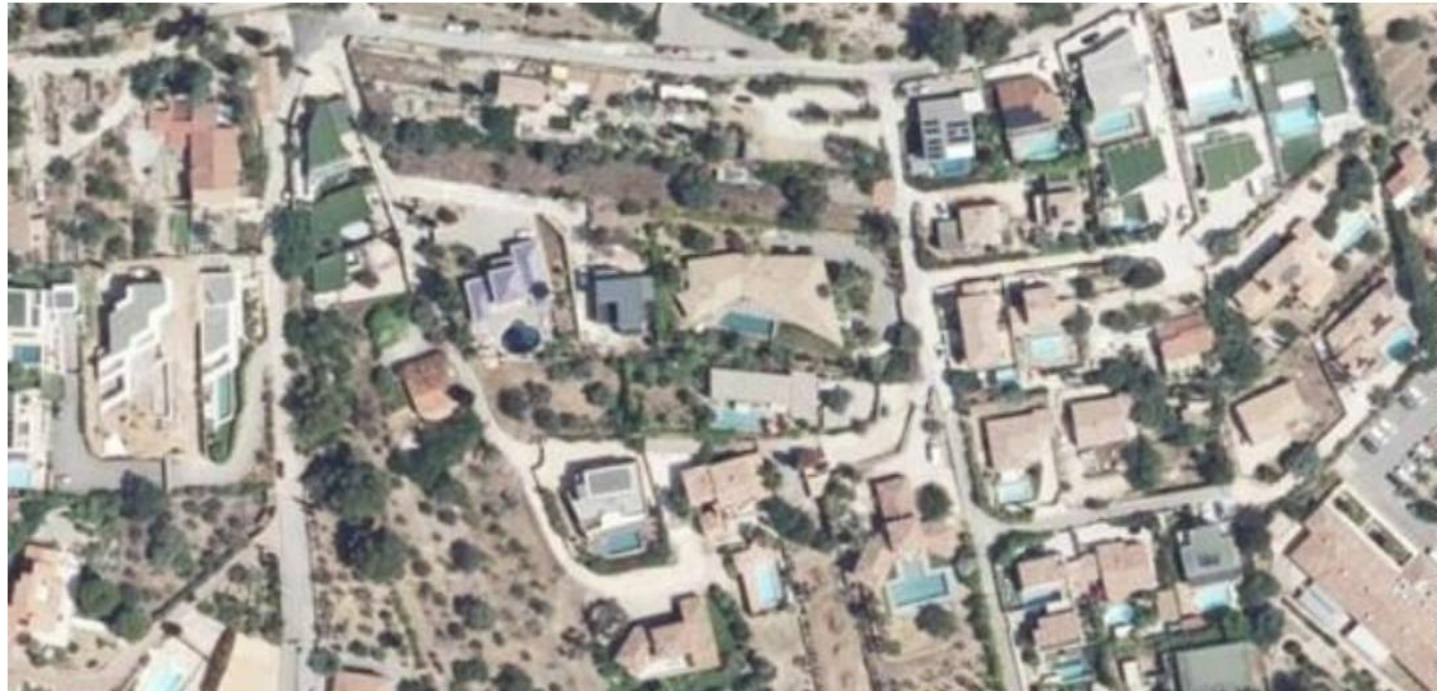
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1.

Orthophotography

**IGN**

INSTITUT NATIONAL  
DE L'INFORMATION  
GÉOGRAPHIQUE  
ET FORESTIÈRE



## 4 AI for cadastral map

### « FONCIER INNOVANT » PROCESS :

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2.

Artificial Intelligence



## 4 AI for cadastral map

### « FONCIER INNOVANT » PROCESS :

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3.  
Human  
analysis





## 4 AI for cadastral map

### « FONCIER INNOVANT » PROCESS :

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4.

Cadastral map  
integration



# 5 ➤ 2024 – Industrialisation



**96**  
départements

Swimming pools (new vintage)

Buildings



**5**  
Départements  
et  
Régions d'Outre-Mer  
(DROM)

Swimming pools (first time)

Buildings

*Property tax  
Inconsistencies*



*Topographic  
Inconsistencies*



A historical cadastral map of a town, likely from the 19th century, showing property boundaries, buildings, and public spaces. The map is rendered in sepia tones with red and blue highlights on certain structures. A semi-transparent grey box is overlaid in the center, containing white text. The map includes labels for 'Place de la bûche', 'Place de la pierre', 'Castanet', and 'Commune de Domme'. A page number '- 24 -' is visible at the bottom center, and the word 'Feuille' is written vertically on the right side.

Thank you for your attention

Thomas GUÉGAN – General Department of Public Finances

- 24 -

Commune de Domme

Feuille