



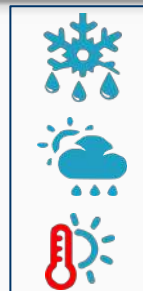
River 4U: flood alert for Water Utilities



Waterjade® by MobyGIS S.r.l.
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Who we are:

MobyGIS is a company located in Trento (Italy), 300 km from Munich, 220 km from Milan. We are branding as **Waterjade**[®]

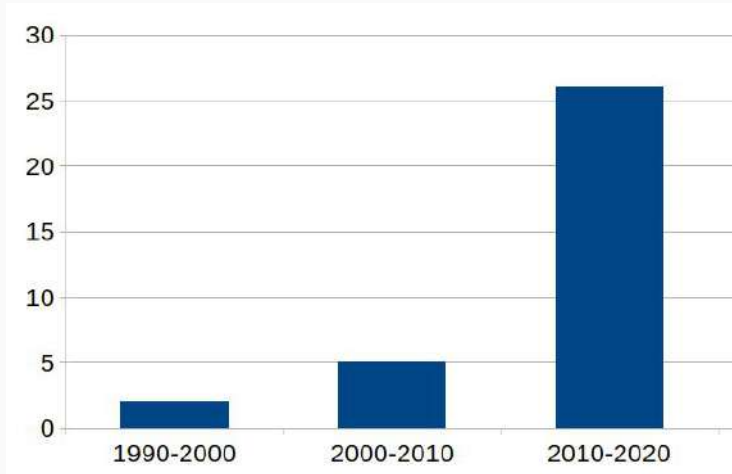


We integrate **horizontal skills** in Earth Observation, data analysis, GIS, physical modeling and machine learning with **vertical application** in the field of Water monitoring and predictions, with experience in snow modeling, meteorology, climate change and extreme events predictions like drought and floods.



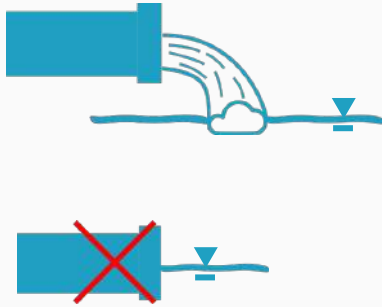
Challenge

Extreme events (flood) in Turin



The challenge

Current approach



Manual intervention
(gates closing and opening) according to pre-defined thresholds



Problems

- false alerts
- missing interventions



Time consuming

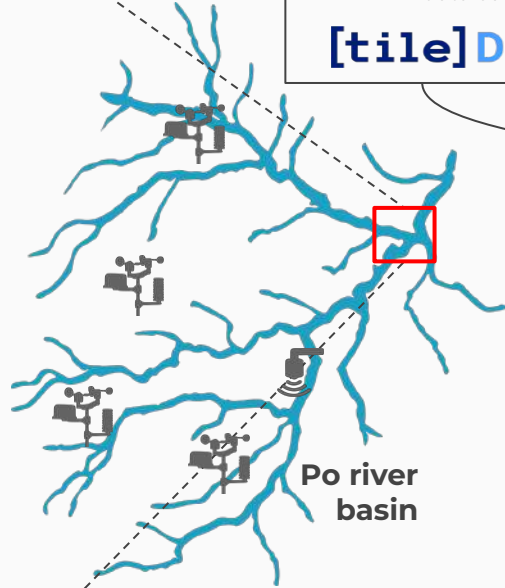
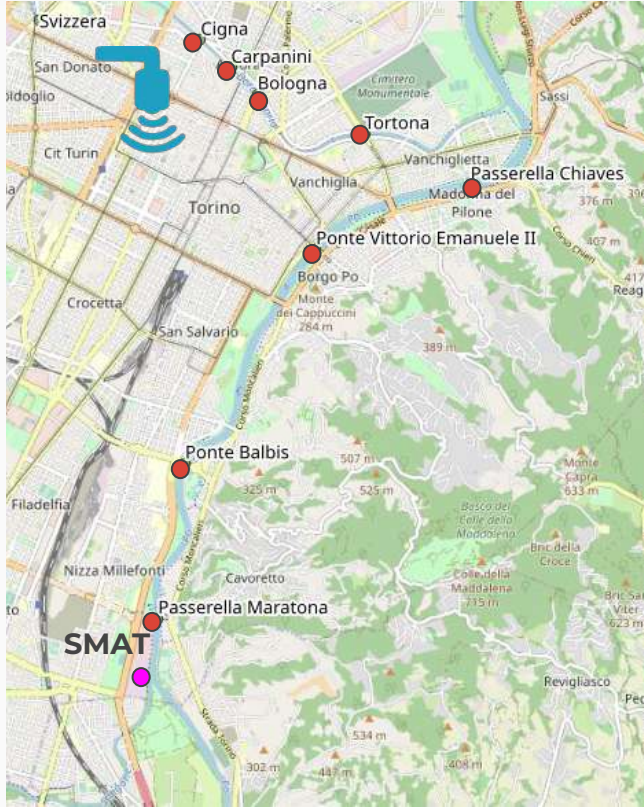


High costs



Backflow flooding

The solution



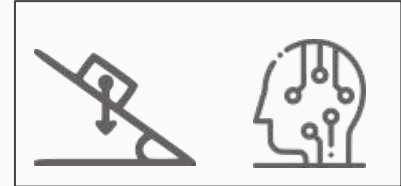
NWP
open data
data cube

[tile]DB

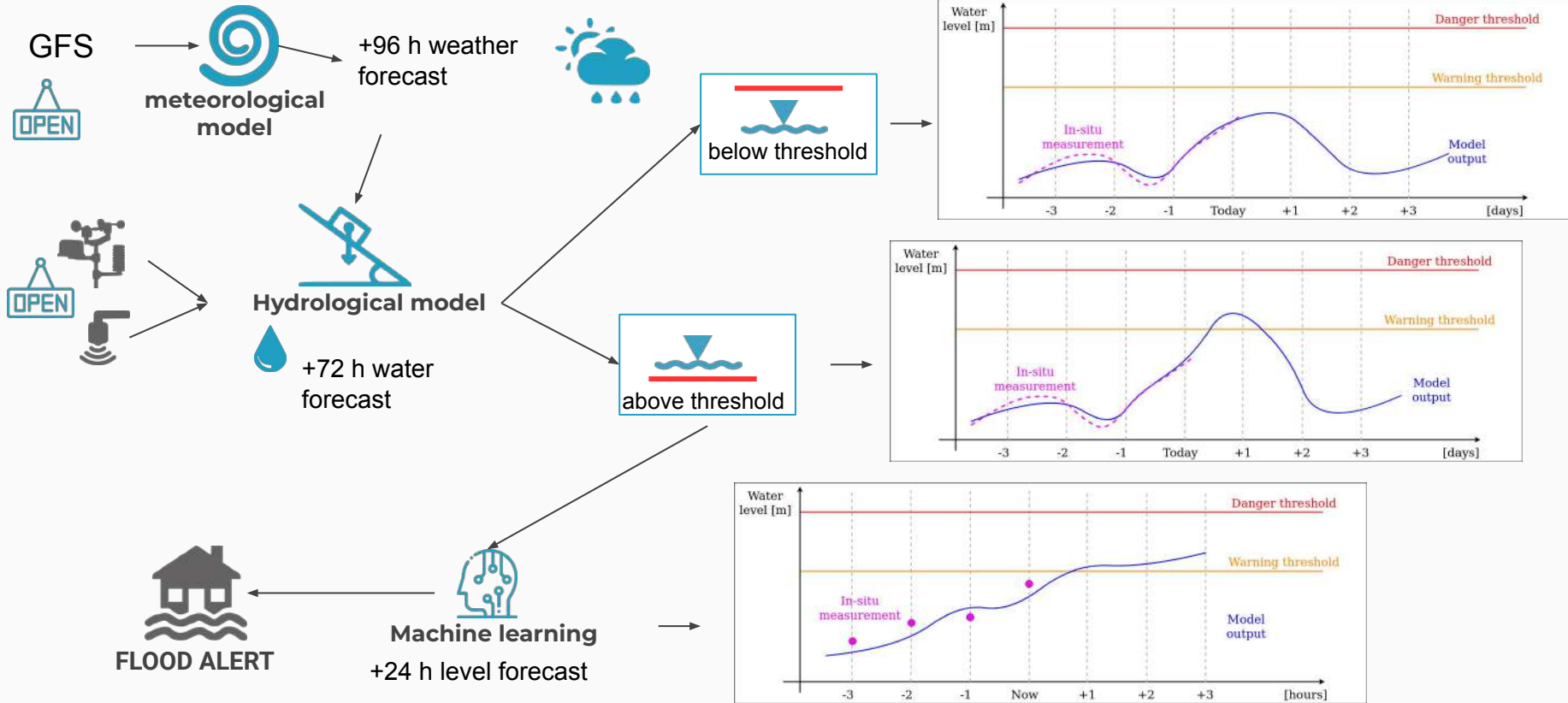
IN SITU
open data
time series

PostgreSQL

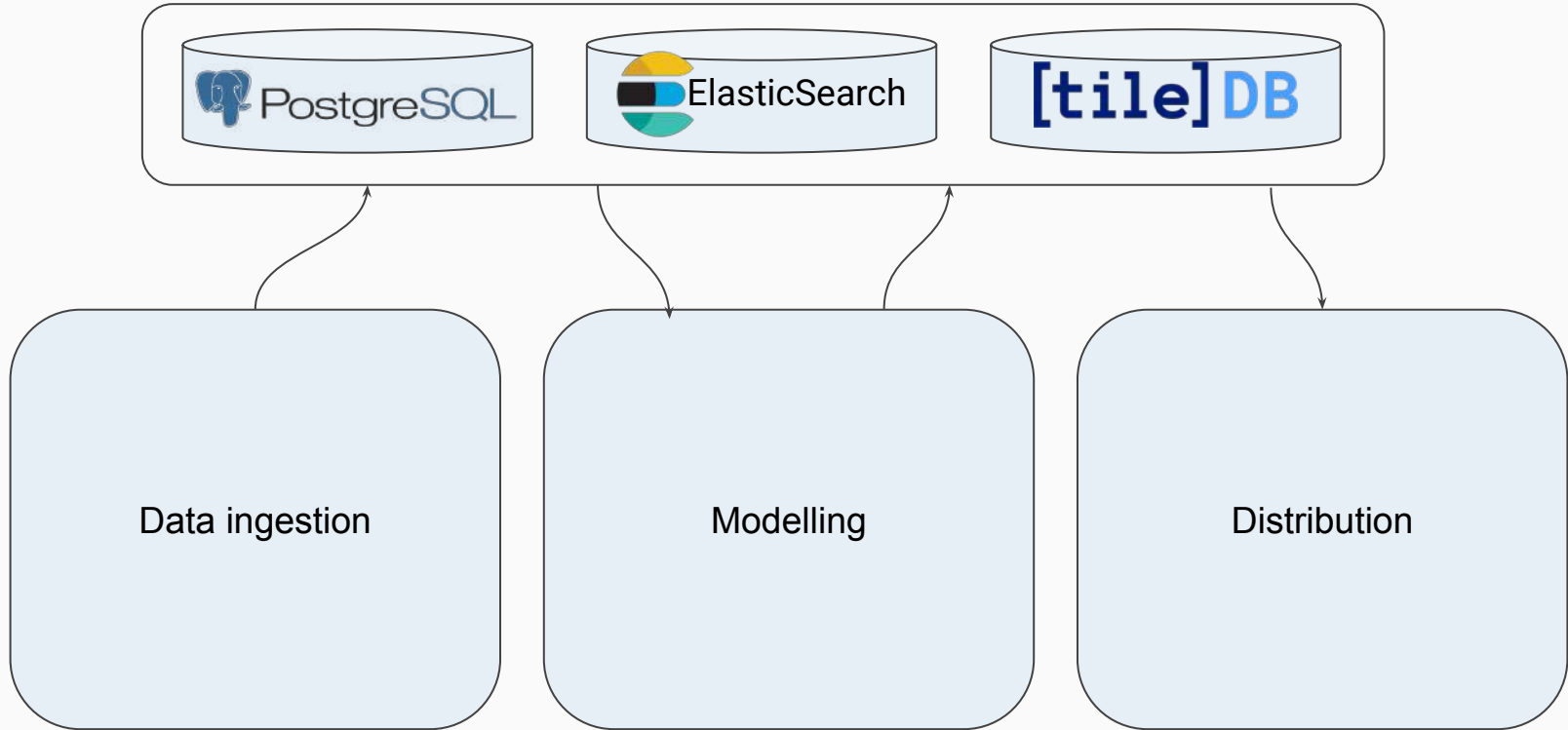
OTHER
private data
unstructured



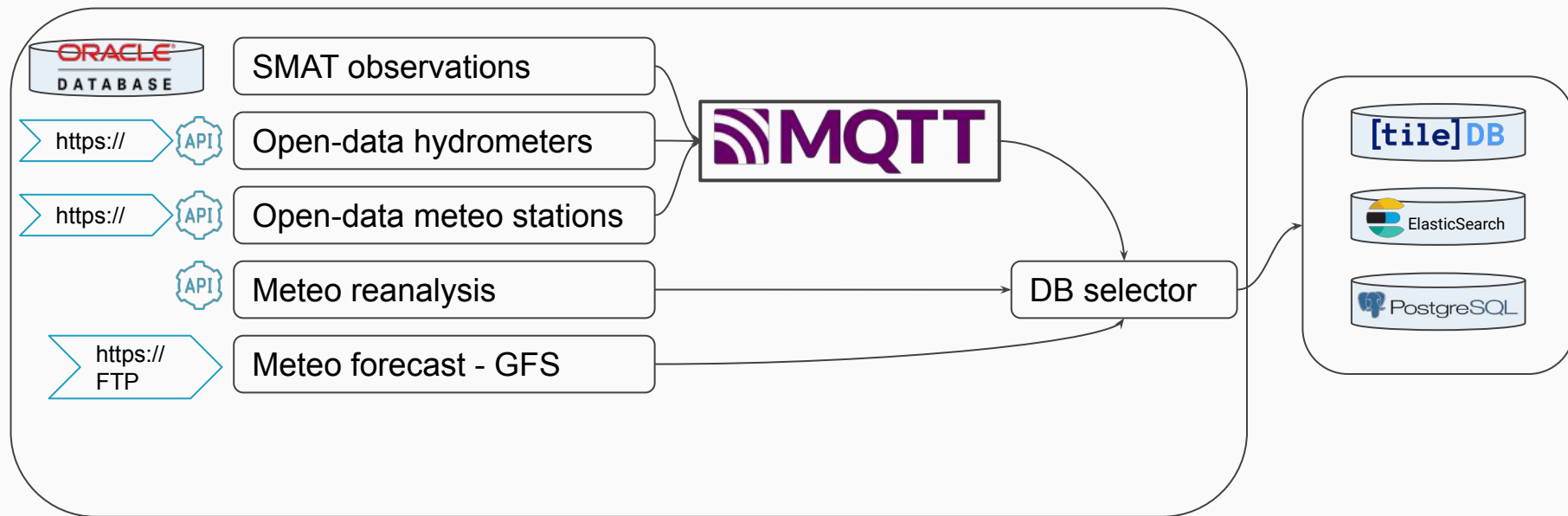
The solution




Solution




Data ingestion

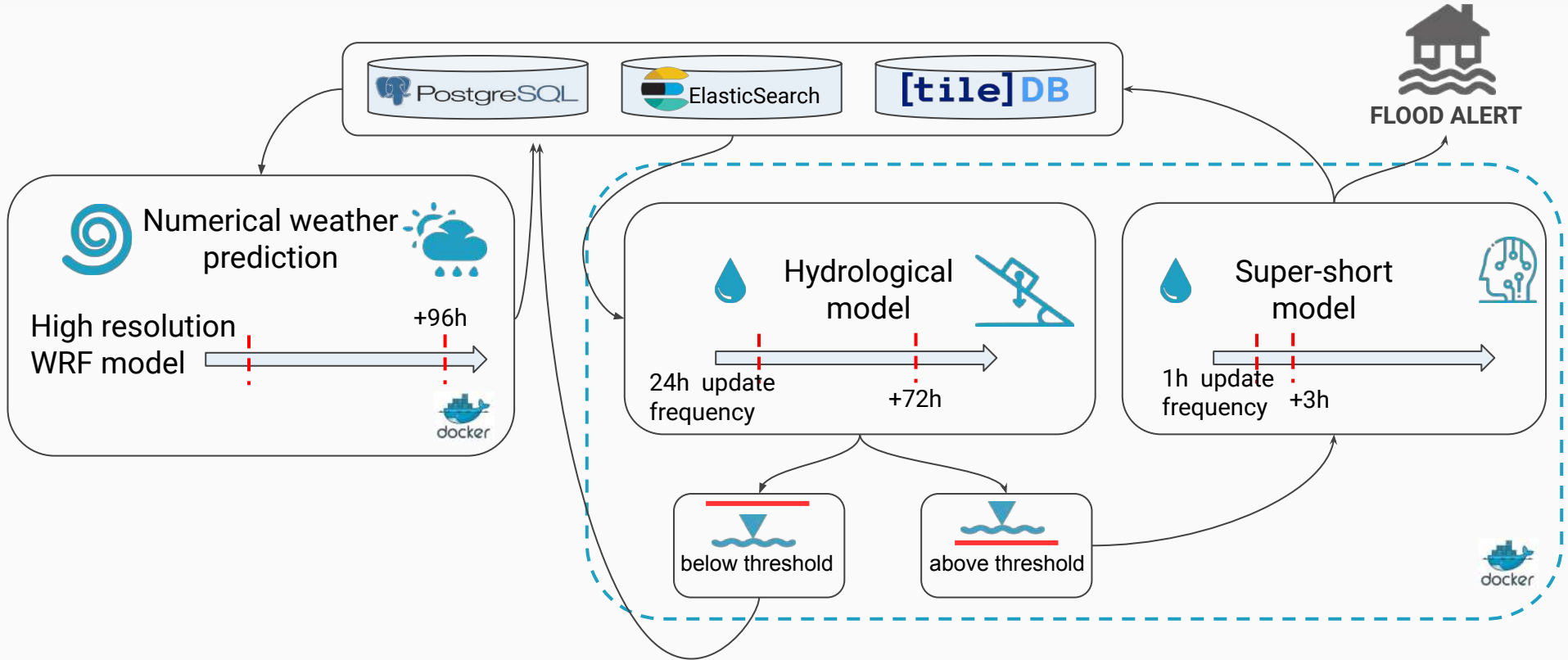


- timeseries: 

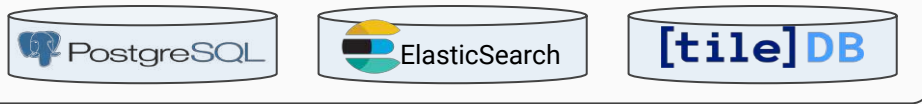
- datacubes: 

- unstructured data: 

Modelling



Distribution



API

PIVS_1 Basepanel

QUADRO GENERALE TORINO

NOME PERIFERICO	VALORI DI MISURA									
VENARIA	HCC	2.16	PCC	3.90	QC1	298.0	QC2	329.0	QMU	197.0
PONTE STURA	HCC	3.17	PCC	4.66	QC1	5.40	PCC	3.65	PCC	4.42
ORIENTO	HCC	3.24	PCC	4.10	QC1	76.25	VOLPIANO	HSP	3.48	
PIAZZA DERNA	HCC	2.33	PCC	5.21	QC1	311.0	S. BERNINO	HCC	4.16	
VILLETTE	HCC	3.22	PCC	4.18	QC1	40.59				
LA LOGGIA CENTRALE	HCC	4.11	PCC	8.32	QC1	519.4	HTO	11.75	%S1	8.46
LA LOGGIA POZZI	HZP	4.10	HDT0	0.00	QTP	438.0	HSP	3.42	QSP	27.00
IMPIANTO DEL PO	HZP-PO	4.08	PCS	6.65	QC1	0.00	QC2	236.1	OC3	960.0
MADONNA DELLE ROSE	HCC	4.59	PCC	4.24	QC1	0.00				
SAN PROCO - B. TELESIO	HBT	2.45	PZM	1.65	QC1	162.5				
	HCC	4.17	PZQ	4.24	HSM	2.10			OCM	138.0
VALSALICE	HRZ	3.36	HER	4.16	HSM	2.31	QC2	45.00	QC1	130.0
BEINASCO	HCC	2.67	PTQ	4.12	QTP	1930	PRM	4.24	QRM	282.0
RIVALTA - SANGANO					QTP	350.4	QCC	360.4	QBE	249.0
REGINA MARGHERITA 1	IBH	3.20			QET	638.3	QC1	480.2	%S1	52.50
RIVOLI	HRP	3.77	HDB	3.82	PH	8.06	QC2	287.5		
SETTIMO	PBR	4.12	PCC	3.90	QCC	238.0	QCC	198.5		
ALBY - RABY	HVA	4.15	HRA	2.77	QUIT	966.6				
SENECA	HVS	3.44					FIANO	HR3	3.48	
FRAN GAMBINO	HPG	1.98	OPG	13.40			REVEL	HRE	3.72	
MARCO AURELIO	HOS	3.55	QTC	87.00			RIVALTA CHIEMBA	HCC1	2.50	
MORGALDO	HMO	3.58					BALDISSERO	HBA	3.03	
VALE BOCCARDI	HVB	4.02	QEB	0.00			BALDISSERO	QTB	27.80	
FRAN DELLA NUSSA	HCC	1.80	HCB	1.08	KWP	690.0	TOTALE EROGAZIONE		4814	

EROGAZIONE TOTALE PRELITI (L/s) 4814
 PREVISIONE PORTATA DEFESSA (L/s) 4783

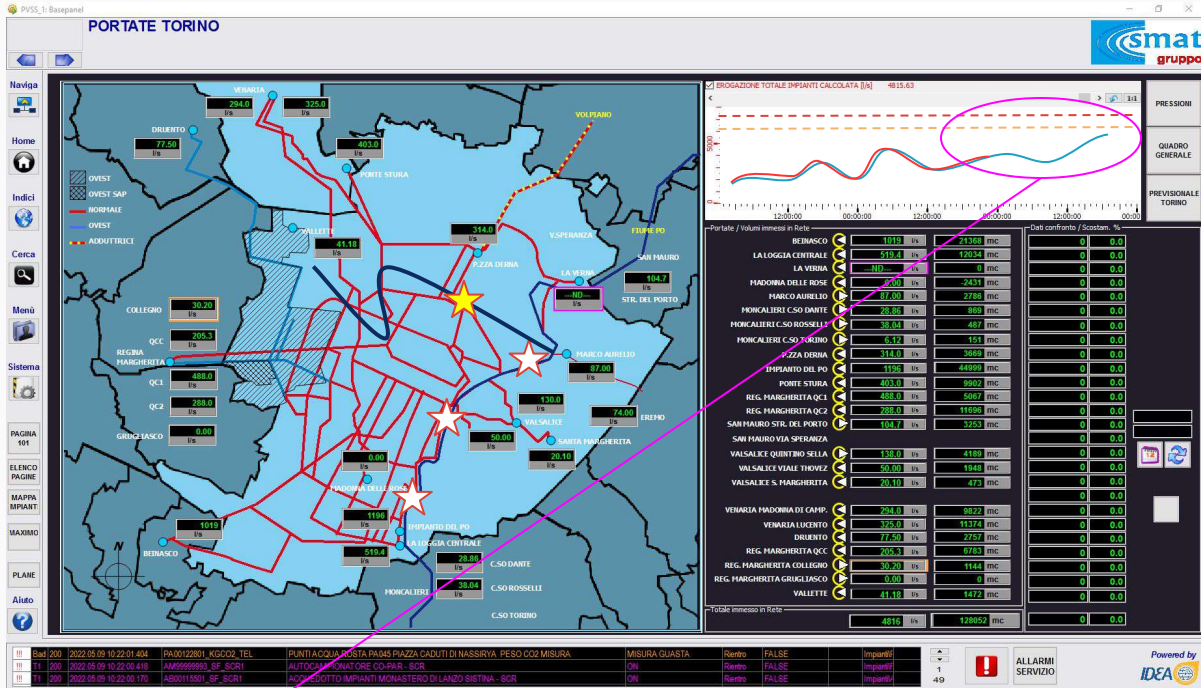
Totale immesso in Rete: **4814 l/s**
 SCOSCIAMENTO PREVISIONALE: **4881 l/s**

River4U

Powerd by IDESA

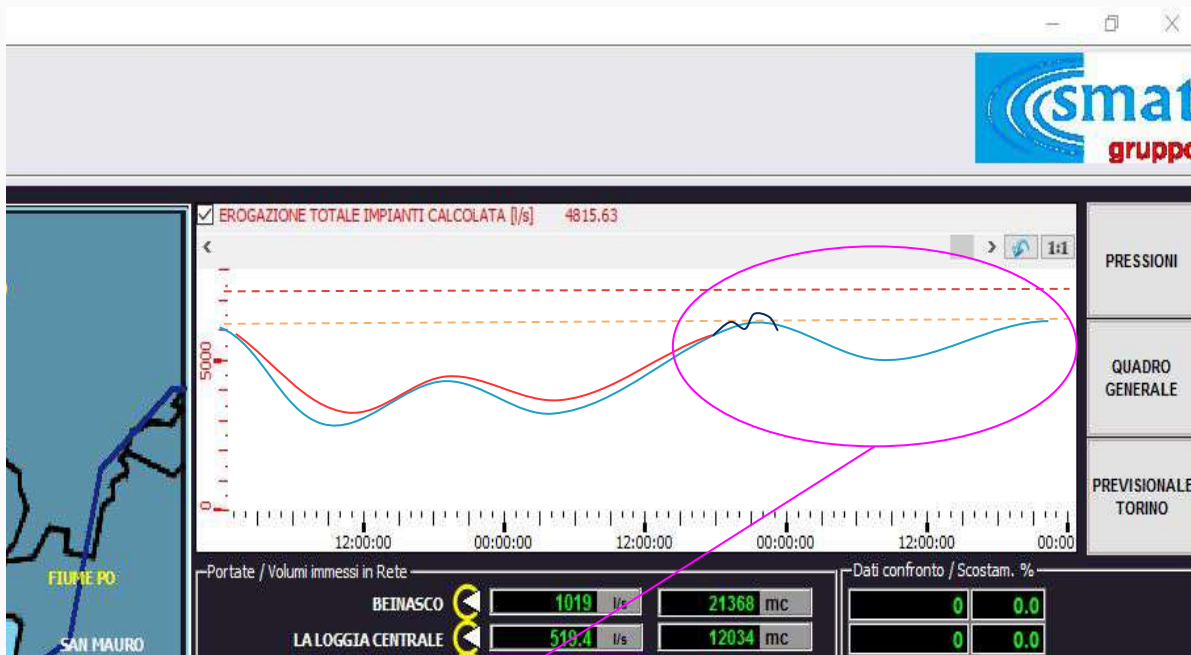
Implementation in current telecontrol SCADA system (WinCC)

Mock-up



Predicted level are lower than warning level → No alert

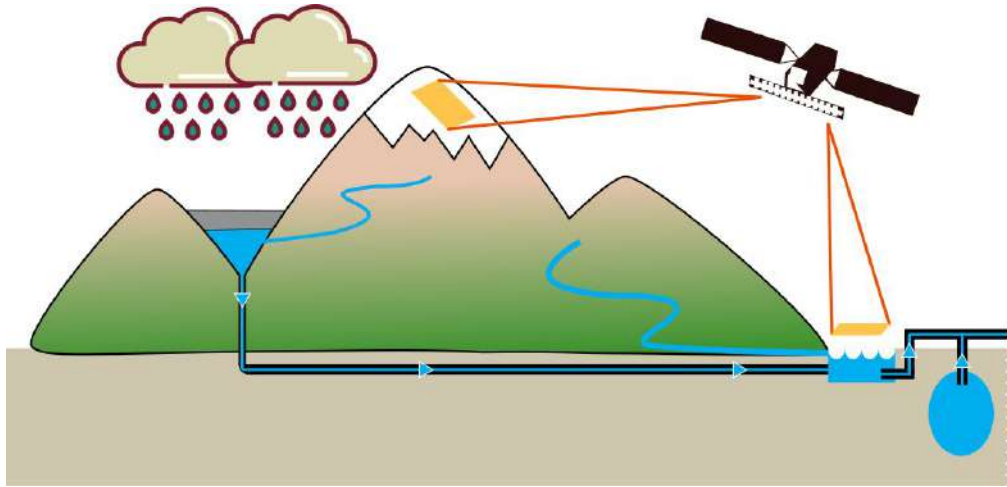
Mock-up



- ☆ All targets
- ★ Selected target
- — Measured level
- — Predicted level (physical model)
- - - Warning level
- - - Danger level
- — Level predicted (super short)

Predicted level are above warning level → Alert → Super short model calculated

THANKS FOR YOUR ATTENTION



WATERJADE
value in every drop

The Digital Twin of the catchment

Awards:



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