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FINAL CONFERENCE

Best practices in Europe: an overview

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Palazzo Lombardia,
P.zza Città di Lombardia 1
Sala Biagi



Spatial data Protection for the Underground Critical Infrastructure

to effectively manage security

- the importance of having reliable, up-to-date, **interoperable** and **consistent** spatial data on underground networks
- the need of sharing spatial data between the many operators and stakeholders of underground networks (this is also a critical issue)

Upsidedown Project focus

the integrated water supply's cycle

- drinking water (that includes drinking water catchment and extraction, water purification, distribution...)
- waste waters (that includes sewage network, depuration...)

The questionnaire

87 indicators:

- indicators on company's overall ICT technological level
- indicators on geoICT technological level (production and management of spatial data)
- indicators on overall security
- indicators on information security

- indicators on company's and networks' size (extension and inhabitants of served area, company's employees, extension of networks, number of customers...)



Italy ↔ Poland

Completed
questionnaires

Italy
Poland

24

13

- not a statistical sample
- good practices (at least)



Italy ↔ Poland

Indicator B17

Company's information systems include normalized fields in order to relate among themselves (e.g. street code and house number...)?

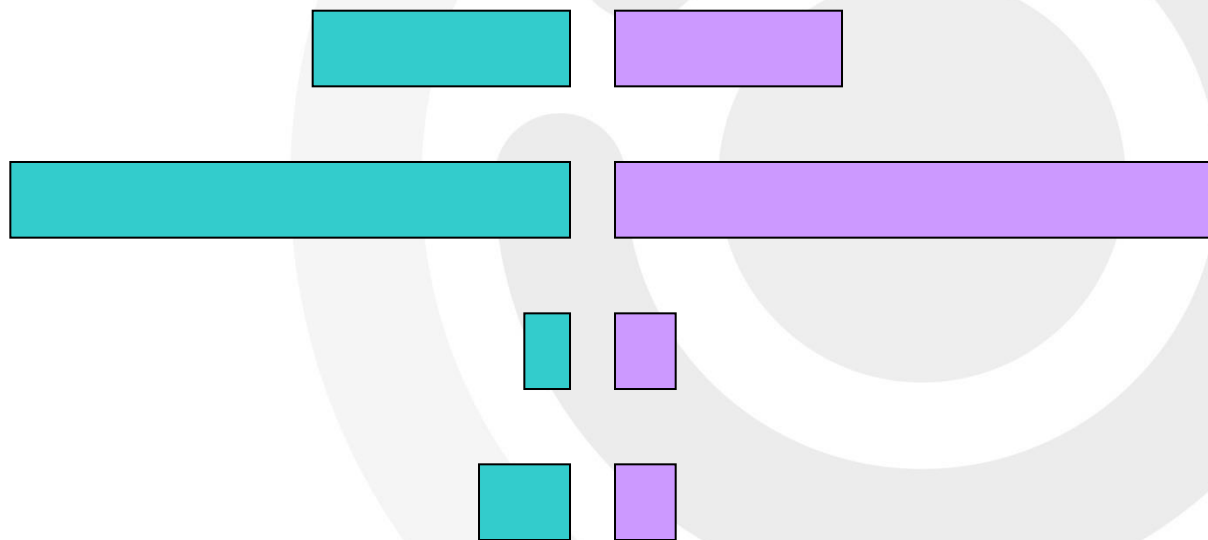
all information systems

some of them

none of them

missing

75 60 45 30 15 15 30 45 60 75 %



Italy ↔ Poland

From indicators to indexes

Indicators



assigning scores (0-10)



weighted sum of scored indicators



Index

(normalized to a scale 0-10)

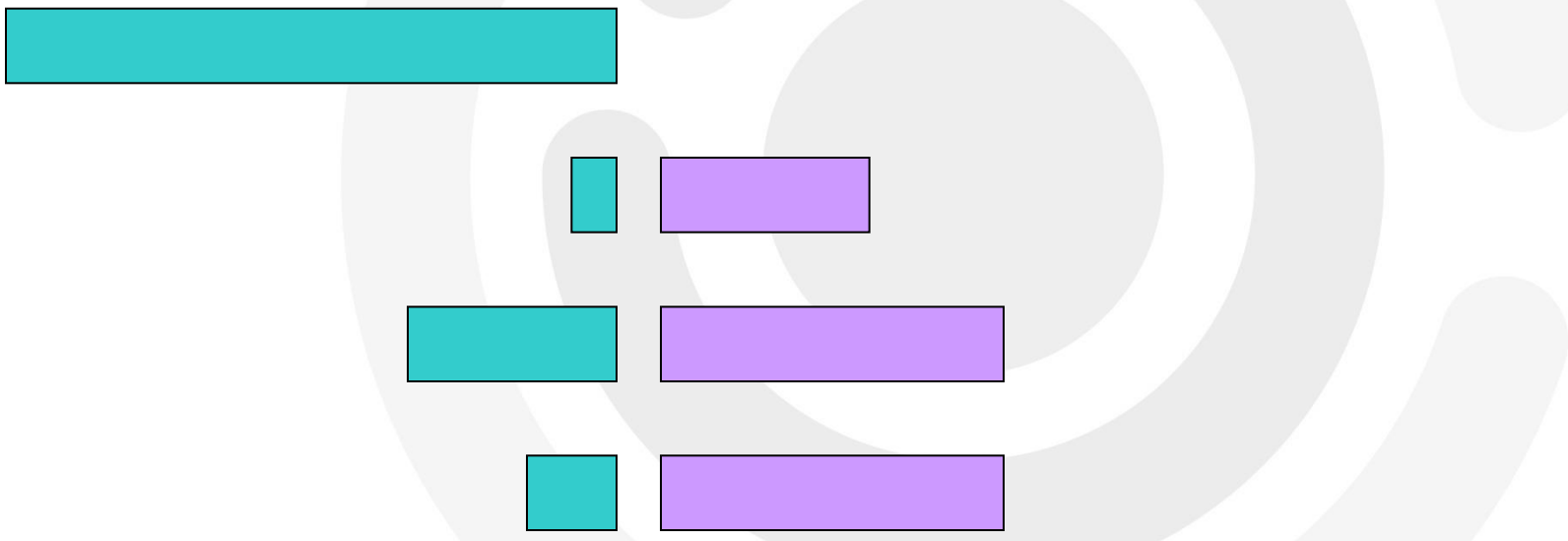
Italy ↔ Poland

Index
Company's ICT technology

very good
good
sufficient
poor

75 60 45 30 15 15 30 45 60 75 %

Weighted sum of 3 scored indicators



Italy ↔ Poland

Index

Drinking water network's geoICT technology

very good

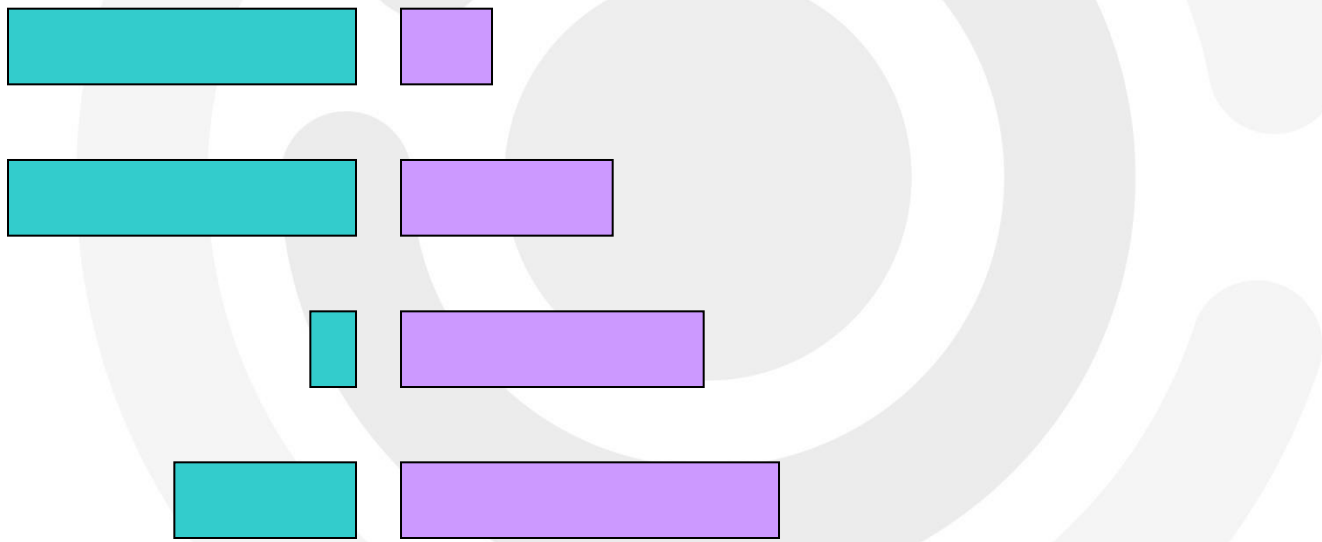
good

sufficient

poor

75 60 45 30 15 15 30 45 60 75 %

Weighted sum of 7 scored indicators



Italy ↔ Poland

Index

Drinking water network's security

very good

good

sufficient

poor

75 60 45 30 15 15 30 45 60 75 %

Weighted sum of 8 scored indicators



Italy ↔ Poland

Index

Drinking water network's ICT security

very good

good

sufficient

poor

75 60 45 30 15 15 30 45 60 75 %

Weighted sum of 5 scored indicators



broadening the scope
the *Country Reports*



The *Country Reports*

- Overall organization and trends
- Laws, regulations and governance
- Spatial data on water supply's cycle infrastructures
- Management and integration of spatial data on the various underground utilities
- Access to spatial data on underground utilities
- Acts of vandalism and terrorist attacks



Country Reports: overview table

COUNTRY	ACTS OF VANDALISM AND TERRORISM
Austria	-
Bulgaria	-
Cyprus	-
Czech Republic	-
Estonia	-
Francia	C
Finlandia	-
Greece	-
Ireland	-
Italy	-
Lithuania	-
Netherlands	-
Poland	-
Slovakia	-
Slovenia	-
Spain	-
Sweden	-
UK	-

A: acts of terrorism were reported

B: serious acts of vandalism were reported (theft of materials are not included)

C: security regulations forbid to communicate



Country Reports: overview table

COUNTRY	OVERALL ORGANIZATION			
	Providers			Present trends
	Public: at national level	Public: at municipal level	PPP or private company	
Austria		x		B
Bulgaria	x	x		A
Cyprus	x			-
Czech Republic	x		x	B
Estonia			x	-
Francia		x	x	A-B
Finlandia		x		A
Greece	x	x		-
Ireland	x			C
Italy			x	A
Lithuania	x			A
Netherlands	x			-
Poland		x		-
Slovakia		x	x	-
Slovenia	x	x		-
Spain		x		-
Sweden		x	x	B
UK		x	x	B

A: companies are growing in size and in served area, merger of companies...
B: separation between ownership and service provider, externalization
C: centralization at state level

historically and logically very local infrastructures

Country Reports: overview table

COUNTRY	LAWS/REGULATIONS		
	Laws and regulation	At national level	At sub-national level
Austria	B	x	-
Bulgaria	A-B-C	-	-
Cyprus	B-C	-	-
Czech Republic	A-B-C	x	x
Estonia	A-B-C	x	-
Francia	B	x	x
Finlandia	B	-	x
Greece	B	x	-
Ireland	B-D	x	-
Italy	B-C-D	x	x
Lithuania	A-B	x	-
Netherlands	B-C	x	x
Poland	B-D	x	-
Slovakia	B-C-D	x	-
Slovenia	B	x	-
Spain	A-B	x	-
Sweden	B-C	x	-
UK	A-B-C	x	-

Laws and regulation on:

A: prices

B: quality and safety of water supply

C: sewerage services

D: spatial data standards



Country Reports: overview table

COUNTRY	MANAGEMENT OF SPATIAL DATA ON WATER SUPPLY CICLE'S INFRASTRUCTURES	SPATIAL DATA ON UNDERGROUND UTILITIES INTEGRATION ("CADASTRE")	
		At national level	At sub-national level
Austria	A-B-C-D	-	-
Bulgaria	-	-	X
Cyprus	-	X	-
Czech Republic	B-C-D	X	-
Estonia	B-C	-	-
Francia	B-C	X	-
Finlandia	B-C	-	-
Greece	B	X	-
Ireland	B	X	-
Italy	A-B-C-D	-	X
Lithuania	B-C	-	-
Netherlands	A-B-C	X	-
Poland	B-C	X	X
Slovakia	B-C	X	-
Slovenia	B	X	-
Spain	B-C	X	-
Sweden	A-B-C	-	X
UK	B	X	-



Country Reports: overview table

COUNTRY	MANAGEMENT OF SPATIAL DATA ON WATER SUPPLY CICLE'S INFRASTRUCTURES	SPATIAL DATA ON UNDERGROUND UTILITIES INTEGRATION	
		At national level	At sub-national level
Austria	A-B-C-D	-	-
Bulgaria	-	-	X
Cyprus	-	X	-
Czech Republic	B-C-D	X	-
Estonia	B-C	-	-
Francia	B-C	X	-
Finlandia	B-C	-	-
Greece	B	X	-
Ireland	B	X	-
Italy	A-B-C-D	-	X
Lithuania	B-C	-	-
Netherlands	A-B-C	X	-
Poland	B-C	X	X
Slovakia	B-C	X	-
Slovenia	B	X	-
Spain	B-C	X	-
Sweden	A-B-C	-	X
UK	B	X	-

A: geoDB whit structured DBMS
B: GIS data without structured DBMS (shape files...)
C: CAD
D: no IT instruments are used



For more details
see Project Final Reports

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