

Vibe GIS-ing

From Visualization to Spatial Reasoning: Integrating OpenCLAW with GIS Agents



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and Artificial Intelligence

Who we are

Founded in 2012, the Wrocław Institute of Spatial Information and Artificial Intelligence develops AI and geospatial solutions for public administration and data-driven decision-making.



2 professors, 2 PhDs, 3 PhD students



Locations: Wrocław, Warsaw

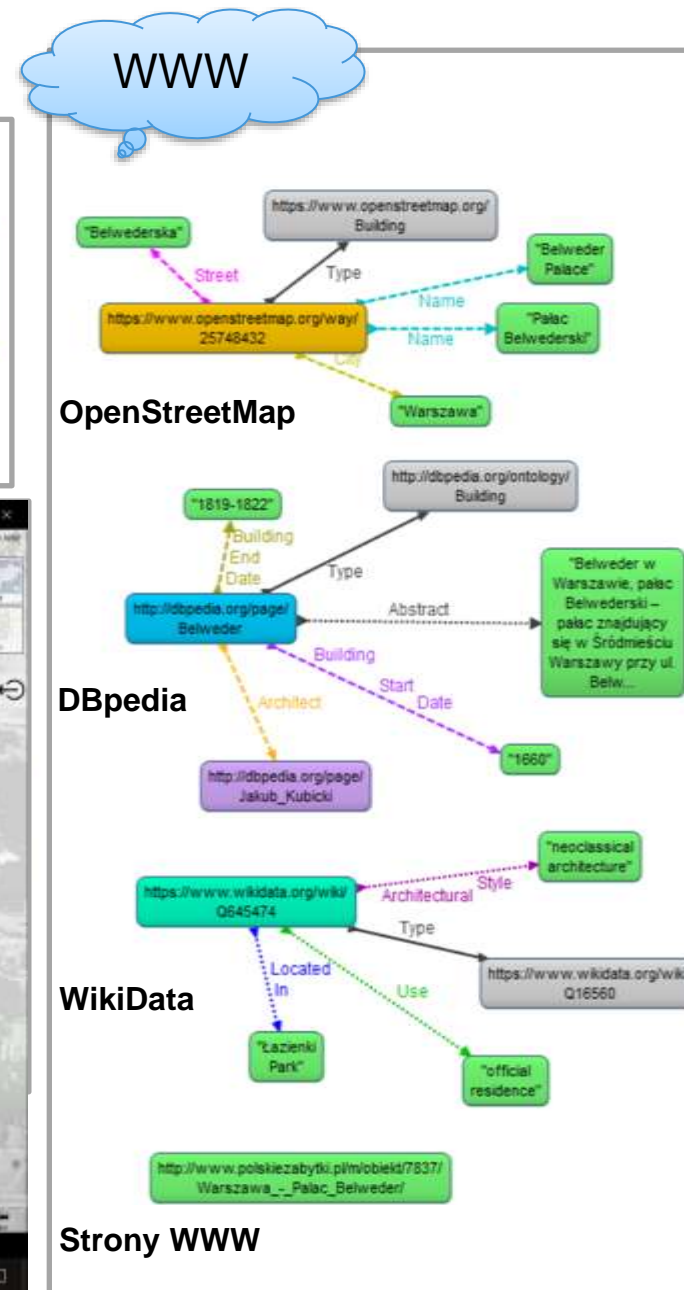
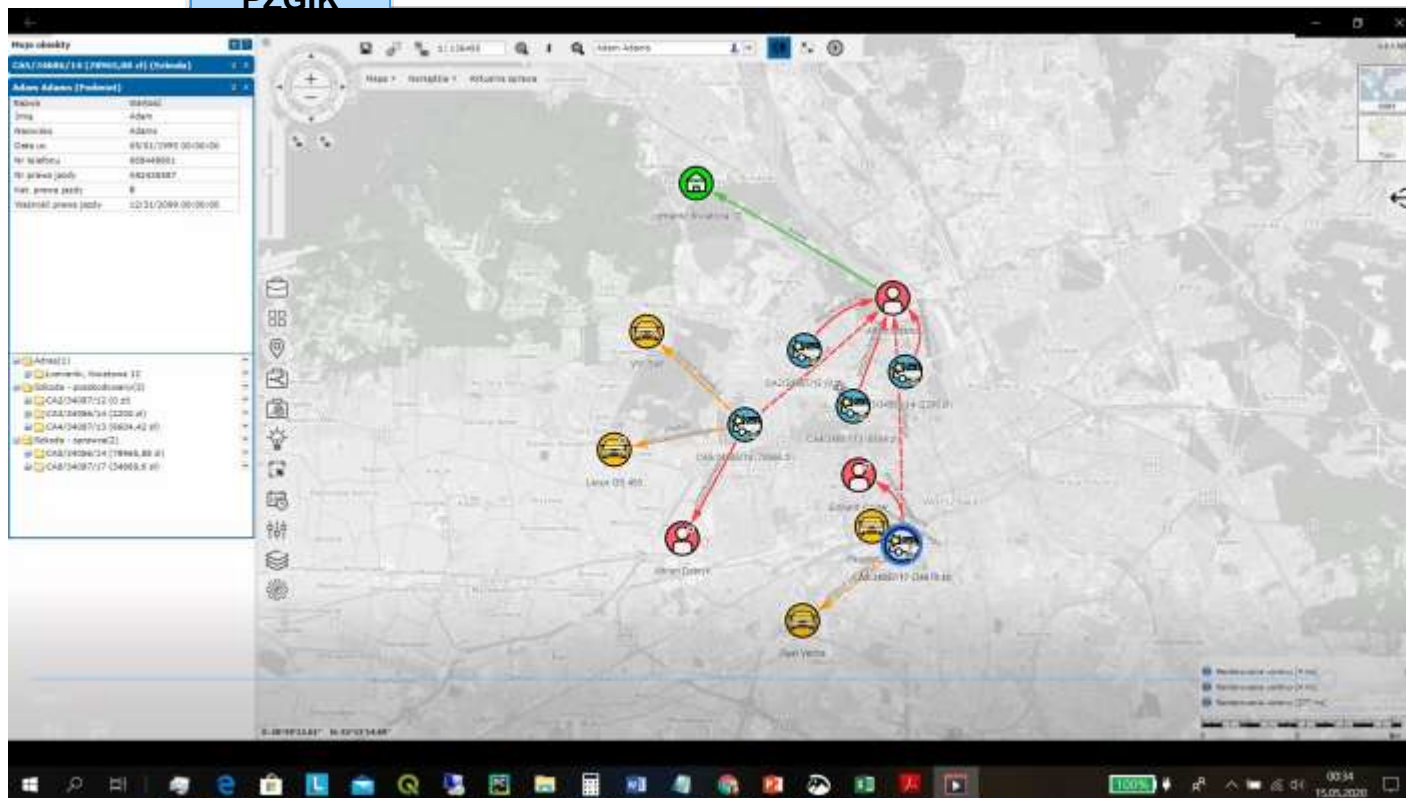
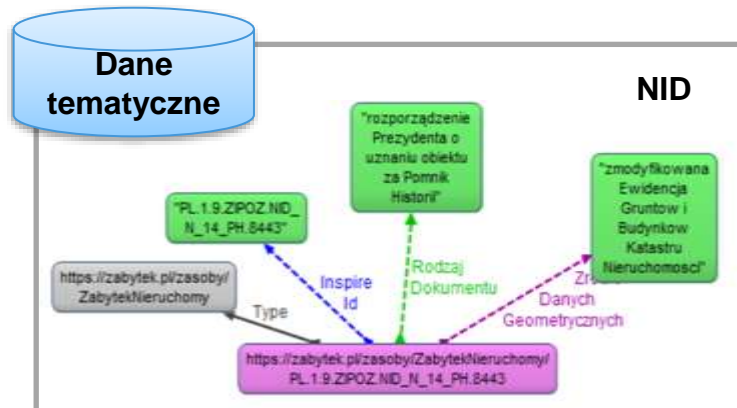
Competencies we have

We have 14 years of experience and 100 successful implementations in the AI solutions market, backed by the tools, knowledge, and support of leading experts from Poland, Europe, and the world.

All this allows us to offer services at the highest level.

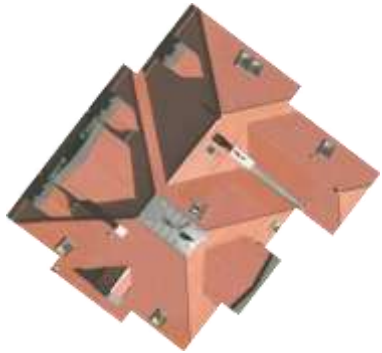


Semantic Web KB, RDF, OWL



Detection and classification of building roofs

Classification of buildings by type of roof

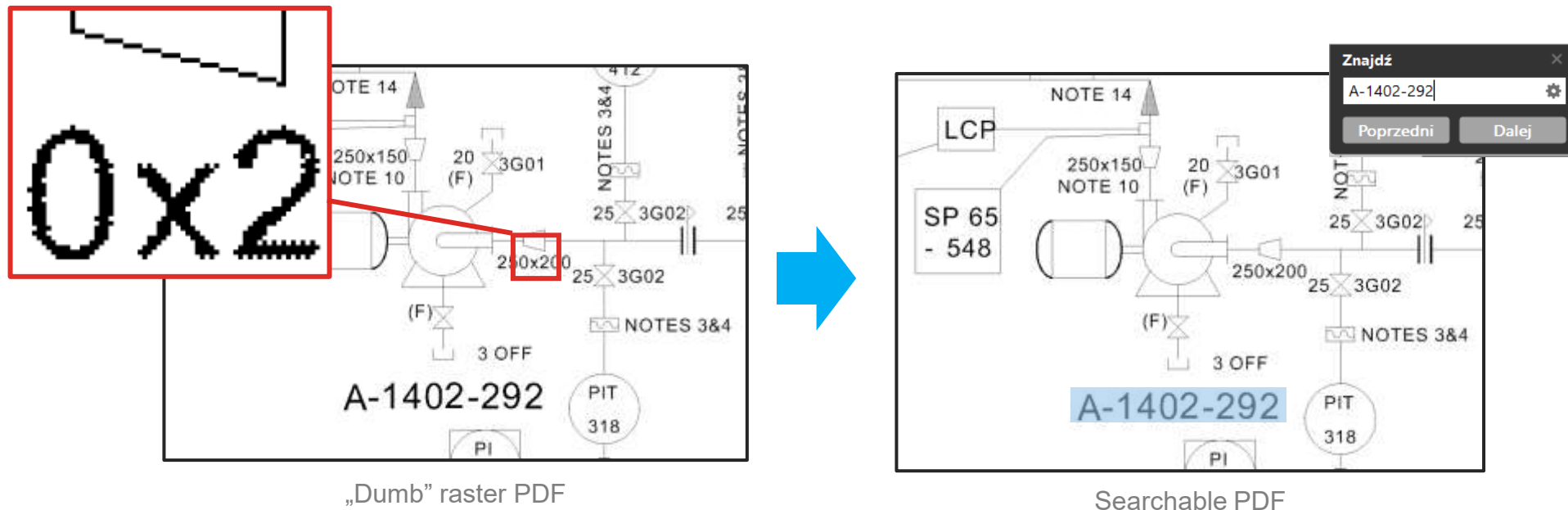


→	Rodzaj dachu		
	spadowy	plaski	
	0,9523	0,0477	
→	Typ pokrycia		
	papa	dachówka	blacha
	0,0015	0,8723	0,1262
→	Stan dachu		
	dobry	zly	
	0,9323	0,0677	

Detecting buildings in oblique photos



1. Enriched PDF File



2. List of documents metadata

	A	B	C	D	E	F	G
	PDF file	Document type	Document number	Document date	Project name	Revision	Author/Company
2	PDF1276.pdf	INSTRUMENT LOOP DIAGRAM	BA2938	07.2006	DIESEL VI	As built	WIZIPIPI
3	PDF1276.pdf	INSTRUMENT LOOP DIAGRAM	HG32983	07.2006	DIESEL VI	As built	WIZIPIPI
4	PDF1276.pdf	INSTRUMENT LOOP DIAGRAM	GF87468	07.2006	DIESEL VI	As built	WIZIPIPI
5	PDF1276.pdf	INSTRUMENT LOOP DIAGRAM	FG65465	09.2006	DIESEL VI	As built	WIZIPIPI
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9	PDF1276.pdf	P&ID	P9373	09.2006	DIESEL VI	As built	19E

3. List of extracted instrumentation TAGs

	A	B	C	D	E	F
	PDF file	Page number	TAG	Source	X	Y
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3	PDF1276.pdf	1	TI 201	pdf	11171,81	1532,483
4	PDF1276.pdf	1	PI 301	ocr	10029,38	1615,828
5	PDF1276.pdf	1	TE 818	ocr	10031,56	2112,02
6	PDF1276.pdf	1	TI 202	pdf	9060	3423,5
7	PDF1276.pdf	1	1"-100-PE-N	pdf	2072,5	4324
8	PDF1276.pdf	1	1"-101-PE-D	pdf	17623	6816
9	PDF1276.pdf	1	2"-102-PE-N	pdf	2227,5	8679

eXtracToolbox

Automated Information Extraction from Documents

Active market product for over 5
years; 30+ clients

Automated data extraction: recognizes
and extracts key information

Versatility and integration: supports
various document types and seamlessly
integrates with existing systems and
databases

Data format flexibility: extracted
information can be saved in any format
or database

Chatbot, Voicebot – RAG, Vector DB, KB

A guide and a source of answers to questions for any content

Availability at the phone number: the ability to make a phone call and ask questions to any resource of information from websites, documents, etc.

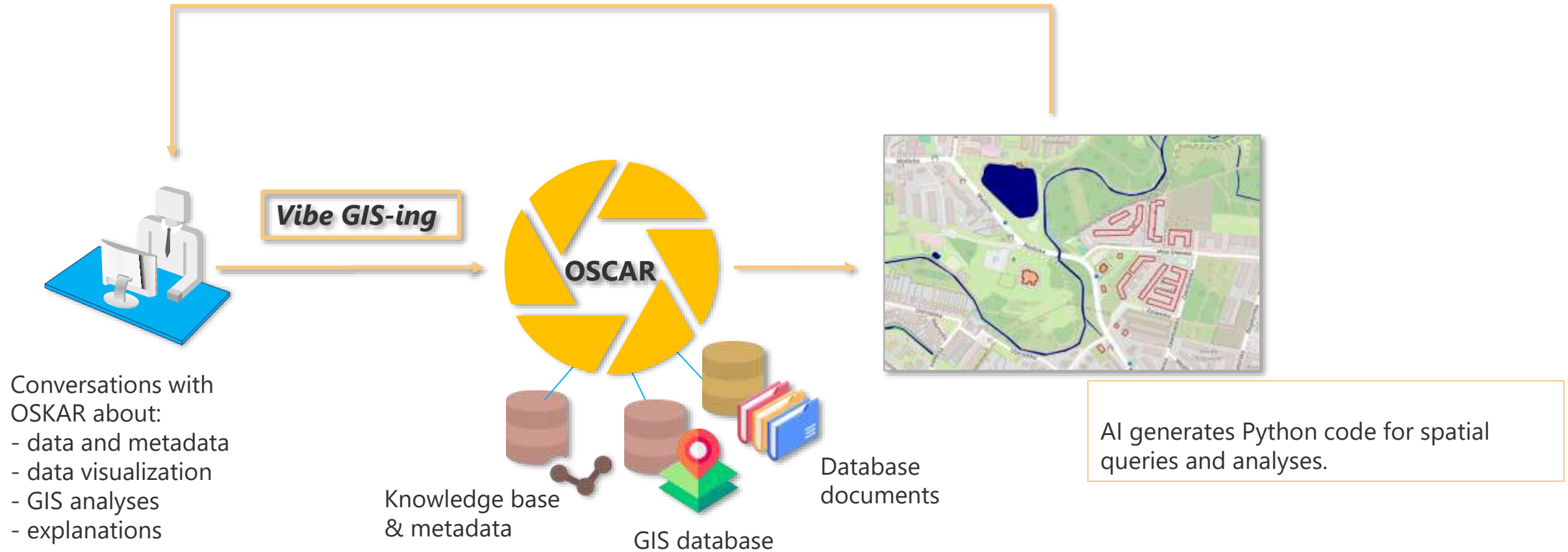
Fluent communication in natural language: Talking and getting information in a way similar to human interaction



Vibe GIS-ing - natural-language communication with the GIS

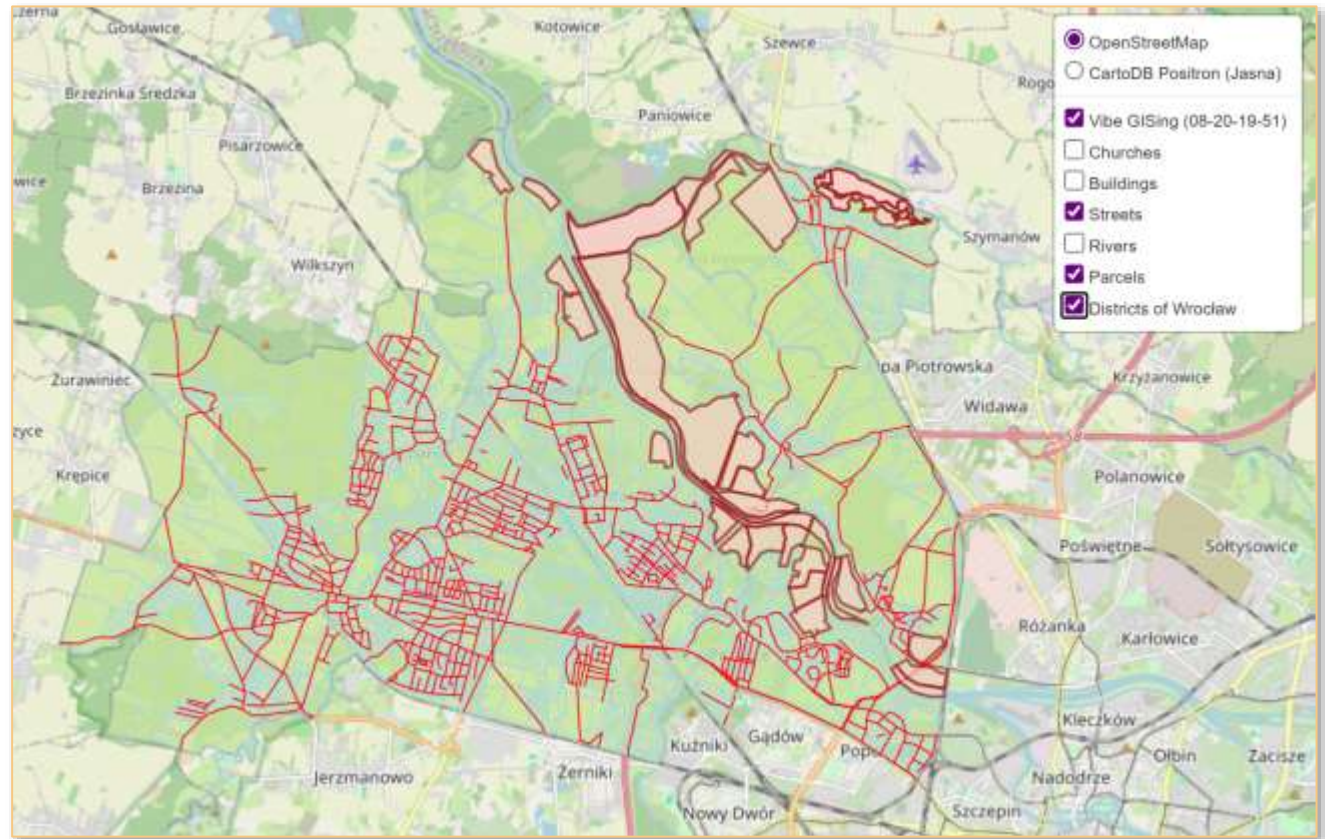
- Vibe GIS-ing is an AI-assisted approach to building GIS workflows through natural-language interaction.
- The user describes goals and constraints in conversation with an LLM-based assistant. AI agents then generate GIS assets, scripts, analyses, visualizations, and reports, while the user evaluates the results and iteratively requests corrections.
- Unlike traditional GIS workflows, the focus shifts from manual tool operation to goal-oriented spatial problem solving.

Vibe GIS-ing with OSCAR



OSCAR – data analysis

Select all land parcels with an area > 100,000 m² that are less than 100 meters from a river named "Odra" or "Widawa".



OSCAR – Knowledge Base & Explanations

Knowledge base

Definition: „Orange alert“

Identify buildings that simultaneously meet the criteria:

Distance of buildings from the river = 500 meters

Select only buildings with an area greater than 150 square meters

Distance of buildings from the church is less than 300 meters

Commands:

- Identify orange-alert buildings for the Widawa River;
- Identify 'orange alert' buildings for the Odra River;

Explanations

"spatial_operations": [

"Buffer Widawa by 500 meters",

"Buffer churches by 300 meters",

"Select buildings with area > 150 sq.m",

"Identify buildings within 500-meter river buffer",

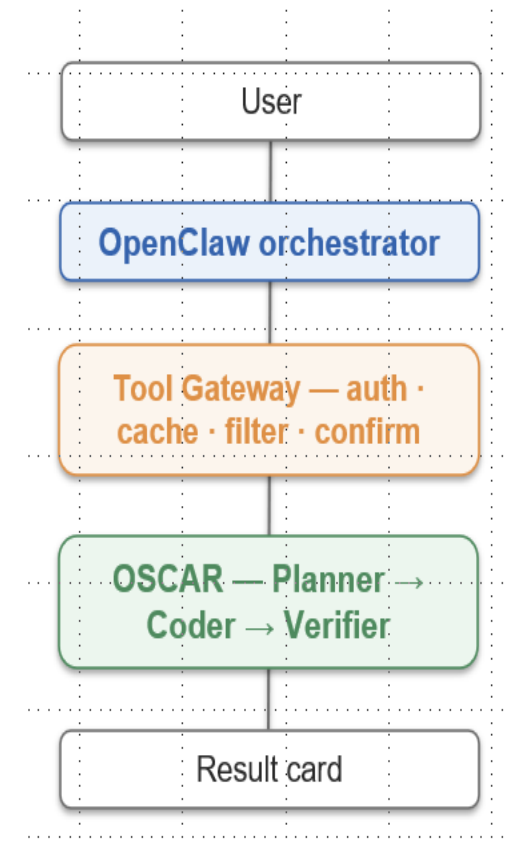
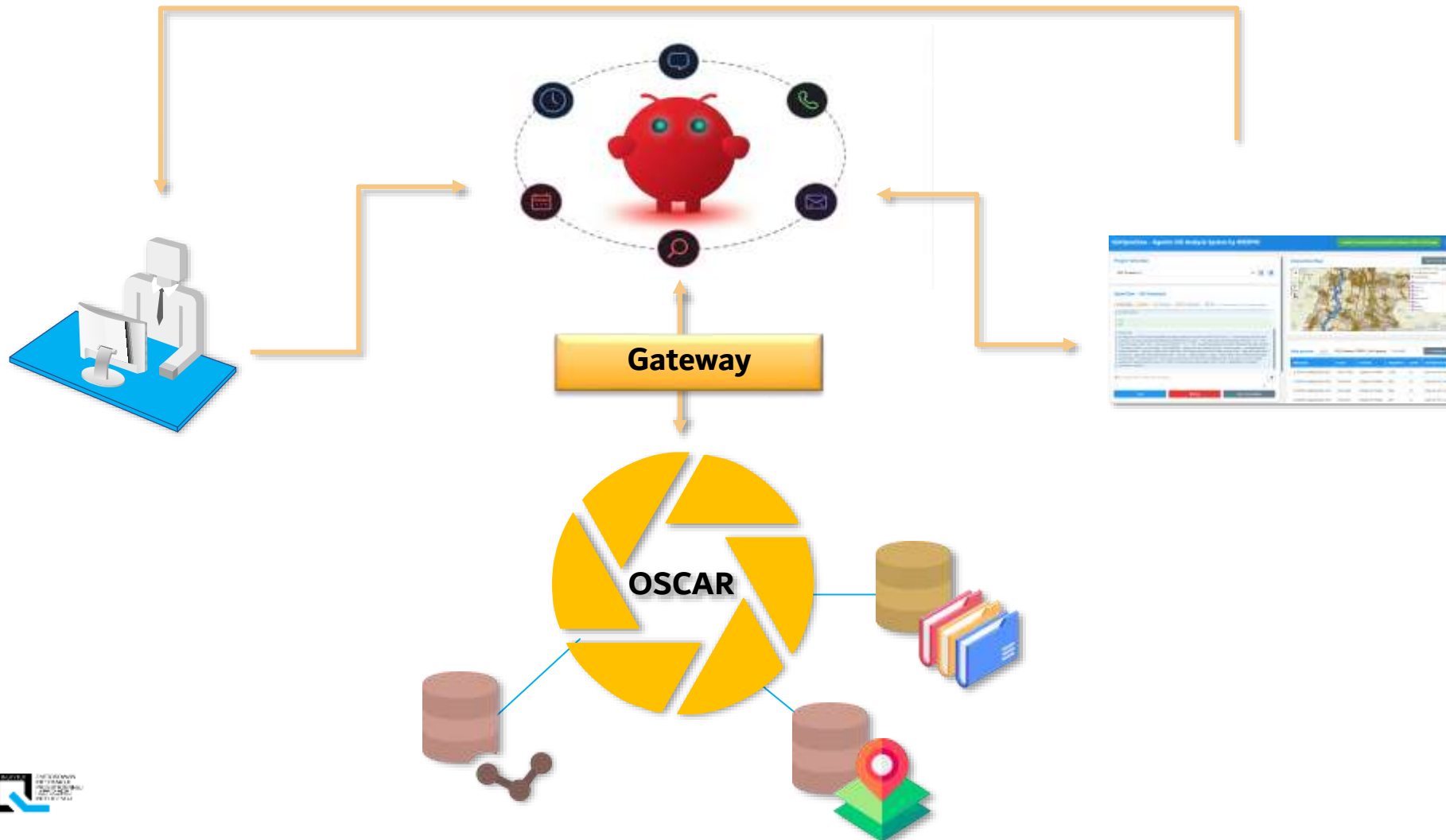
"Identify buildings within 300-meter church buffer",

"Intersection of selected buildings with both buffers"],

"procedure_description": "Analyze spatial relationships by buffering the Widawa river and churches to identify large buildings within set distances.",

"task_summary": "Determine buildings ('alert orange' areas) near the Widawa river and churches."

Vibe GIS-ing with OSCAR & OpenClaw





READ-ONLY GUIDED 4 / 50 msg 142.7k / 900k tok LIM *The assistant responds in the interface language.*

included only the planning context (OUZ and planning zone),

YOU

Will I be able to build a building on the plot at 21 Konopnicka Street in the village of Bogunów according to the general plan?

OPENCLAW

I first need to determine the exact plot or location in the project data, as simply stating "Konopnicka Street 21" in the village of Bogunów may not be sufficient to assess compliance with the general plan. Then I'll check the relevant planning layers for this location. To verify this, I need one more detail: - provide the **plot number and zoning**, or - confirm the **exact address** in the format: ****Bogunów, Konopnicka Street 21****. After that, I'll check if the location falls within a planning zone that allows development.

YOU

I confirm the address

✓ `execute_analysis` — executed: Analysis executed: 1 objects, run_id=2026-04-25_20-15 [\[download code\]](#)

OPENCLAW

Yes — ****you can build conditionally****. For the address ****ul. Marii Konopnickiej 21, Bogunów****: - plot: ****128/3_Bogunów**** - planning zone: ****S1**** — multifunctional zone with single-family housing - ****OUZ**** yes - ****flood 1%**** no - ****flood 10%**** no Conclusion from the analysis: ****you can build conditionally**** — the general plan indicates a zone allowing single-family housing, but the presence of ****OUZ**** means that additional restrictions may apply.

Active result: Check if the plot at Konopni Street... · 1 features

Ask about your project, data, or analysis...

Send

Stop

New conversation

Interactive Map

Open in new tab

Data Preview

zip code	name of
55-020	Bogunów

Address Flood Zone	Coordinates (WGS84)	1% Flood Zone
Ścibora 7 INSIDE	16.99419°E, 51.01719°N	✓
Ścibora 8 INSIDE	16.99456°E, 51.01705°N	✓

KOPIUJ KOD

Both coordinates fall within the bounding box of obszary_zagrozone_powodzia_1_Zorawina (16.976-17.039°E, 50.907-51.025°N),

Both buildings are at flood risk according to the 1% zone data.

Menu Napisz wiadomość

OpenClaw & OSCAR

OpenClaw — Conversation & Tools

Web data collection,
Data integration
LLM dialog
46 tools
Sessions
Confirmations
Telegram

tool contract



OSCAR — Multi-Agent Analysis

Planner
Coder
Verifier
Knowledge base
RAG,
Spatial reasoning,
Data visualization

Vibe GIS-ing with OSCAR & OpenClaw

1. Vibe GIS-ing enables users to obtain GIS solutions without needing to understand the technical details of GIS tools.
2. The emerging approach will allow for:
 - web data collection
 - data integration
 - spatial reasoning
 - democratization of GIS systems
 - broader use of spatial data
 - increasing the comfort of work in GIS.

Thank you for your attention
I invite you to collaborate

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