



CZECH REPUBLIC
DEVELOPMENT COOPERATION



LESPROJEKT
služby

Hub4Everybody

Geographic information system

The project was supported by the Czech Development Agency and the Ministry of Foreign Affairs Czech Republic within the International Development Cooperation Programme Czech Republic.

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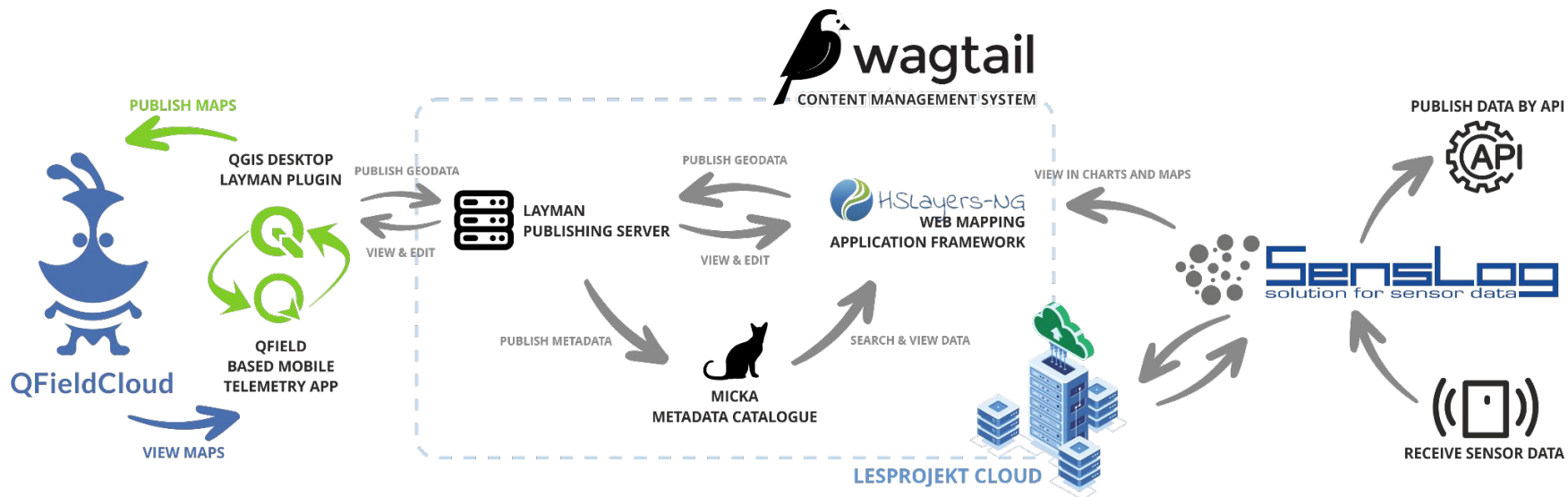
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- Data Measurements & Network Transfer
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Introduction

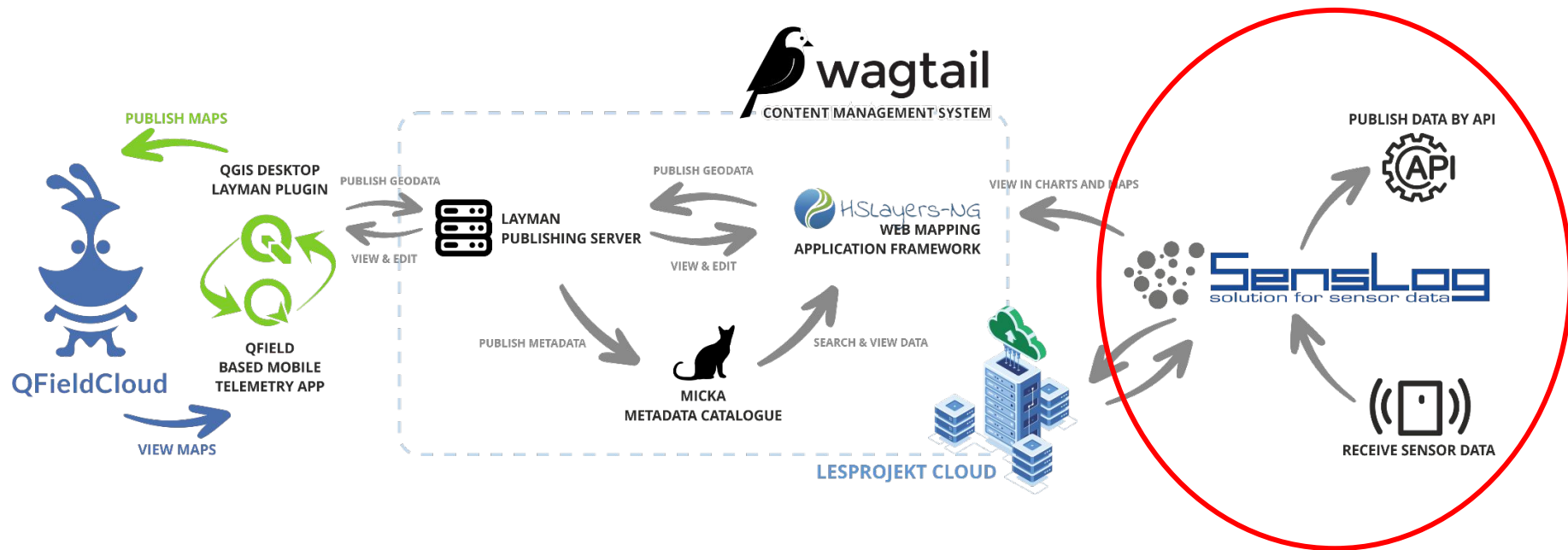
- Collaboration system for **publishing geographic data**
- **Sharing information** among stakeholders
 - government officials
 - researchers
 - farmers
- Based on **geographic information system (GIS)**



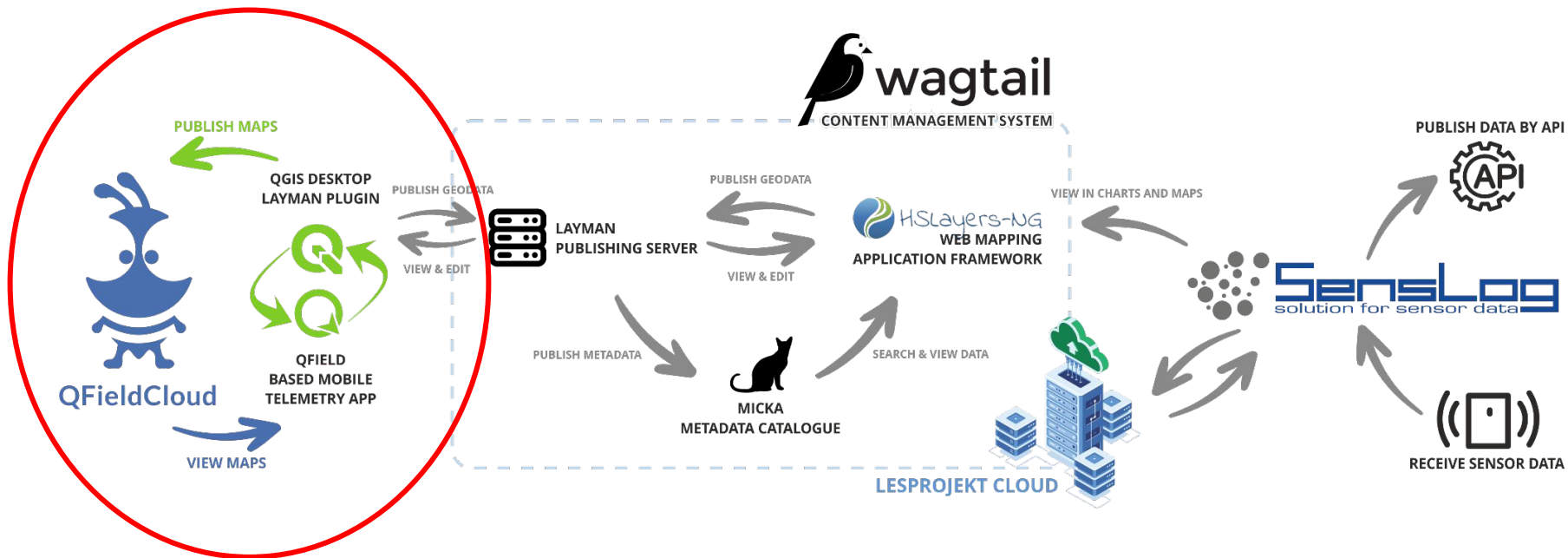
Technological modules of the system



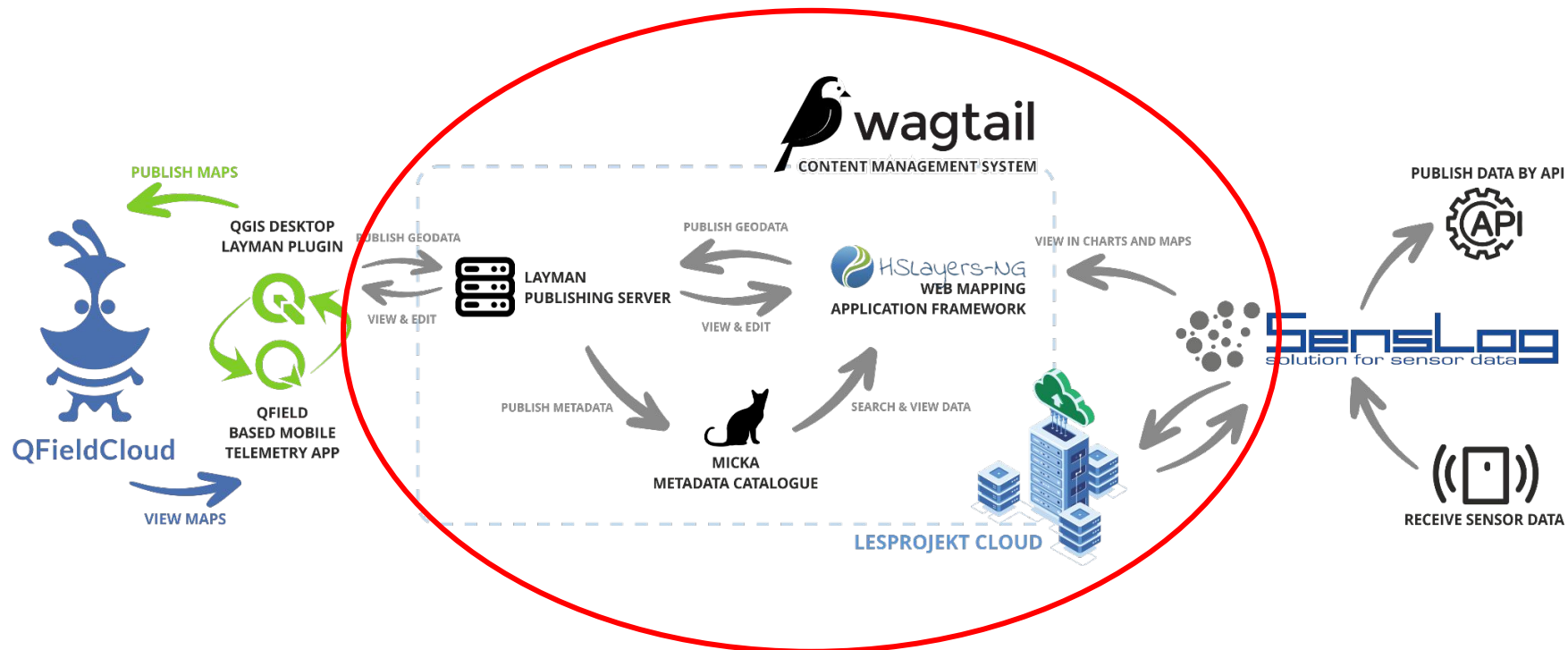
Technological modules of the system



Technological modules of the system



Technological modules of the system

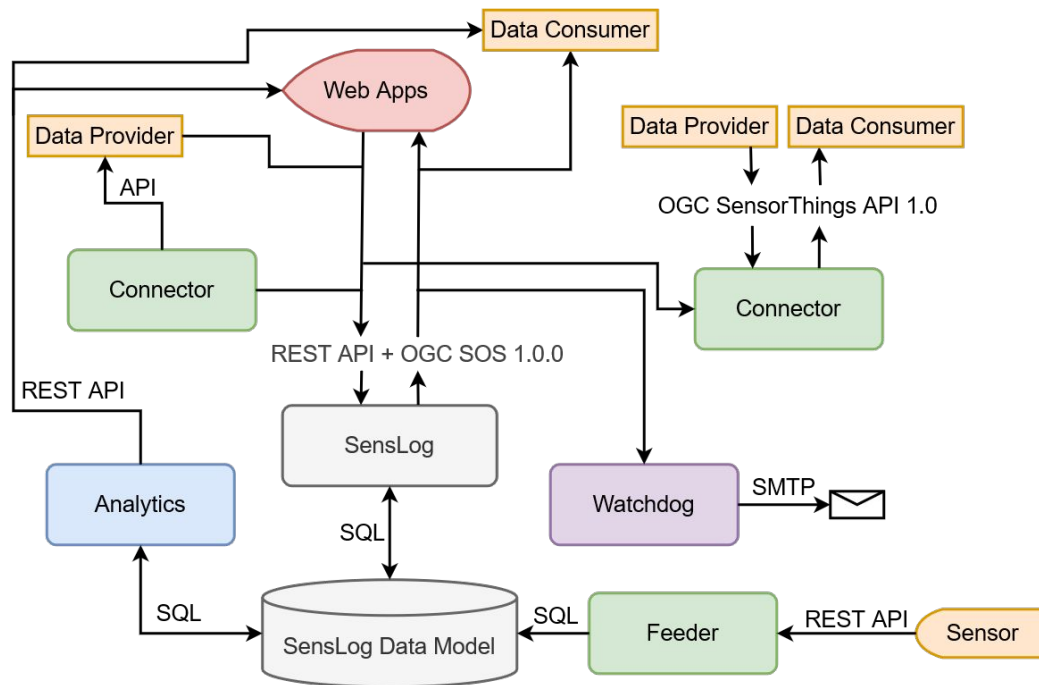


SensLog platform - *Sensor data management*

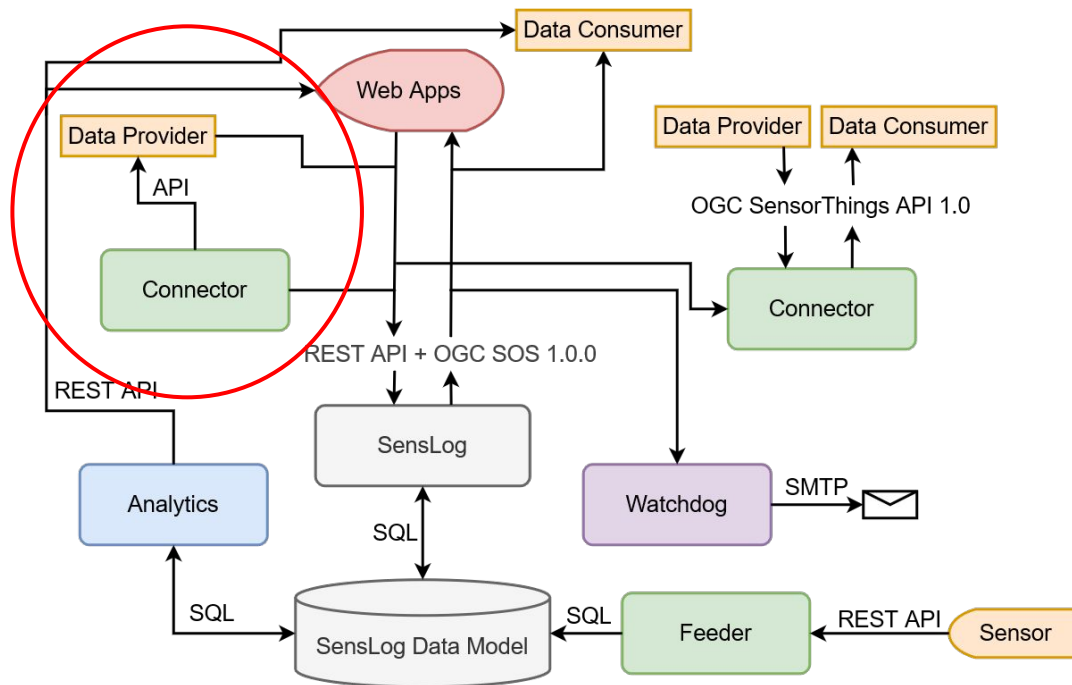
- **Centralized solution** for sensor data management
- Receiving, Storing, Managing, Processing, Publishing - sensor data
 - Historical
 - Real-Time
 - Data Analysis
 - Meteorological
 - etc.
- **Proprietary data model** based on the standard **ISO 19156**
- Server-side only platform



SensLog Platform - Components



SensLog Platform - Components



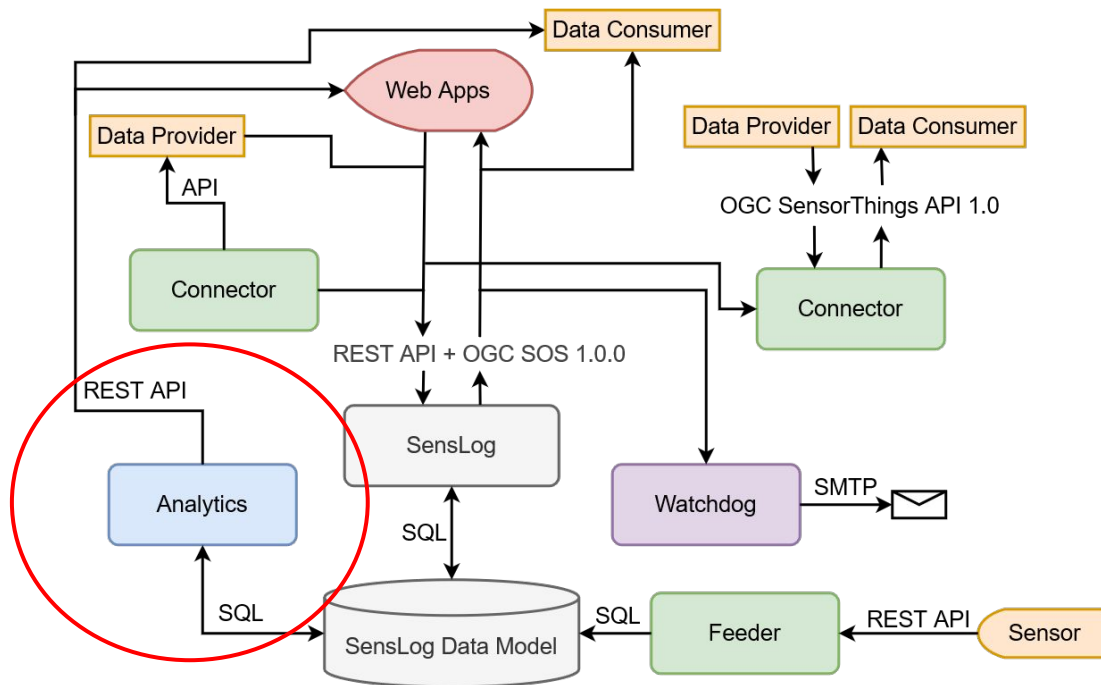
SensLog Connector - *Data integration*

```
{  
  timestamp: "2023-09-10T15:01:20",  
  air_temperature: 28.33,  
  air_humidity: 71.87,  
  battery_level: 0.38,  
  device_id: "eui-c5122c69a4"  
}
```



unit_id	sensor_id	value	time_stamp
7345645	100001	28.33	"2023-09-10T15:01:20"
7345645	100010	71.87	"2023-09-10T15:01:20"
7345645	100099	0.38	"2023-09-10T15:01:20"

SensLog Platform - Components



SensLog Analytics - Calculations

device	sensor	timestamp	value
4280003	temperature	2023-08-03 13:30:21.332	31.88000
18907677	temperature	2023-08-03 13:30:15.143	30.21000
4280003	temperature	2023-08-03 13:45:18.234	30.83000
18907677	temperature	2023-08-03 13:45:30.754	29.97000
18907677	battery_level	2023-08-03 13:45:31.824	0.09000

Threshold Checker
 $\leq 10\%$



Greenhouse
Temperature

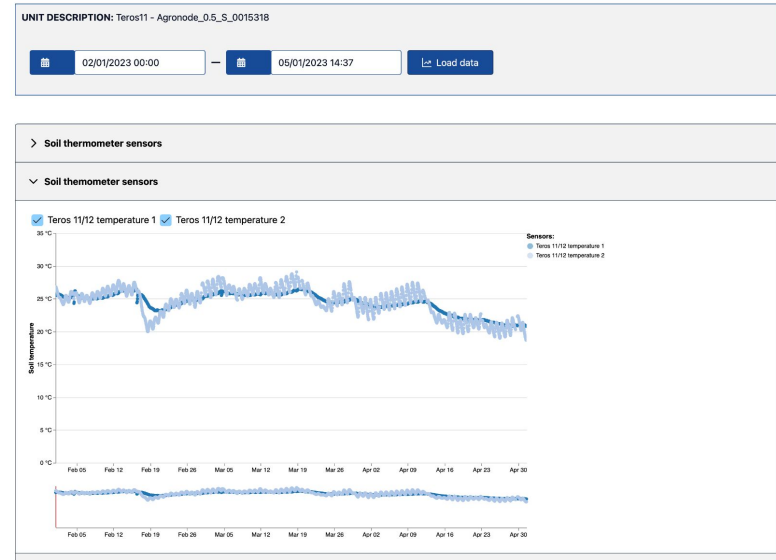
Dam
Water Level

Mold
Conditions

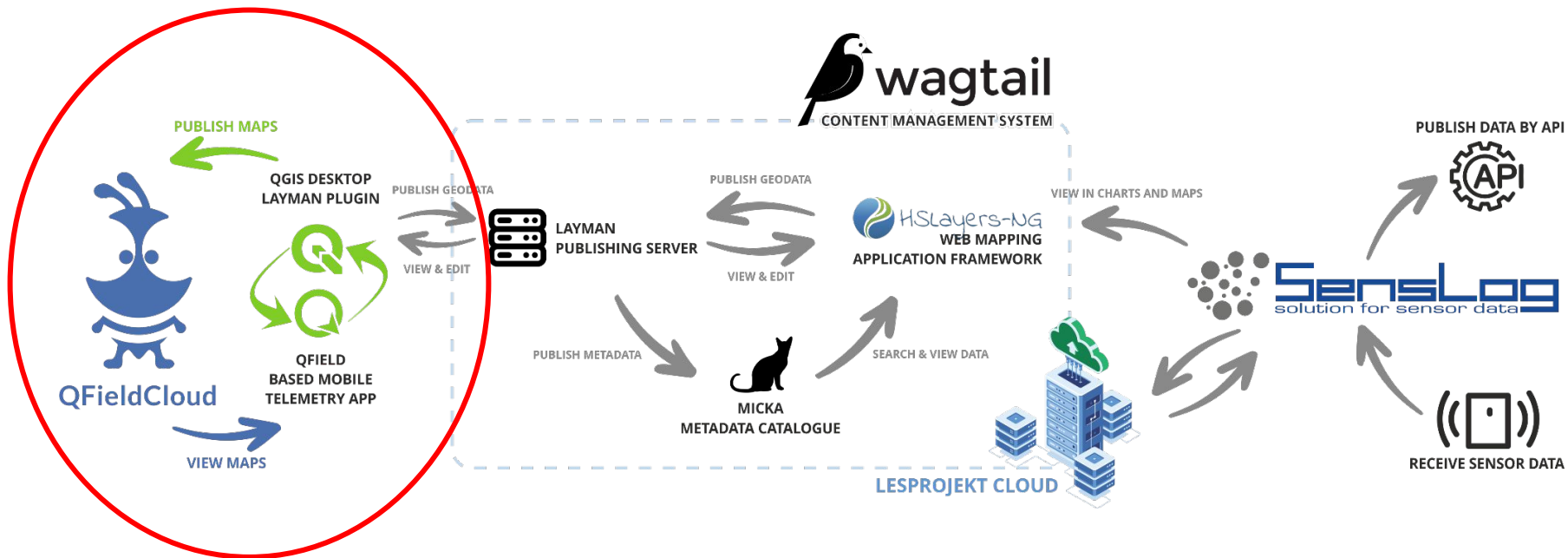
attribute	value	interval
MIN	29.97000	2023-08-03 13:00 + 1h
MAX	31.88000	2023-08-03 13:00 + 1h
AVG	30.65500	2023-08-03 13:00 + 1h
MIN	15.80000	2023-08-03 13:00 + 0.5h
MAX	16.10000	2023-08-03 13:00 + 0.5h
AVG	16.00000	2023-08-03 13:00 + 0.5h
PROB	0.288000	2023-08-05 10:00 + 3h

SensLog Client - *Sensor Network Administration*

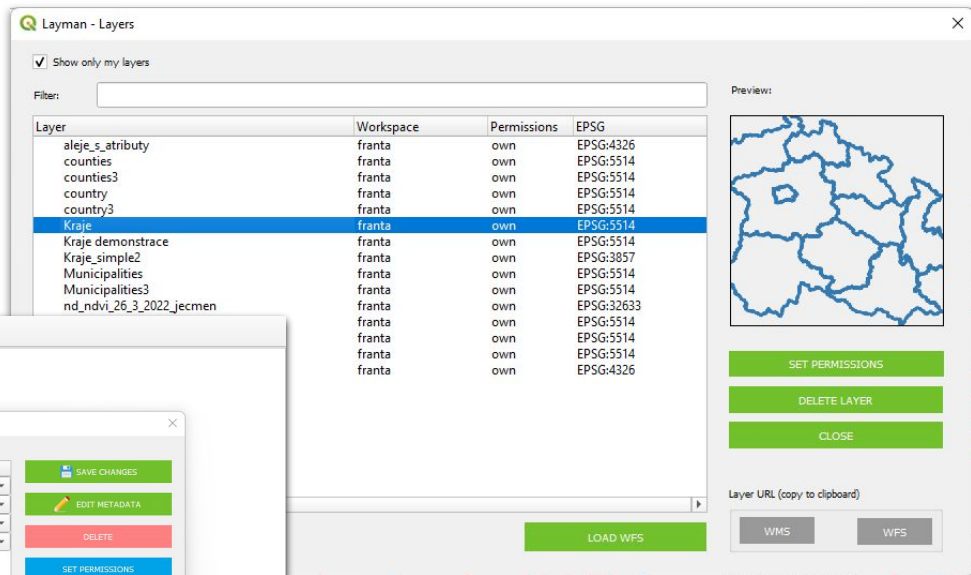
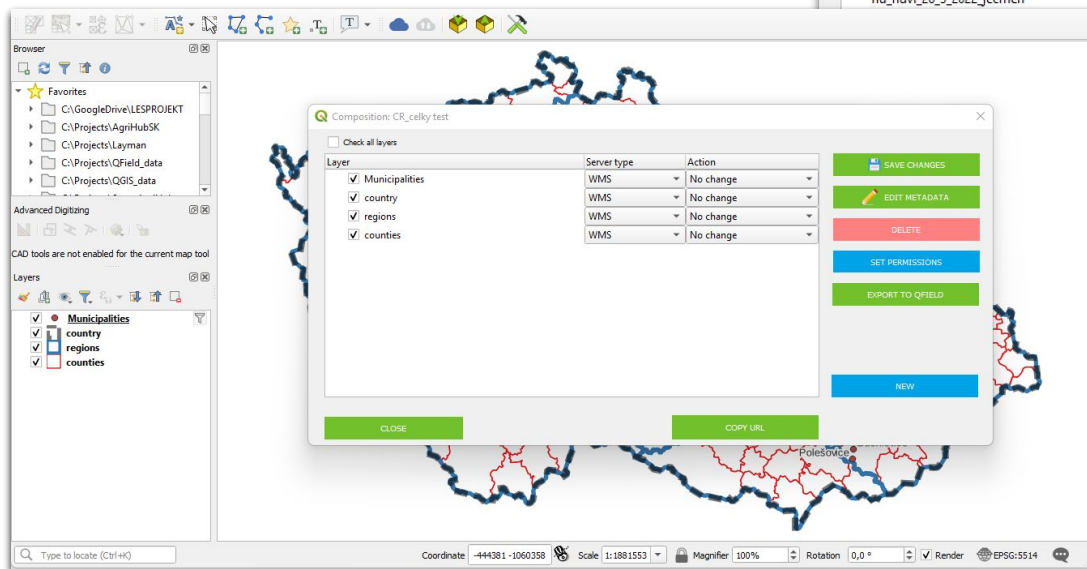
- Graphics user interface for managing sensors
- Visualisation of raw data



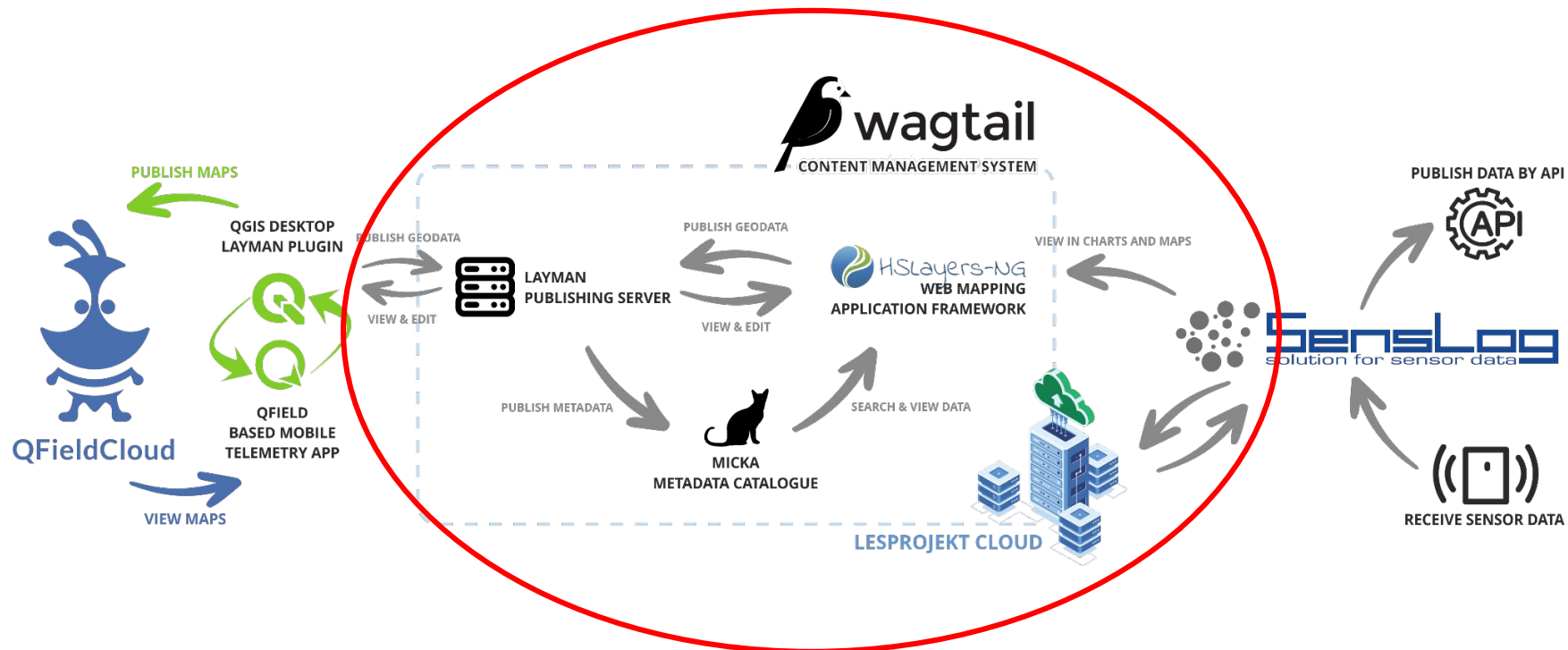
Technological modules of the system



QGIS - Map Composition

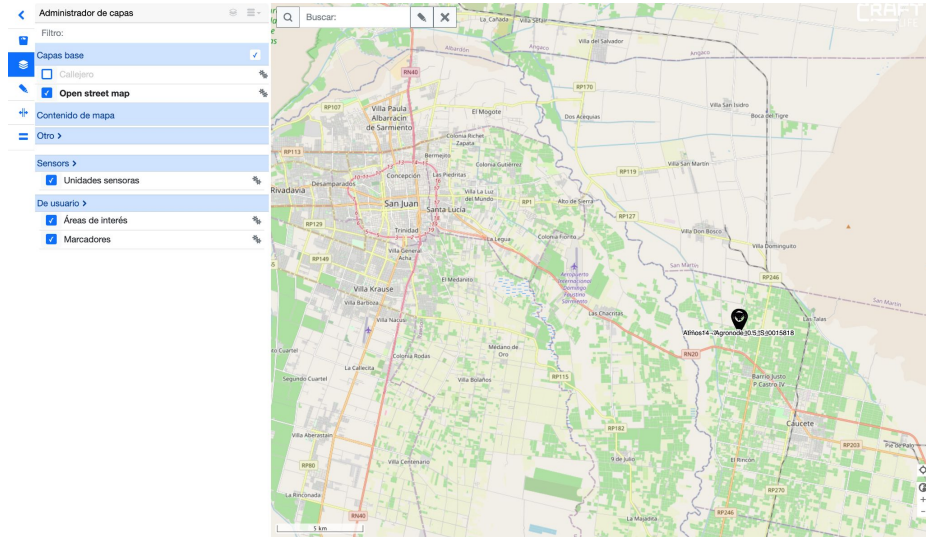


Technological modules of the system



FIE20 - Geographic data visualisation

- Advanced solution for geographic data
- Visualisation of sensor and geographical data
 - SensLog connection
 - View of map compositions

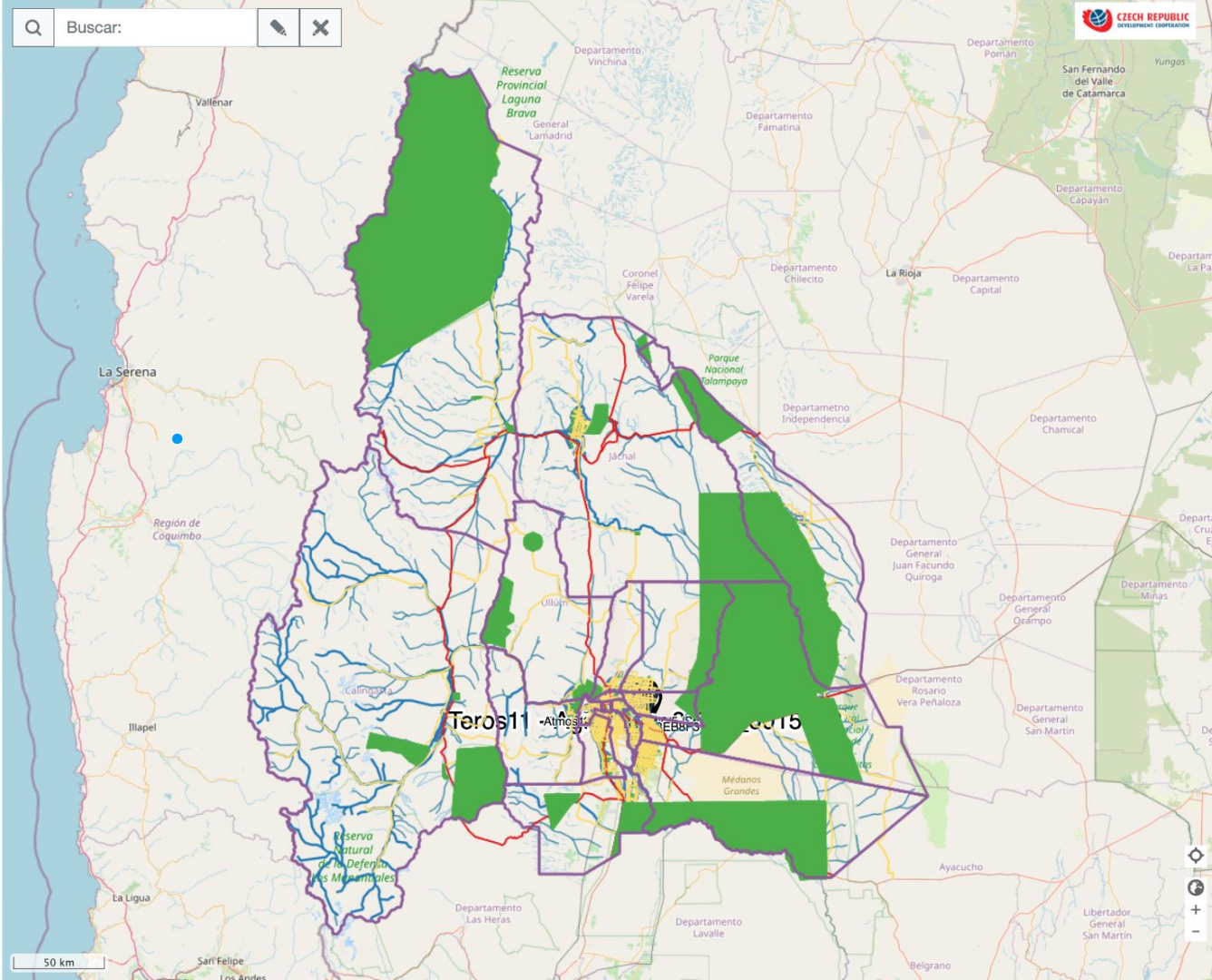


Administrador de capas

Filtro:

- Capas base
- Callejero
- Open street map
- Contenido de mapa
- Otro >
 - Limites departamentales DGC
 - Zonas_Protegidas
 - RutasDPV
 - Rios_de_SanJuan
 - canales_Hidraulica
- Sensors >
 - Unidades sensoras
- De usuario >
 - Áreas de interés
 - Marcadores

Q Buscar:



Sensores

Filtro:

Comparar sensores entre unidades

Teros11 - Agronode 0.5 S 0015318

Voltmeter

Soil thermometer

- [Teros 11/12 temperature 2](#) 17.7 °C a 08.05.2023 10:00
- [Teros 11/12 temperature 1](#) 17.5 °C a 03.10.2023 06:00
- [MPS6 soil temp -80cm](#) 24.8 °C a 23.11.2020 19:00
- [MPS6 soil temp -35 cm](#) 24.7 °C a 23.11.2020 20:00

Water potential

CS320 - Agronode 0.5 S 0015618

Teros11 - Agronode 0.5 S 0015918

Voltmeter

Flood

Soil thermometer

- [Teros 11/12 temperature 2](#) 19.8 °C a 03.10.2023 06:00
- [Teros 11/12 temperature 1](#) 18.1 °C a 03.10.2023 06:00

Teros11 - Agronode 0.5 S 0015518

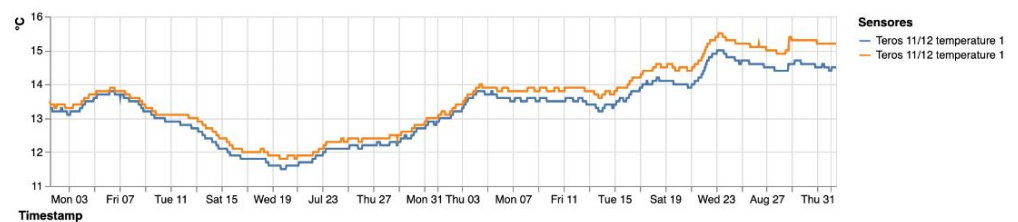
Atmos14 - Agronode 0.5 S 0015818

Caucete 4 (3EB8F3)

Buscar:



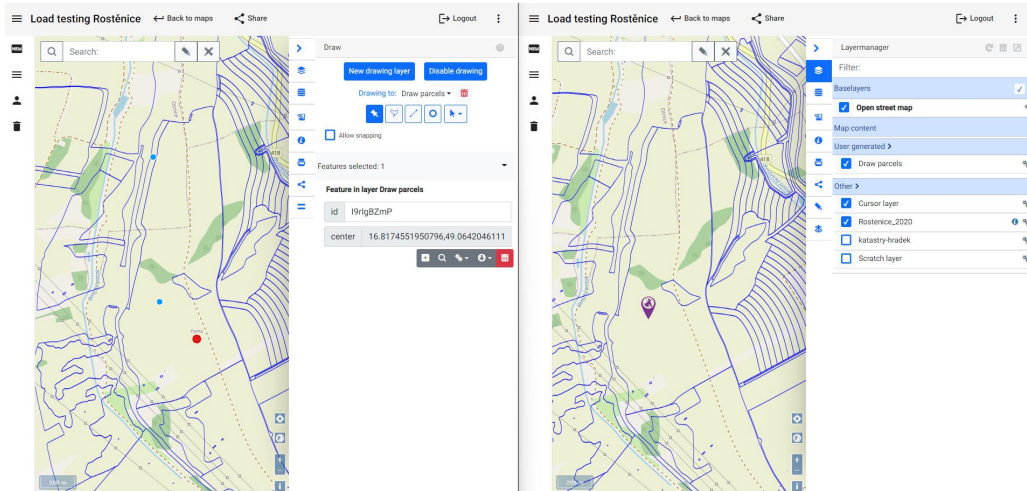
Unidad sensora Caucete 4 (3EB8F3), Teros11 - Agronode_0.5_S_0015318, Teros11 - Agronode_0.5_S_0015918



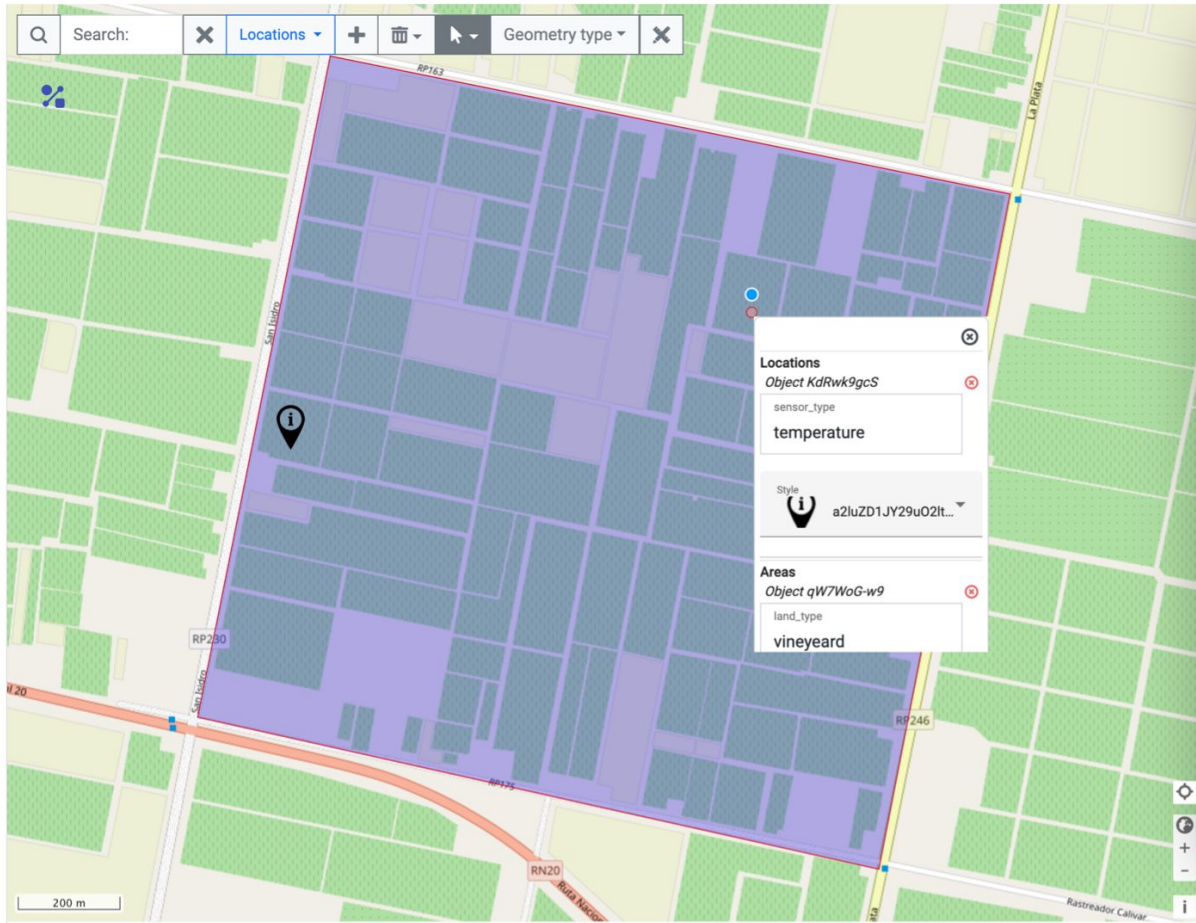
	Min	Max	Medio	
Caucete 4 (3EB8F3)				
Air temp	Infinity	-Infinity	NaN	
Teros11 - Agronode 0.5 S 0015318				
1H	1D	1W	1M	6M
	2023-07-01	2023-09-01		

Whiteboard - Collaboration platform

- Online collaboration in real-time tool for map making
- Working experience as shared Google Docs
- Web-application & QGIS integration



NEW 🔍 Search: [X] Locations + [X] Geometry type [X]



Info

Features selected: 1

Feature in layer Locations

id	KdRwk9gcS
style_class	a2luZD1JY29uO2ltYWdlPWFzc2V0cy9
sensor_type	temperature
center	-68.31113950880365,-31.60633969226301

Coordinates

EPSG:4326	31° 36' 24" S 68° 18' 40"
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Thank you!