

A historical map of Ghent, Belgium, with various street names and building footprints. Overlaid on the map are several circular icons: a person, a building, a book, a graduation cap, a gear, and a tree. The text 'Ghent Mapped IIF as an enabler' is written in large white letters across the center of the map.

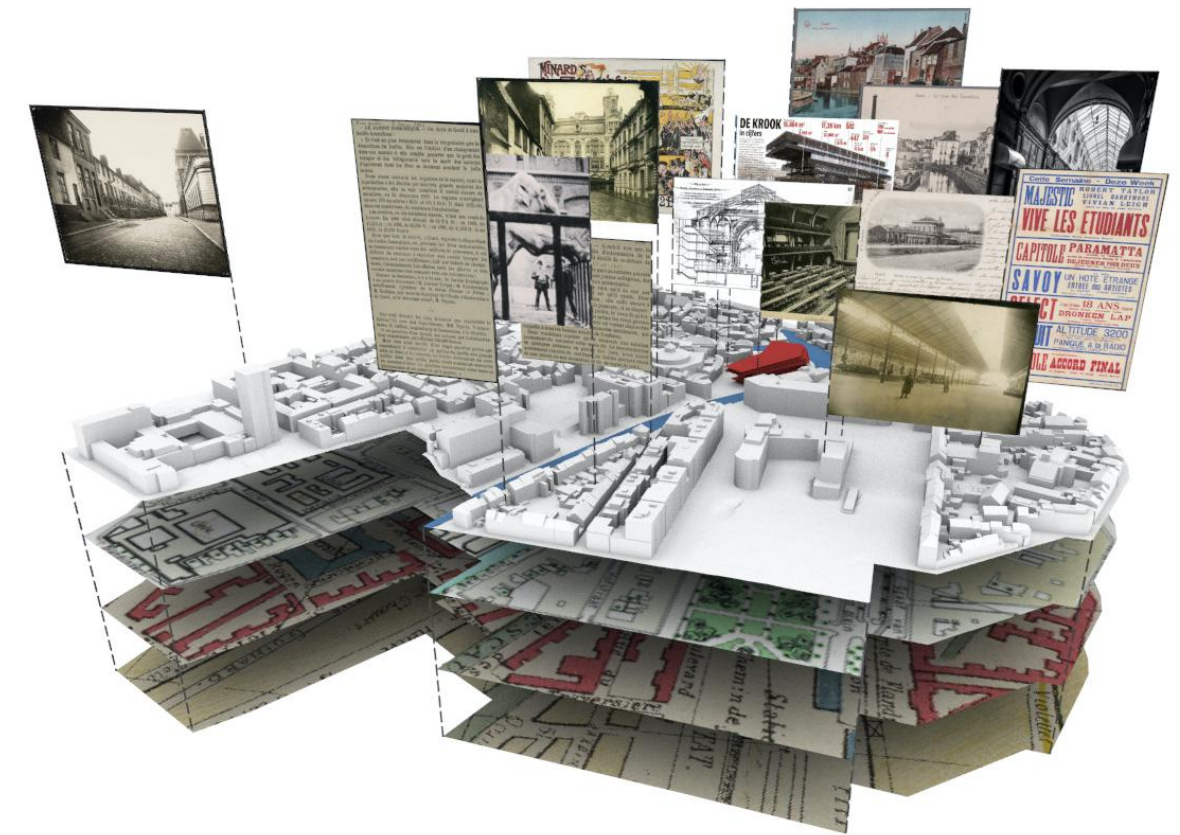
# Ghent Mapped IIF as an enabler

Fien Danniau - **Frederic Lamsens\*** - Vincent Ducatteuw - Lise Foket  
*Ghent Centre for Digital Humanities (Ghent University, Belgium)*



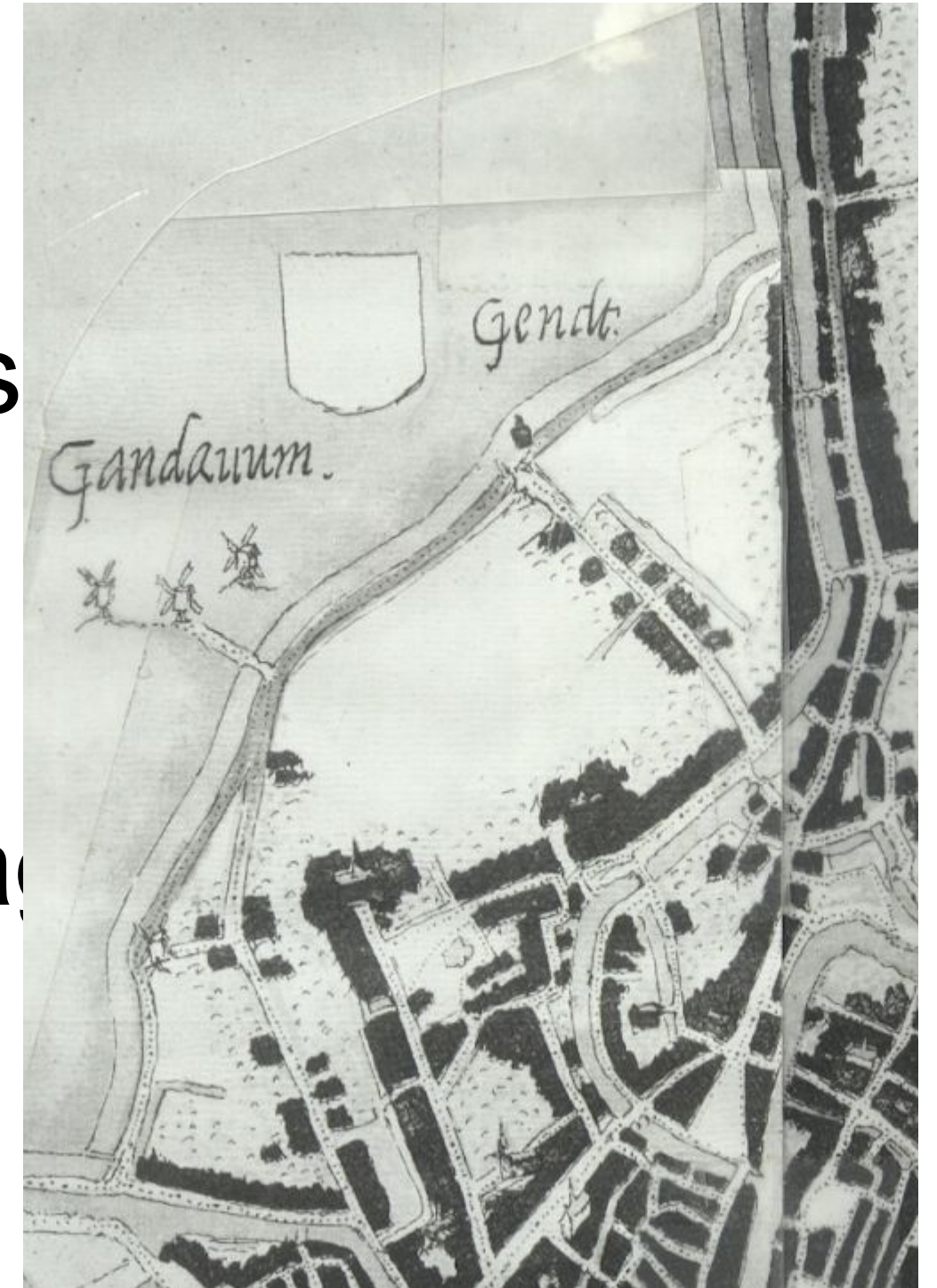
# About Ghent Mapped

- Cultural Heritage Project
- Funded by the Flemish Community (2020-2023)
- 8 partners
  - Ghent City Museum
  - Industrial Museum
  - Institute of Social History
  - Museum of Daily Life
  - ...



# About Ghent Mapped

- Use “Places” to organize, present and explore history and cultural heritage collections
  - streets, parks, waterways, buildings,
  - each place has its human history
  - each place is linked to cultural heritage
- Use historical maps to explore a city, its history & its collections



# How can institutions share cultural heritage?

## GLAMs (Galleries, Libraries, Archives, Museums)

- improve accessibility through digitization
- provide metadata to help discover collection
- adopt open standards



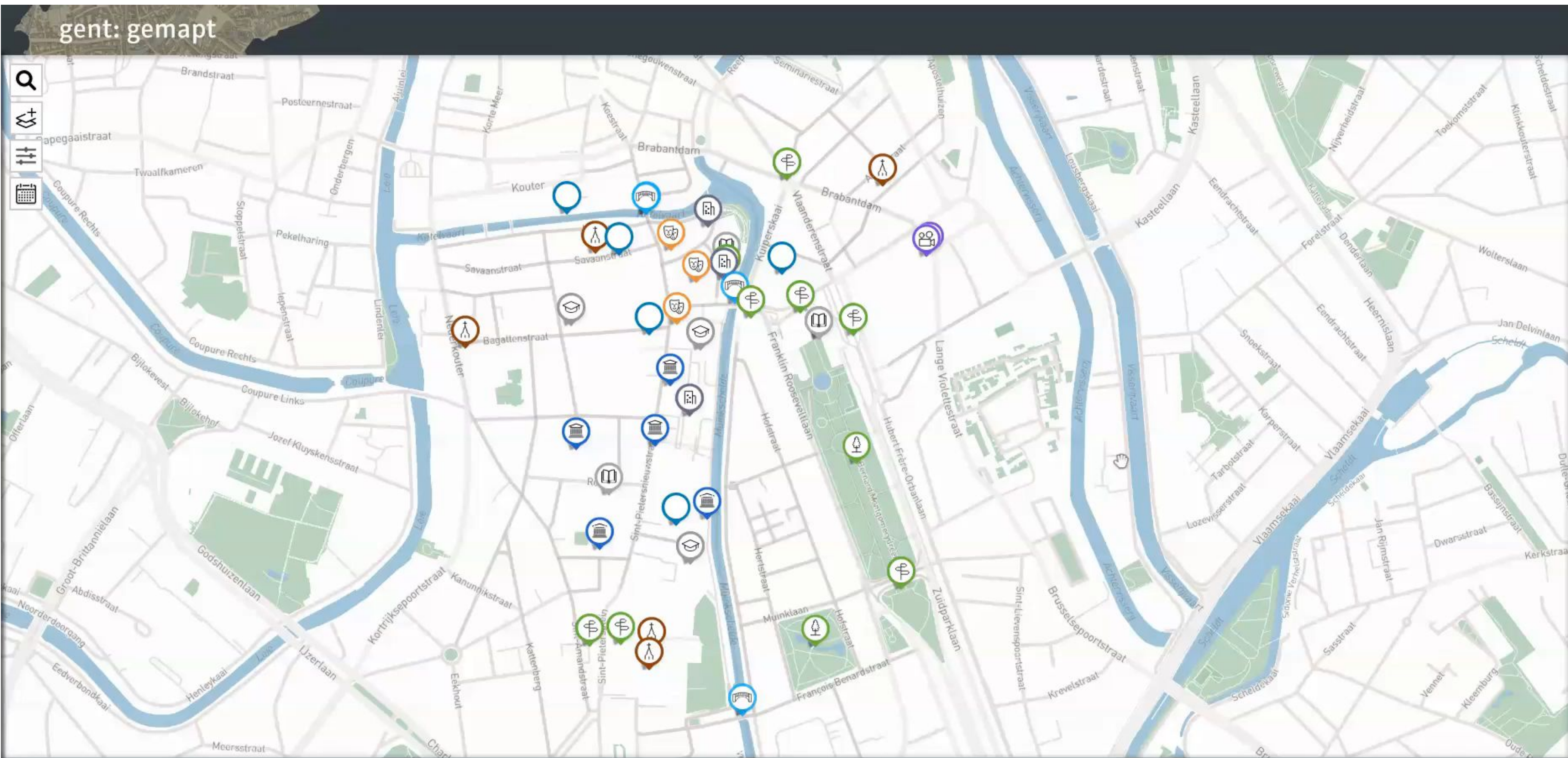
... Flemish GLAMs have varying levels of IIIF adoption

# How can we promote IIF to these GLAMs?

- IIF offers possibilities for GLAM, researchers and users
  - Standardized access to digital objects
  - Cite and share digital objects
  - Display and storytelling
  - Annotation
  - Participative enrichment
  - Collaborative learning
- Yes, but how?
  - Help GLAMs in their transition to IIF
  - Build a proof of concept



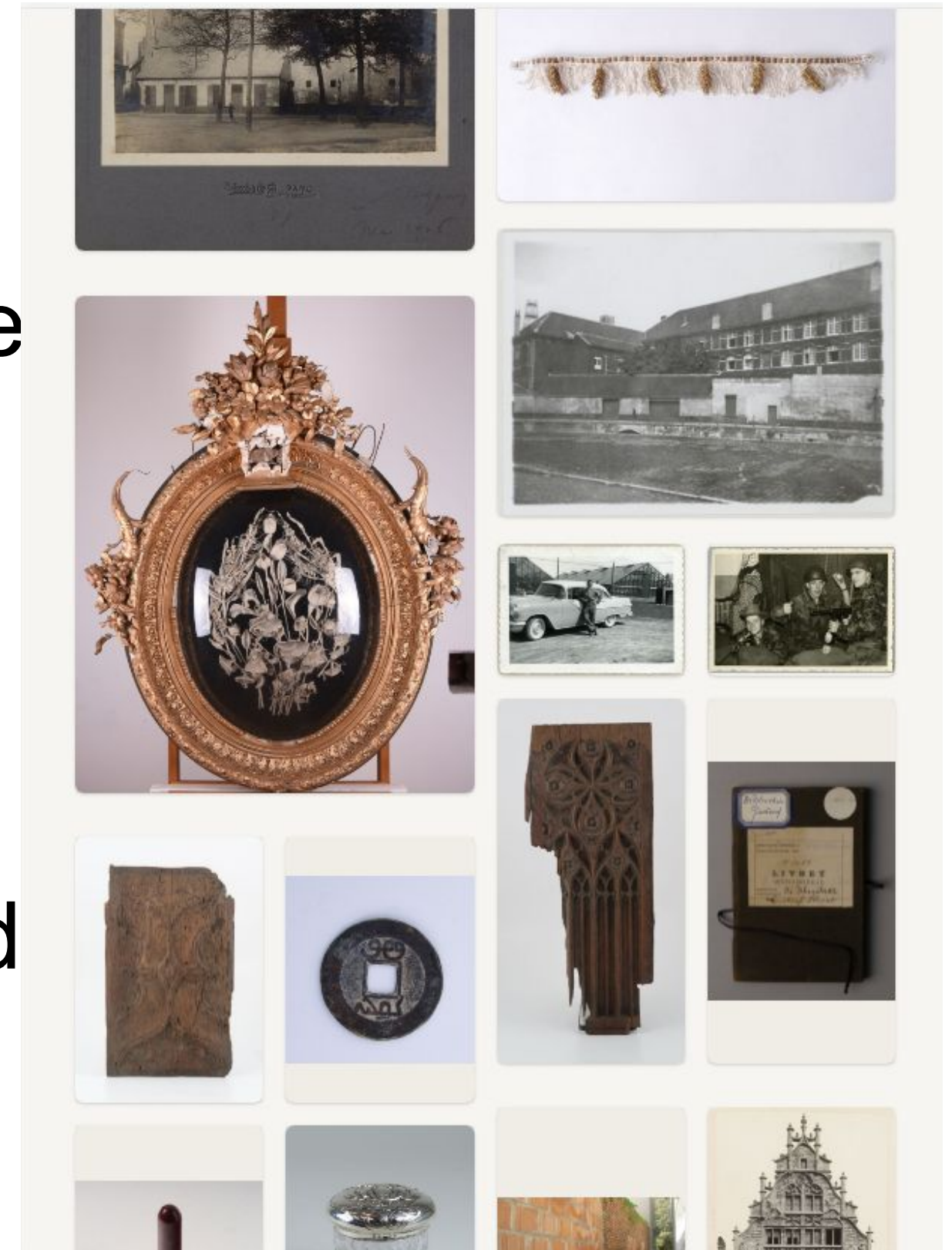
# Ghent Mapped - Showcase





# GLAMs transition to IIF

- Only 2 of 8 partners support IIF
- Big step to get started
- Ghent University Library as IIF partner
  - Image/Metadata conversion
  - Hosting on “SharedCanvas”
- Early 2022: “Collection of Ghent”
  - IIF infrastructure for city GLAMs
  - Central metadata repository based OSLO standard



# Places | Organizing collections with a historical gazetteer

## Geographical dictionary

- a list of 'places'
  - name, feature type, dating
  - geographical extent
- relational context
- URI (Uniform Resource Identifier)
- publish as Linked Open Data
- gazetteers as an organizing tool

TABLE ALPHABÉTIQUE des Rues, Places, Plaines, Promenades, Remparts, Ponts et Po					
Rues M	Carrés du Plan	Rues P	Carrés du Plan	Rues S	Carrés du Plan
<i>du Marais (longue)</i>	10, K	<i>du Pelican</i>	15, K	<i>S<sup>t</sup> Crépin</i>	8, L
<i>du Marais (courte)</i>	10, K	<i>des Pénitentes</i>	12, O	<i>du S<sup>t</sup> Esprit</i>	10, L
<i>aux Marjolaines</i>	10, L	<i>des Pénitentes (petite)</i>	11, O	<i>S<sup>t</sup> Georges</i>	12, N
<i>de Meulebeke</i>	15, M	<i>du Perroquet</i>	7, K	<i>S<sup>t</sup> Gilles</i>	11, Q
<i>des Meuniers</i>	8, Q	<i>du Phénix</i>	4, O	<i>S<sup>t</sup> Hubert</i>	10, C
<i>des Meuniers (vieille)</i>	12, D	<i>de la Pièce</i>	14, K	<i>S<sup>t</sup> Jean</i>	11, L
<i>du Miroir</i>	12, M	<i>des Pierres (longue)</i>	10, P	<i>S<sup>t</sup> Léon</i>	14, E
<i>de la Monnaie</i>	9, O	<i>des Pierres (courte)</i>	10, P	<i>S<sup>te</sup> Marguerite</i>	9, P
<i>de la Monnaie (longue)</i>	10, N	<i>des Pigeons</i>	11, O	<i>S<sup>t</sup> Martin</i>	8, K
<i>de la Monnaie (courte)</i>	10, N	<i>de la Place d'Armes</i>	11, K	<i>S<sup>t</sup> Michel</i>	8, M
<i>du Mont-au-Chaume</i>	9, L	<i>de la Plume</i>	8, O	<i>S<sup>t</sup> Pierre</i>	11, E
<i>Montagne des Jardiniers</i>	11, F	<i>du Poirer</i>	7, N	<i>du S<sup>t</sup> Sacrement</i>	9, K
<i>Montagne des Infidèles</i>	11, T	<i>du Pont aux Moines</i>	11, E	<i>S<sup>t</sup> Sauveur</i>	12, S
<i>Montagne de Paris</i>	11, H	<i>du Pont Muelou</i>	11, I	<i>Sans Fin</i>	10, N
<i>du Mortier</i>	14, L	<i>du Ponton du Laitage</i>	10, O	<i>de la Sauge</i>	7, I
<i>du Moulinet</i>	9, K	<i>du Ponton</i>	15, M	<i>des Savetiers</i>	10, N
N		<i>du Ponton (petite)</i>	8, E	<i>de Savon</i>	10, I
<i>des Navets</i>	14, G	<i>de la Porte de Bruges</i>	5, N	<i>des Scieurs</i>	11, K
<i>Neuve S<sup>t</sup> Jacques</i>	12, M	<i>de la Porte de Courtrai</i>	9, F	<i>du Sel</i>	9, H
<i>Neuve S<sup>t</sup> Pierre</i>	11, G	<i>du Pot d'Étain</i>	8, O	<i>des Selliers</i>	9, N
<i>Notre-Dame</i>	10, O	<i>de la Pousière</i>	9, K	<i>des Semeurs</i>	9, P
O		<i>des Prêtres</i>	15, R	<i>du Séminaire</i>	11, L
<i>Obscure</i>	11, O	<i>de la Promenade</i>	11, N	<i>les Sentiers</i>	11, D
<i>de l'Ocre</i>	9, L	<i>de la Proue</i>	9, L	<i>des Servantes</i>	9, M
<i>aux Oignons</i>	9, K	<i>de la Pucelle</i>	7, K	<i>du Soleil (haute)</i>	9, N
<i>de l'Omelette</i>	8, L	Q		<i>du Soleil</i>	9, K
<i>d'Or</i>	12, P	<i>du Quai aux Vaches</i>	14, L	<i>de la Station</i>	15, I
<i>d'Orange</i>	11, K	R		<i>de la Station (Ruelle)</i>	5, I
<i>des Orphelins</i>	12, M	<i>de la Raffinerie</i>	11, O	T	
<i>d'Oiton</i>	12, O	<i>des Raisins</i>	11, O	<i>des Tanneurs</i>	12, Q
<i>aux Ours</i>	11, P	<i>des Ramoneurs</i>	7, L	<i>de la Tanière</i>	12, R
P		<i>du Refuge</i>	11, M	<i>des Templiers</i>	10, P
<i>du Pain-perdu</i>	9, H	<i>des Regnasses</i>	11, L	<i>Terre-Neuve</i>	12, Q



- (currently) manual selection of digital objects, based on:
  - ‘Place’
  - Availability of material
  - Visual quality
  - Diversity (type, content)
- (currently) 5000+ images for a selected set of places



- Currently 6 historical maps
  - Georectification of high resolution scans with QGIS
  - Time consuming
  - Future: IIF maps with Allmaps
- Many more maps available, but ...
  - source material not good enough
  - poor georectification results
  - should you show geometries on historical maps?



# Platform | Omeka S as unifying framework

VueJS / Leaflet / Bootstrap web application

Omeka S

Map API

Place API

IIIF Presentation API

Maps

Places

Resources

Collections



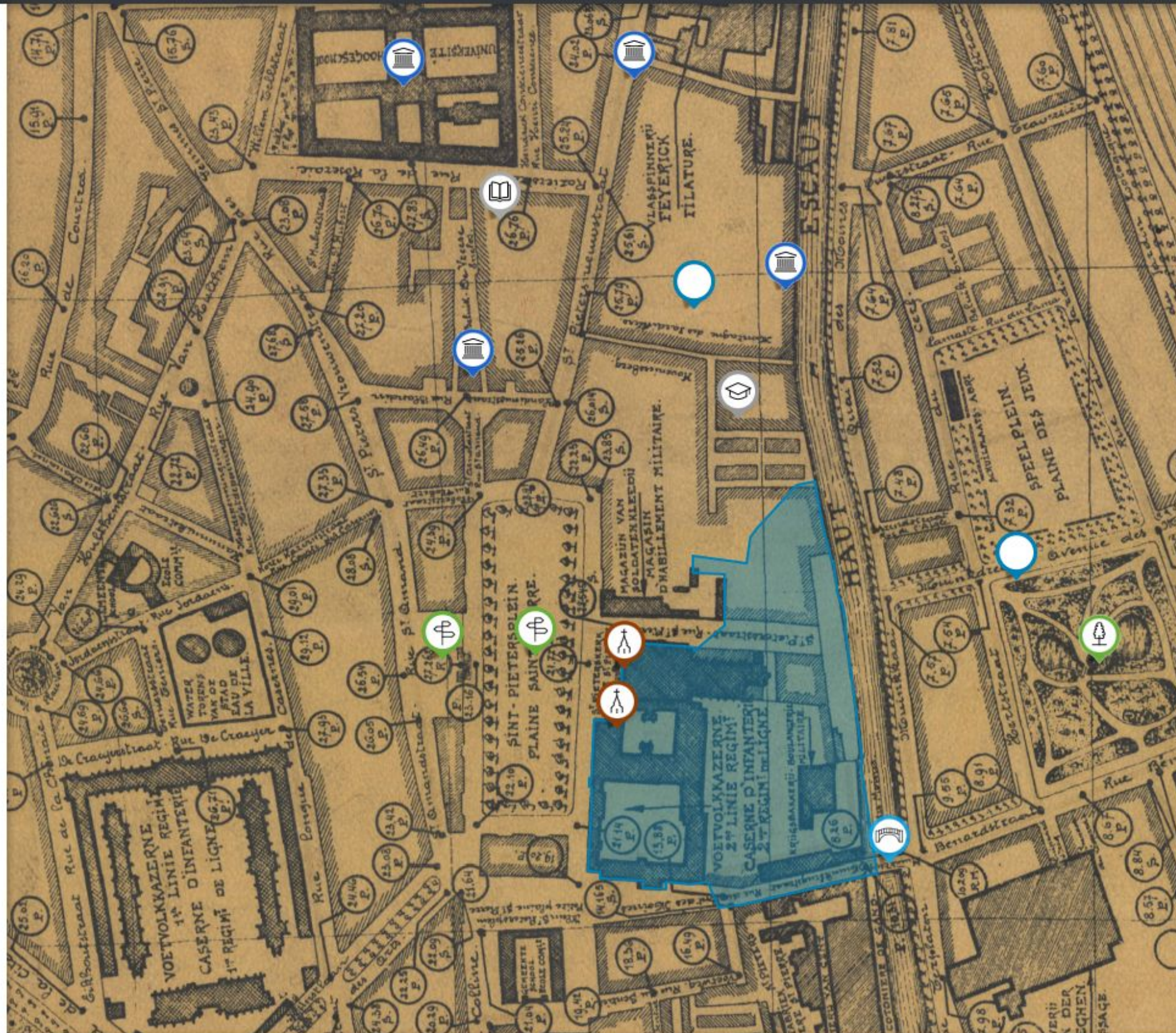
## Kaart opties

### Basiskaarten

- ☐ Gent Gemapt basiskaart
- ☐ Google satelliet

### Kaartlagen

- ☒ Compyn, Soenen & Piscador, 1912
- ☐ Ferraris kaart - Kabinetskaart der Oostenrijkse Nederlanden en het Prinsbisdom Luik, 1771 - 1778
- ☐ Horenbault, 1619
- ☐ Popp, Atlas cadastrale parcellaire de la Belgique, 1842 - 1879
- ☐ Topografische kaart Vandermaelen (1846-1854), Vlaanderen
- ☐ Luchtfoto Vlaanderen, zomer 1979-1990 - kleur
- ☐ Luchtfoto Gent 1954-1961



## Sint-Pietersabdij

600 - heden   abdiën   abdijkerken   bakkerijen   boomgaarden  
brouwerijen   infirmerieën   kaaimuren   kloostertuinen   omheiningsmuren  
oorlogsmonumenten   parochiekerken   rosmolens   stallen   wijngaarden

De Sint-Pietersabdij ligt naast de Sint-Pieterskerk aan het Sint-Pietersplein op de Blandijberg. De abdijtuin met ruïnes van de oude abdij, haar boom- en wijngaard strekt zich uit langs de Muinschelde. De voormalige benedictijnenabdij heeft een lange voorgeschiedenis en was van bijzonder grote betekenis voor Gent en omgeving. Ze vormde naast de Sint-Baafsabij aan portus Ganda een tweede, en lang rivaliserende, stadspool van de stad.

### Machtig religieus en economisch centrum

[toon meer](#)

### Collectie





- Current manual image selection unsustainable
- Current manual mapping to places unsustainable
- Minimum information needed
  - Dates required for sorting & filtering
  - Identifiers & metadata needed for mapping
- What is possible with IIIF?

# IIIF properties & metadata

- `navDate`
  - `datetime`, for navigation purposes (timeline/calendar)
  - rarely found in manifests
- `navPlace`
  - geographic coordinates (GeoJSON, no GeoNames)
  - no wide adoption yet
- `metadata`
  - key / value pairs, intended for presentation only
  - no semantics!



# External data sources

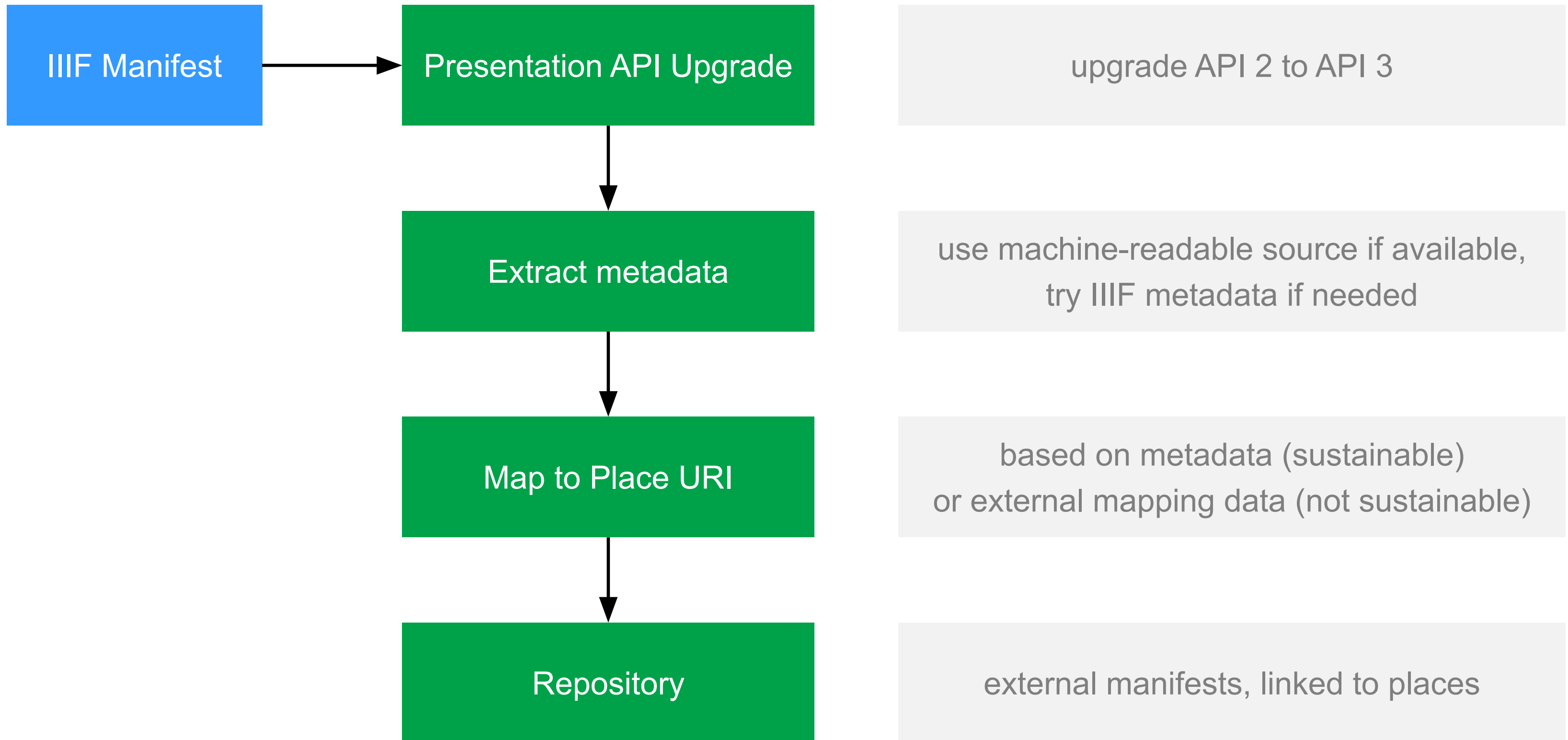
seeAlso

- points to machine-readable resources (JSON, XML, RDF, etc.)

Sounds good, no?

- a lot of extra code to support different data formats and structures  
(in our case: MARCXML, custom JSON, GraphQL endpoint)
- external data sources are not always semantic datasets
- for each partner, a custom mapping config is needed

# Ingest pipeline





# Enriching IIF collections through Madoc

## Madoc platform

- developed by Digirati
- crowdsourcing and machine-assisted IIF enrichment
- custom data models
  - transcriptions, annotations, entities, metadata enrichment
- external data sources
  - “Ghent Mapped” gazetteer as lookup service

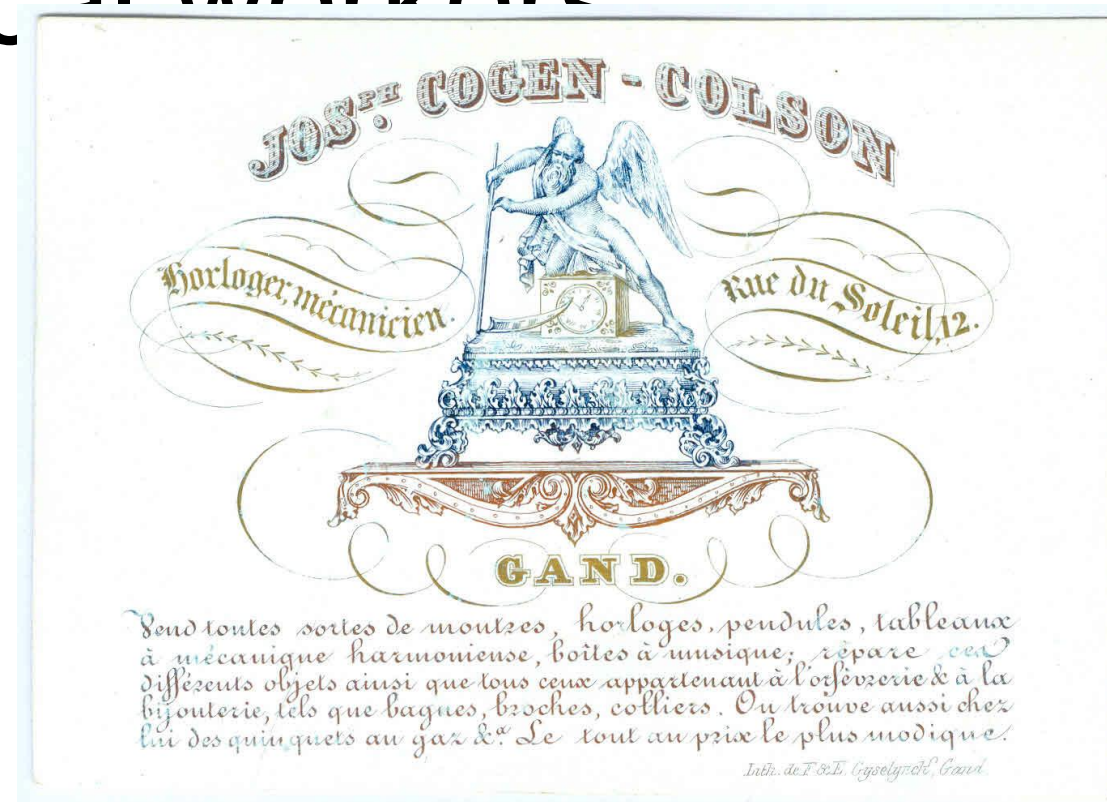
# Enriching IIIF collections through Madoc

- IIIF goes in ☐ IIIF comes out
  - view updated metadata
  - view captured entities as annotations
  - easy to present enriched collections
- Madoc API
  - get structured data
  - allow partners to receive enriched data  
(future challenge)



# Madoc use cases for Ghent Mapped

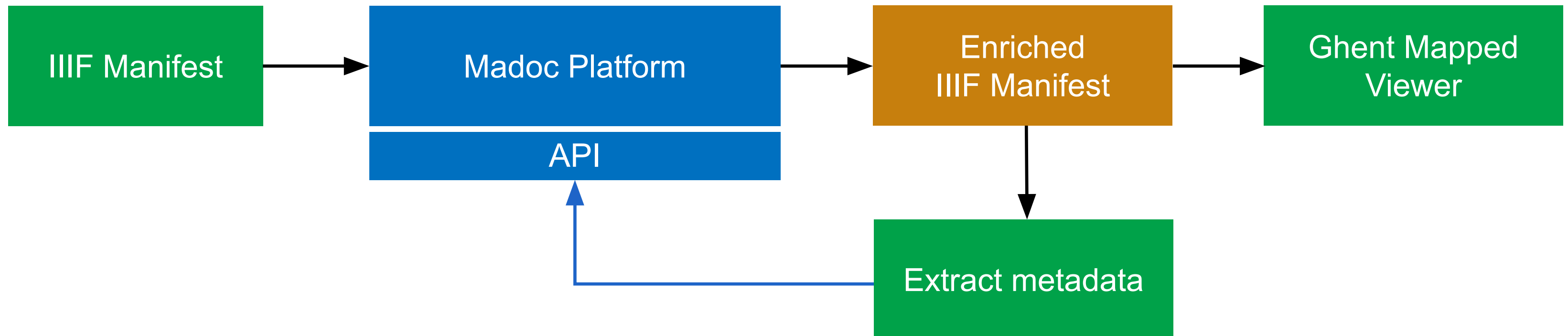
- Transcriptions of old postcards
- Improve metadata and descriptions of collections of porcelain-cards
- Geolocate historical workers houses



# Improve sustainability

## Use Madoc to improve manifest ingestion

- collect missing dates
- map resources to places using our gazetteer





# Future work

- Improve pipeline for enriched manifests for each partner
- Migrate maps to IIIF maps
- Publish gazetteer as Linked Open Data for heritage
  - No IIIF extension for gazetteer URIs?

# Thank you!

- Heritage - [fien.danniau@ugent.be](mailto:fien.danniau@ugent.be)
- Gazetteer - [vincent.ducatteeuw@ugent.be](mailto:vincent.ducatteeuw@ugent.be)
- Madoc - [lise.foket@ugent.be](mailto:lise.foket@ugent.be)
- Software - [frederic.lamsens@ugent.be](mailto:frederic.lamsens@ugent.be)