



**37<sup>TH</sup> INTERNATIONAL  
NO - DIG  
FLORENCE 2019**

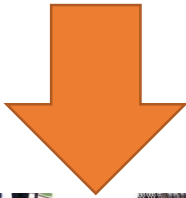
**Fortezza da Basso • FLORENCE (Italy)**

**30<sup>th</sup> September • 2<sup>nd</sup> October 2019**

## **NEW TECHNICAL SOLUTIONS FOR THE BURIAL OF DISTRIBUTION NETWORKS: BENEFITS AND REASONS WHY**

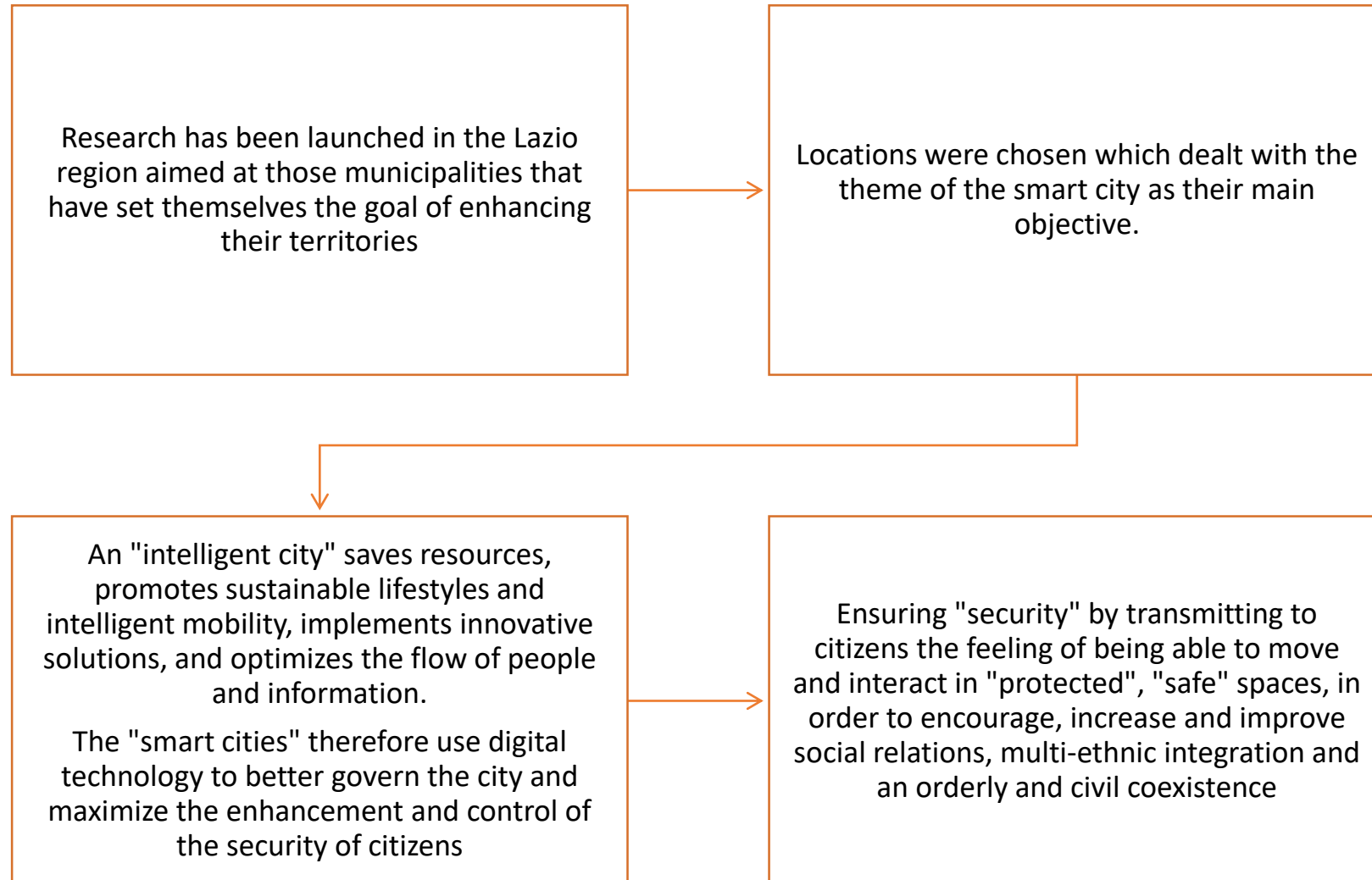
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Valeria Nascimben, Urban Planner and Consultant for Outline SRL

# AIM OF THE PRESENTATION



- Improvement of the impact on urban furniture
- Reduction of obstacles and architectural barriers
- Greater environmental sustainability
- Reducing interventions for the laying of the infrastructures
- Increase of infrastructure security
- Increased resistance to environmental degradation and vandalism
- Reduction of maintenance interventions

# SEARCH FOR PLACES



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The aim is the removal of degradation factors and promotion of sustainable urban development through a set of integrated actions and interventions such as:

- intelligent lighting
- social inclusion measures
- car-pooling,
- free Wi-Fi
- new public facilities.

The problems encountered during the inspections were:

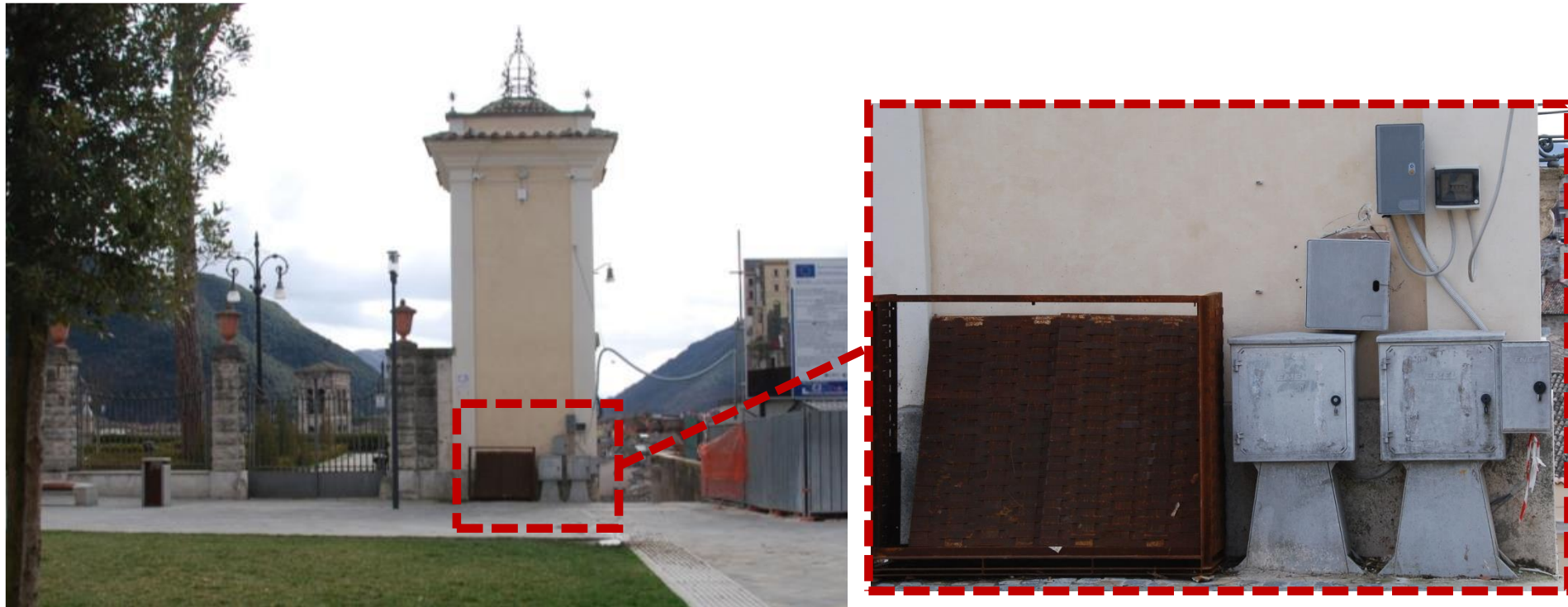
- architectural barriers, existing elements preventing the accessibility of places by creating real obstacles;
- degradation of buildings and monuments of historical-monumental value: in some cases the existing elements are placed close to buildings and monuments, in other cases they are integrated into the monuments themselves, creating a more visible degradation;
- degradation of urban decor: intended as a city space, for example squares, parks, roads, etc.
- security, for any accidental contact following collisions
- acts of vandalism, understood as a rupture and infringement of the elements themselves, with the consequent problem of electrical safety and service discontinuity.

# SEARCH FOR PLACES



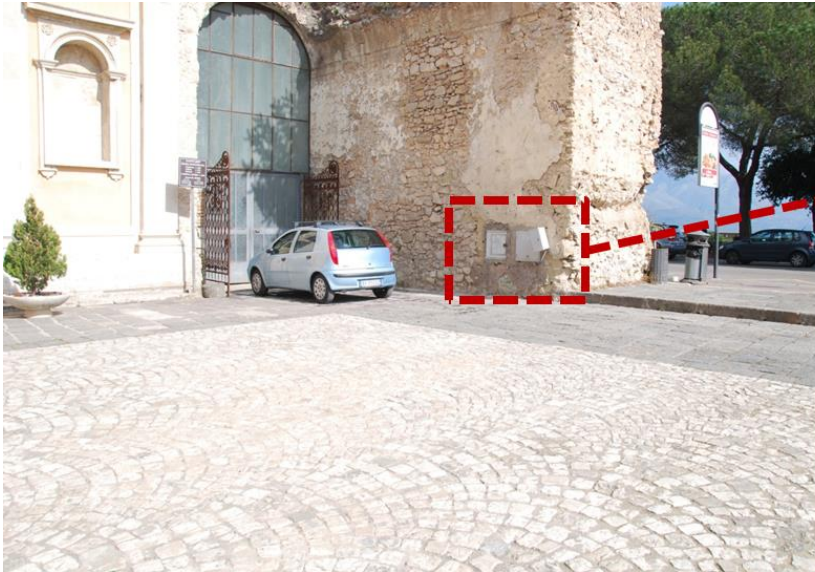
Architectural Barriers

# SEARCH FOR PLACES



Degradation of buildings of historical-monumental value and monuments

# SEARCH FOR PLACES



Degradation of buildings of historical-monumental value and monuments

# SEARCH FOR PLACES



Degradation of urban decor

# SEARCH FOR PLACES



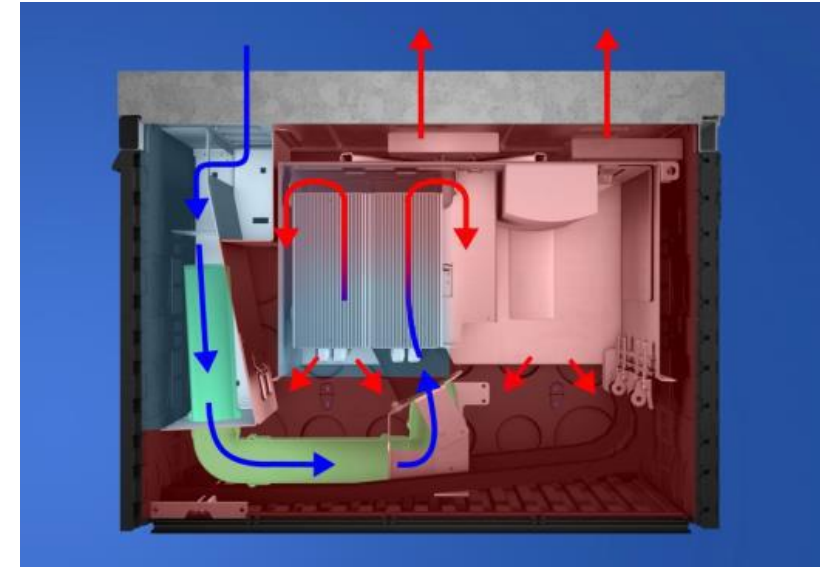
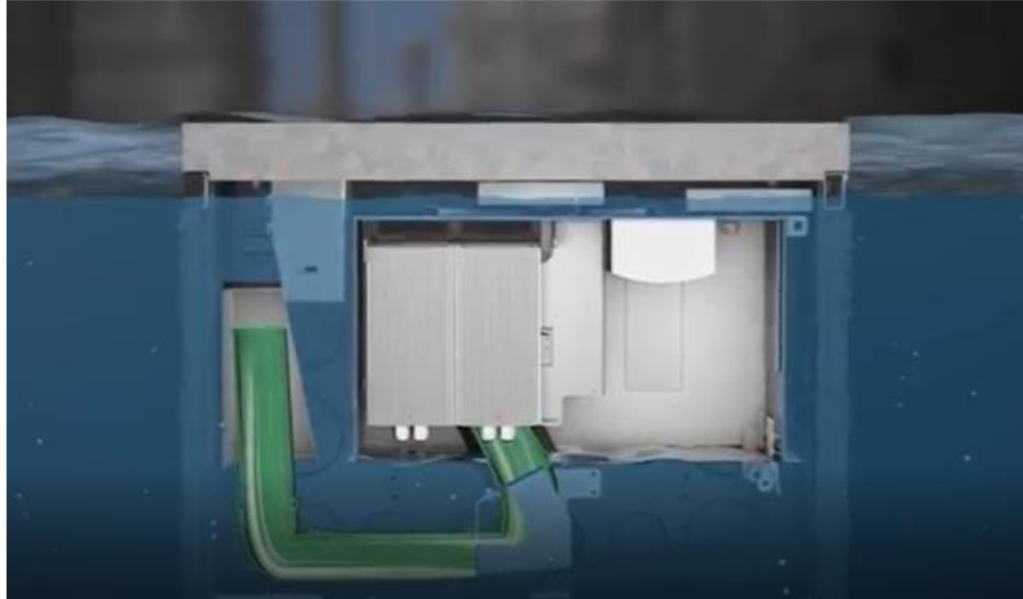
Degradation of urban decor

# SEARCH FOR PLACES



## Security and acts of vandalism

# TECHNICAL SOLUTION – BELL SYSTEM



An "intelligent" effective and optimal solution for "smart cities" is certainly the underground manhole with bell system. It is a not invasive solution with low environmental impact that provides isolation and maximum resistance to flooding of the equipment and generally of the distribution networks

# BENEFITS FOR THE CITIES

The main advantage over above-ground installations is certainly the elimination of any architectural barrier and the preservation of urban decor, thus allowing more serviceable locations.

**A city is smart if it is accessible.**



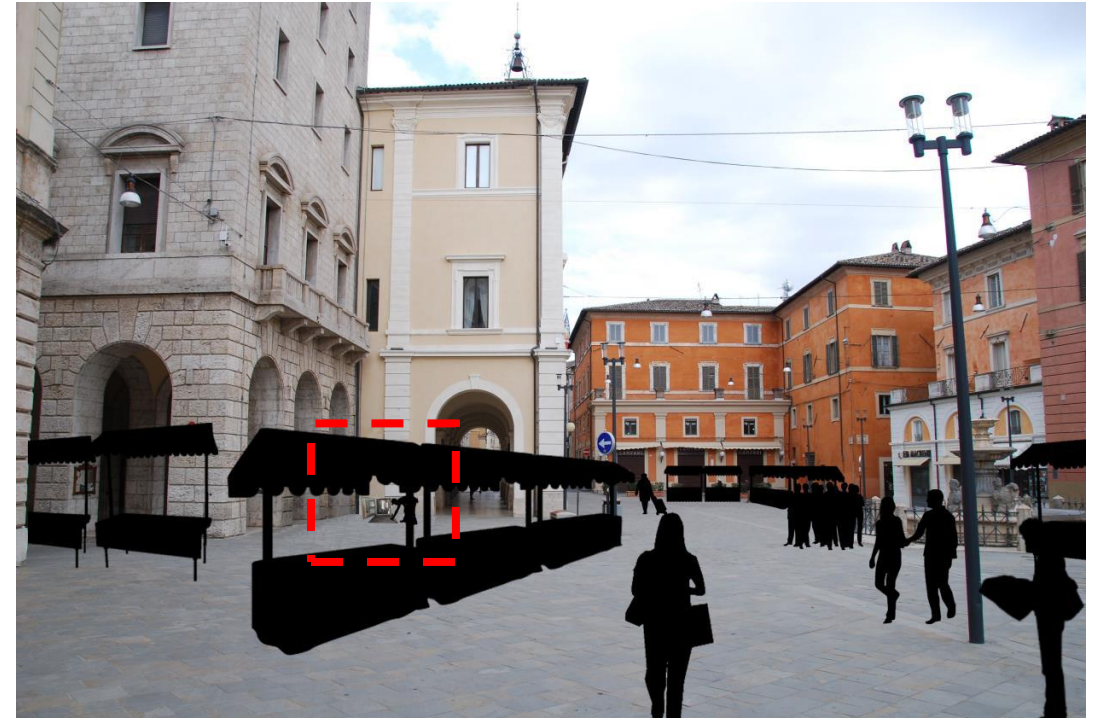
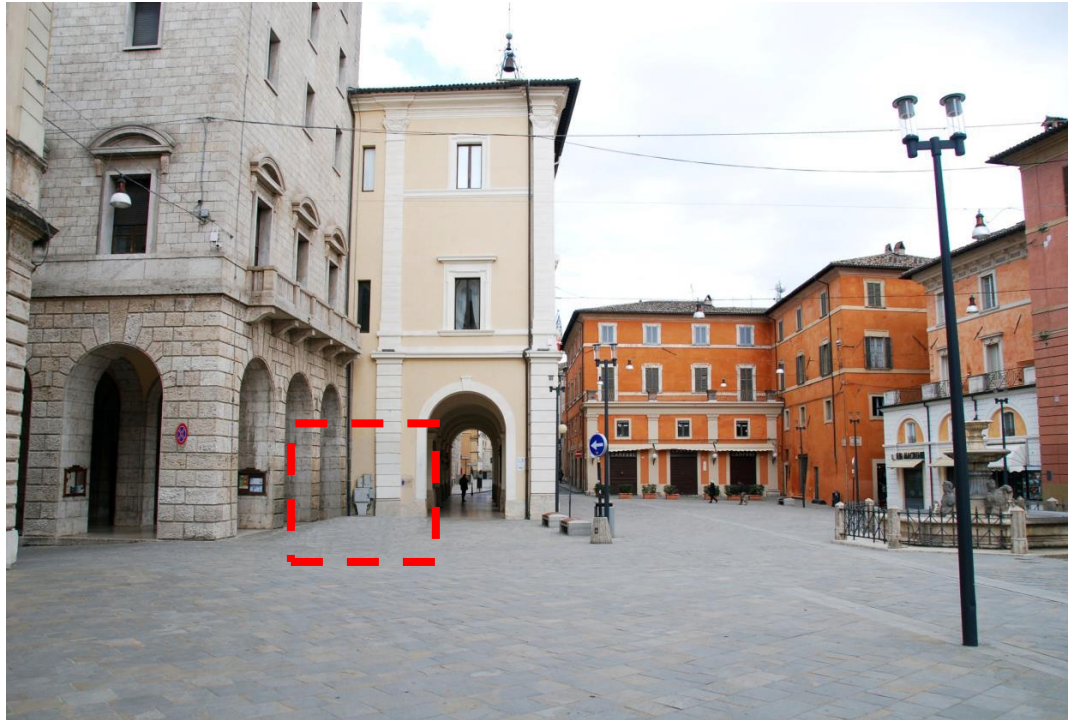
Example of sidewalk image insertion (before / after): removal of architectural barriers and improvement of the urban landscape

# BENEFITS FOR THE CITIES



Example of burial of a pedestal for the electrical power supply, hardware and cabling completely underground

# BENEFITS FOR THE CITIES



Example (before and after photoinsertion): removal of architectural barriers and improvement of the urban landscape

# BENEFITS FOR THE CITIES



Example of burial of electricity distribution booths: preservation of the urban landscape

# BENEFITS FOR THE CITIES



Example of a tourist port (before and after photo-insertion):  
removal of architectural barriers and improvement of the  
urban landscape

# BENEFITS FOR THE CITIES



Example of a tourist port (before and after photo-insertion): removal of architectural barriers and improvement of the urban landscape

# BENEFITS FOR THE CITIES



Mobile radio installation intervention along the Reggio Calabria seafront:  
preservation of the landscape and natural beauty of the spot

# CONCLUSIONS



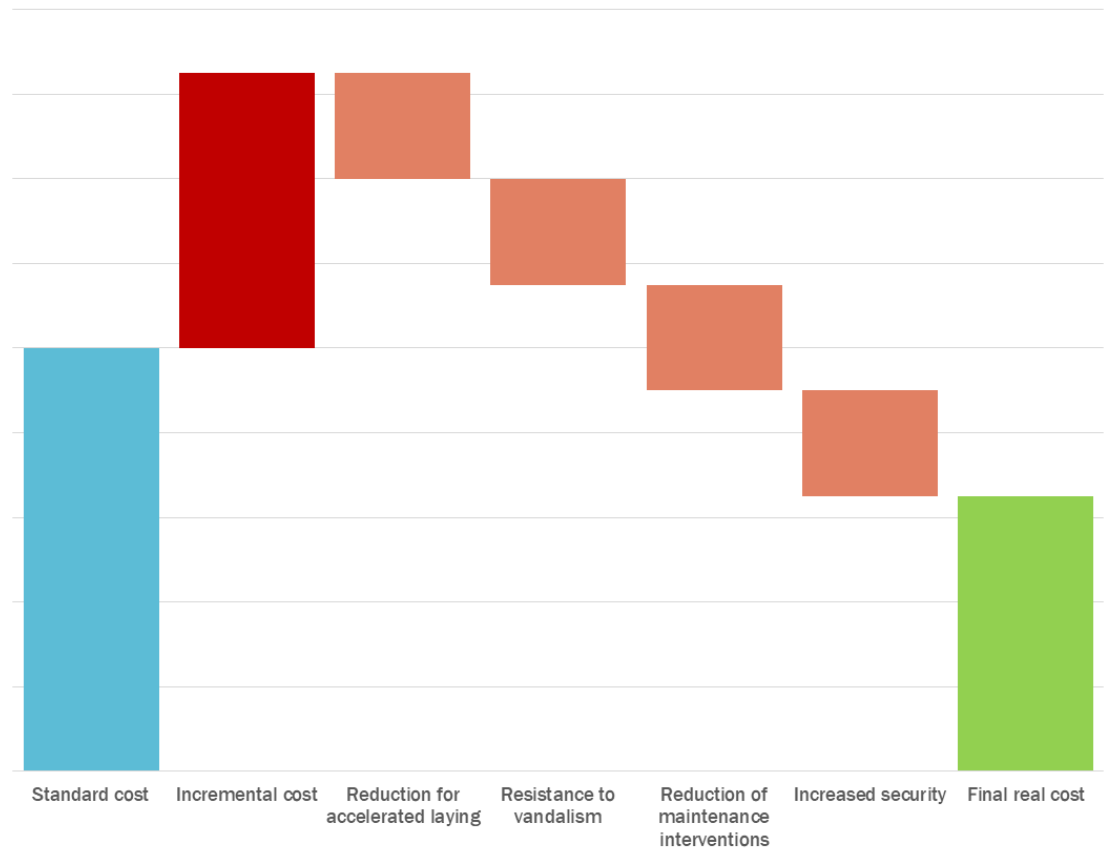
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Reasons for municipalities to adopt innovative solutions for the realization of underground distribution networks and the advantages

	Advantage for the administration	Advantage for the network manager	Advantage for the citizen
Improvement of the impact on urban furniture	X		
Reduction of obstacles and architectural barriers	X		X
Greater environmental sustainability			X
Reduction of the interventions for the laying of the infrastructures and consequent decrease of the execution time of the road works and related costs	X	X	X
Increased resistance to environmental degradation and vandalism		X	
Reduction of maintenance interventions	X	X	
Increase of infrastructure security		X	

# CONCLUSIONS

Assessment of a comprehensive income statement in the mid term



Quantitative and economic benefits deriving from **lower construction and operating costs during the entire life cycle of the infrastructure**, thanks to reduced operating impact during installation, maintenance and updating of the same

Qualitative benefits given from the improvement of public spaces both for citizens and occasional visitors such as tourists, adding to the evaluation criteria also a **possible return of image for the administration at the political level**.