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The 1st Smart cities, towns, rural
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Smart strategies to mitigate causes and effects of climate
change and reduce the environmental footprint

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History of a failure: dos and don'ts in planning a Smart City intervention



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History of a failure: dos and don'ts in planning a Smart City intervention

Outline:

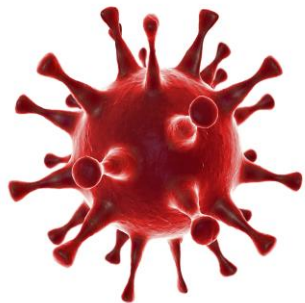
- The importance of sharing negative outcomes
- A real project example: a mobility sensors system in Brescia
- General problems and possible solution at the planning level



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MoSoRe@UniBS: Call HUB Regional project starting at the end of February 2020

Plan A for MoSoRe@UniBS Project: installation of two sensors to monitor the traffic load of heavy duty vehicles in the SP45 bis road (integrated with a smart jacketing intervention on a bridge on the same road made by two project partners).



Looking for a Plan B for the traffic monitoring system (the jacketing intervention could not be redirected as per project proposal)

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Plan B for MoSoRe@UniBS Project: shift the focus on the resilience of roads against floods.

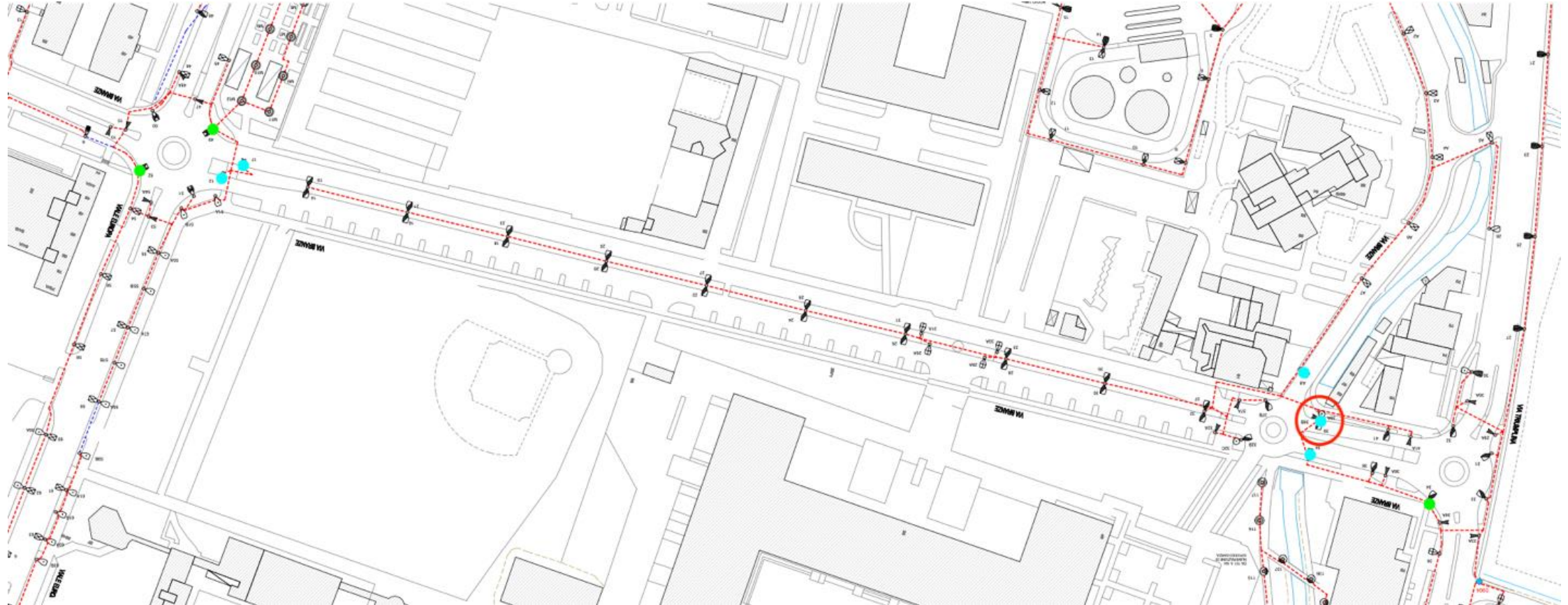
First choice location: Mandolossa hydrologic confluence, where other project activities were carried on.



Second choice location: a demo area inside the University of Brescia Campus around Via Branze.

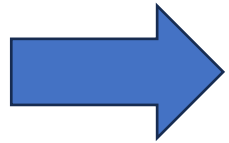
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Final layout: in green traffic load sensors, in light blue ANPR sensors



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Aim of the whole system in via Branze: detect how many vehicles were passing through via Branze and how many vehicles were instead parked in the University premises and for how much time (thus the need for ANPR sensors).



Feed data to evacuation algorithms in case of hydrogeological emergency

FAIL

- ✓ Power supply issues
- ✓ Positioning issues

Eventually Plan A worked out just fine!!!

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Can we do better and learn from a fail?

We should analyse:

- Localization
- Use Cases
- Supply



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Localization: *where* should we plan a smart city intervention?

1. What is the best setting from a synergic point of view (in case of multiple systems) or from an observational point of view (what we want to measure/describe/infer).
2. How many municipalities or public administrations insist on the candidate location.
3. If there are other sensors collecting the same data and if such data are accessible via an interoperability platform.



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Use cases: *a shared method to focus on*

- The aim and the target (citizens, researchers, administrators).
- The actors involved in the realization.
- The actions in charge to every actor and the flow of information throughout parallel or subsequent actions.

ID	Use case name
Alphanumeric string	A concise text name (ex: Sensor output to project platform)
Aim	
Brief description of the aim of the very specific use case (ex: definition of the virtual path and of the communication protocols involved from the data source to the project platform)	
Description	

Stakeholder	Description	CONSTRAINT
Ex1: Owner of a data source	Brief description of the stakeholder	Any constraint to the action of the stakeholder regarding the specific use case (ex: policy, specific software or protocol use)
Ex2: Manager of the project platform		
Ex3: Third party user of data		

Information	Owner	User	Recipient system	Recipient system outside the specific management area
Data type or other specifications	Who or what owns or generates the information		Where the information lands for the specific use case	Where the information could further land out of this specific use case



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Supply: *what we need?* A guideline for planning, from the supply point of view should consider:

- Supply of goods: electrical and electronic devices, sensors, raw materials.
- Supply and reliability of services: electricity, water, connectivity (optical fiber, ethernet, Wi-Fi, 3G or 4G or 5G).
- Reliability of suppliers of goods and services outside the project partnership and compliance with the quality standards imposed by partners.



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Conclusions:

- Better planning, starting from proposals, calls for better outcome.
- Better planning includes: analysing localization and supply (for ALL the plans, even the back up ones) and share use cases between partners.
- If we don't share failures within the community, we lose opportunities to learn and grow.



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