IBM Smarter Cities

Challenges and Solutions

September, 2013
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IBM Germany

Agenda

1. **IBM Smarter Cities**
2. Infrastructure challenges
3. IBM Smarter Cities Solutions

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Aging infrastructures require city leaders actions

Transport

In France, traffic jams cost 1.5% GDP per year and 27% of CO2 emissions.

Safety

City assets need a better protection. But how to manage image volumes and valuable information?

Energy

An energy blackout, which originated in Germany, affected Paris and 15 French regions, its effects were felt in Austria, Belgium, Italy and Spain.

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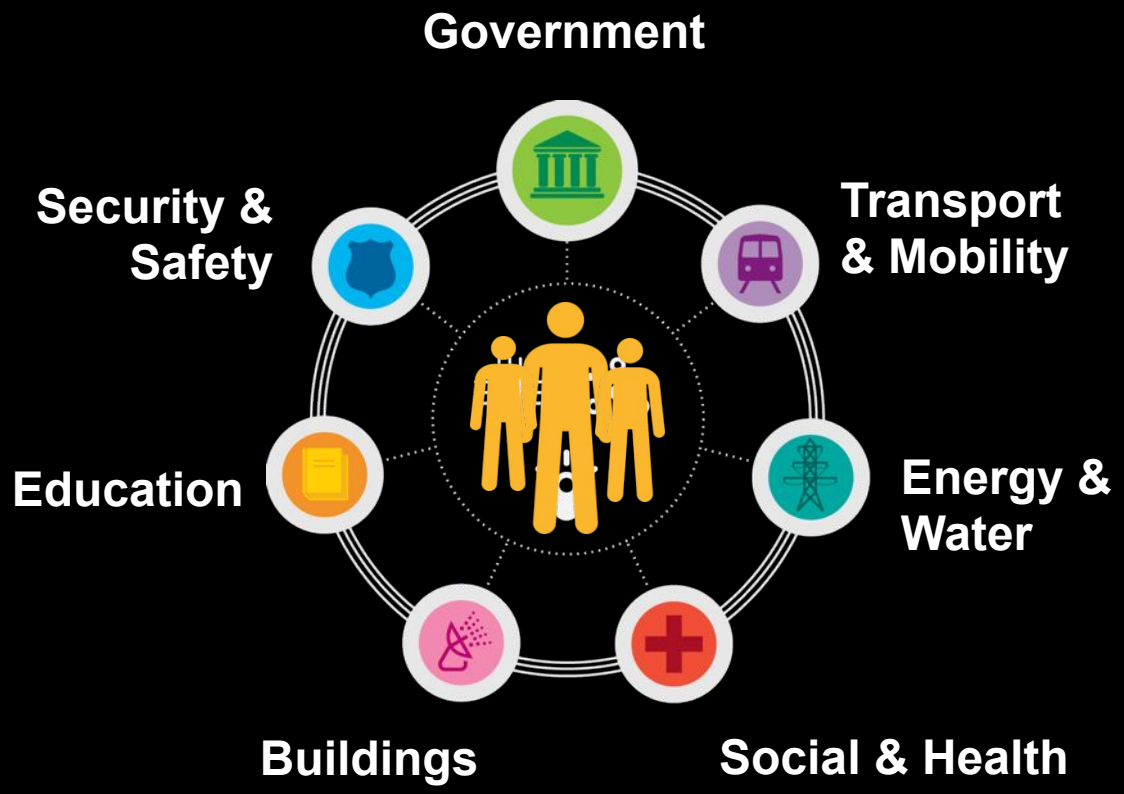
IBM Smarter Cities:
"Rethinking" cities from citizen experiences and expectations

From the citizen's perspective, all city domains interact



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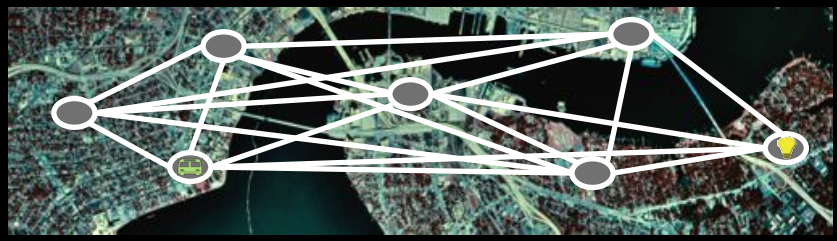
How IBM can help cities become smarter ?

Our world is more and more

INSTRUMENTED

Our world is more and more

INTERCONNECTED



Virtually, all systems can become more and more

INTELLIGENT

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Early strategies of urban planning

Theodor Fritsch „The city of tomorrow“ (1896)

- The concept of planning should be the control of land uses, the relationship between uses and the future expansion of the city

„The Death and Life of Great American Cities“ by Jane Jacobs (1961)

- Humans live in communities characterized by layered complexity and seeming chaos
- Most violent: urban renewal and separation of uses

Richard Florida *(American urban studies theorist)*

- A creative class (incl. technology workers, artists, musicians, diversity index) fosters an open, dynamic and professional urban environment

Source: University of Palestine (2007): Introduction to Planning., Creative class group (2013): About Richard., Jane‘s walk (2013): About Jane Jacobs.
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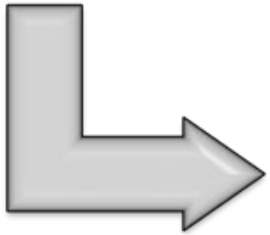
Situation of infrastructure

$57 trillion global infrastructure needed in 2013-30



$1 trillion annual savings from a 60% improvement in infrastruture productivity

Economic Infrastruture			Social Infrastructure	Service
Transport	**Energy**	**Telecommunication**		
Streets	Gas & power supply	Kabel network	Schools	Productivity increase
Bridges & tunnel	Water supply	Satellite system	Hospitals	Sustainability
Train & metro	Water distribution		Prisons	Smart approaches
Logistics center	Effluent disposal		Courts	
	Renewable energies			

Source: Allianz (2012): Infrastruktur – Rückgrad der Weltwirtschaft., McKinsey (2013): Infrastructure productivity – How to save $1 trillion a year.

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Working harder is not sustainable

Cities require innovative approaches

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IBM

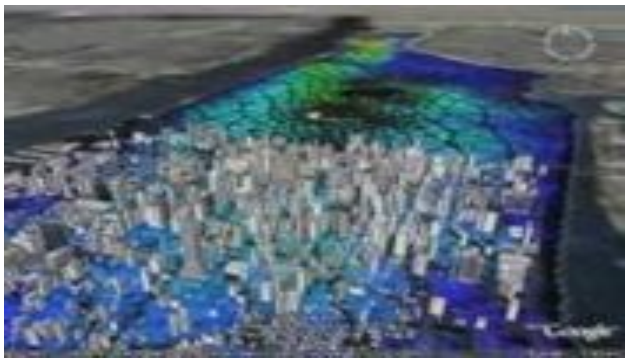
OPTIMOD'LYON

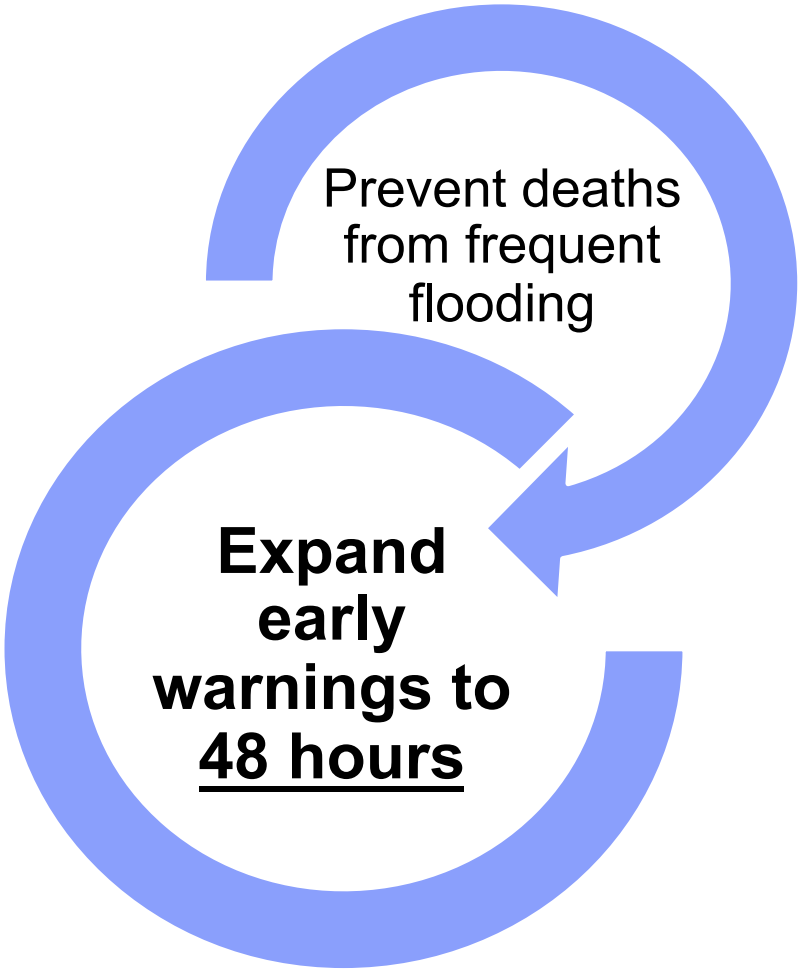
1h traffic prediction

Real-time **travel planner**

Optimizing freight and professional moves

Innovative leadership in Rio de Janeiro transformed city operations





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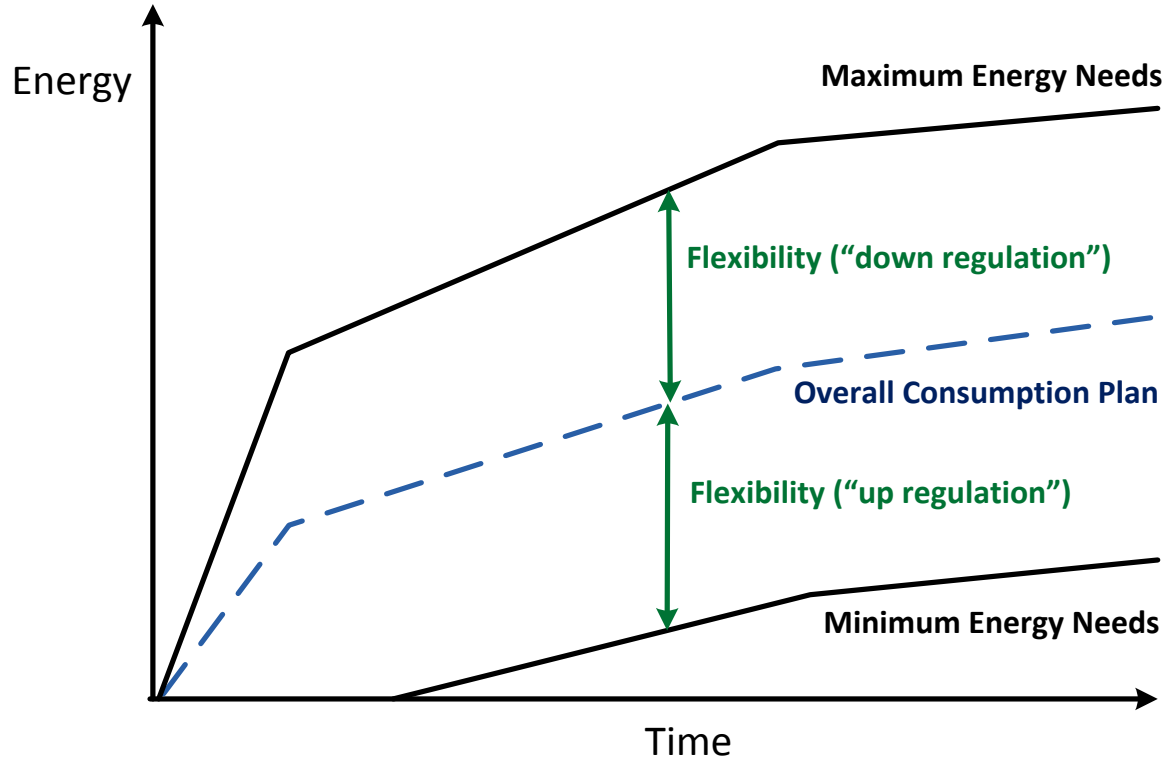
Smart grid - Using renewable energy in Switzerland



↑ 5,400 GWh of renewable energies

BKW MIGROS IBM swissgrid

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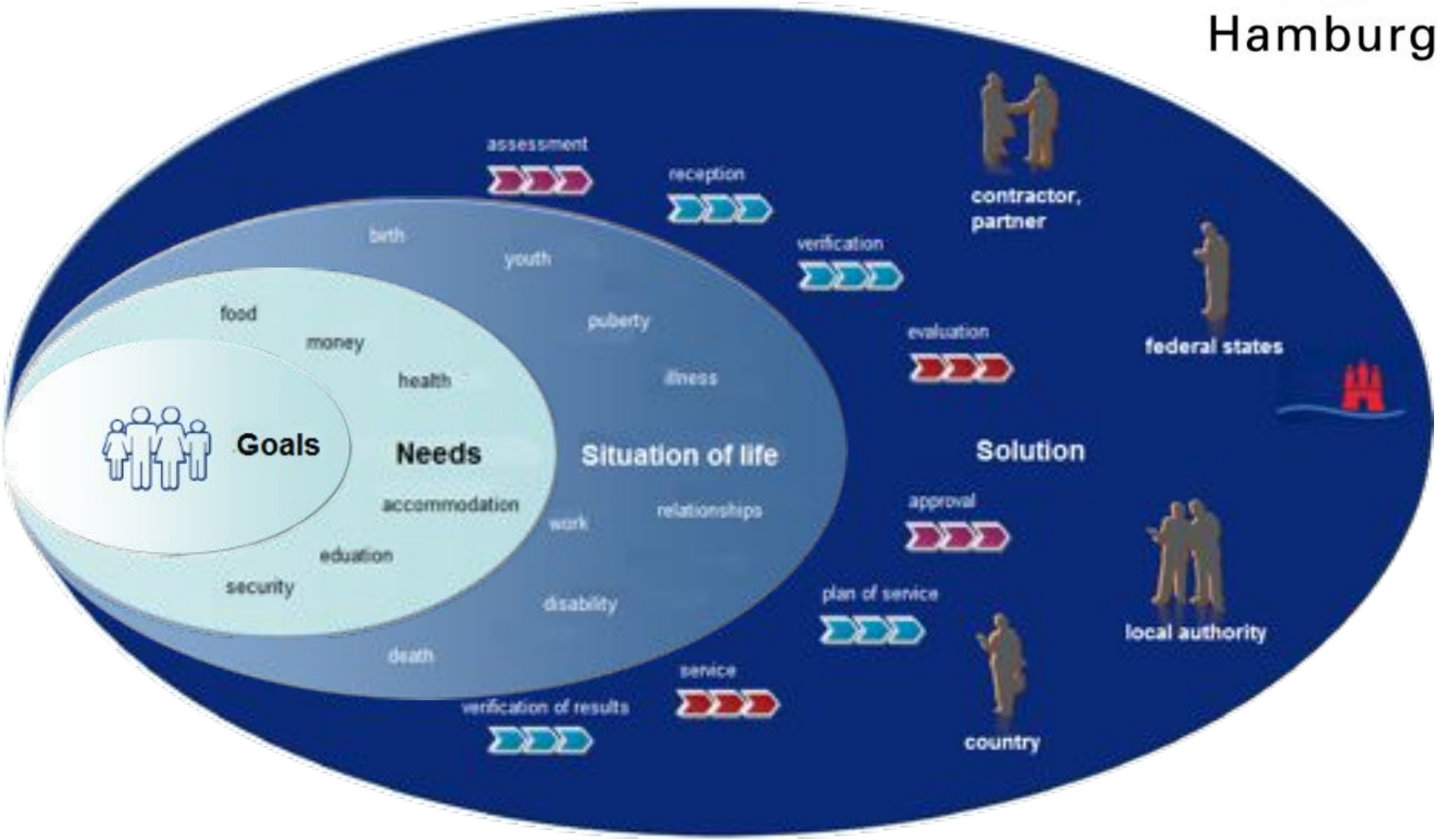
Cúram – An integrated solution



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Intelligent Operations- Leveraging Data as the next natural resource to become smarter

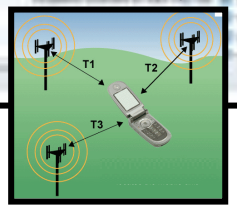
Multiple Data sources

Connecting across multiple data sources for a single picture across the city

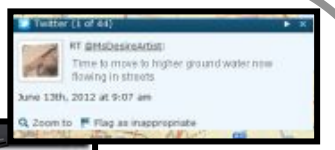
Video

Sensors

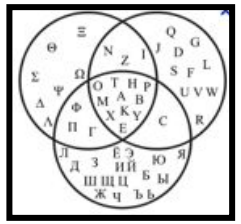
Citizen Collaboration



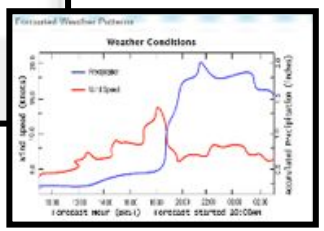
Mobil Phone Tracking



Social Media Analytics



Correlation



Prediction

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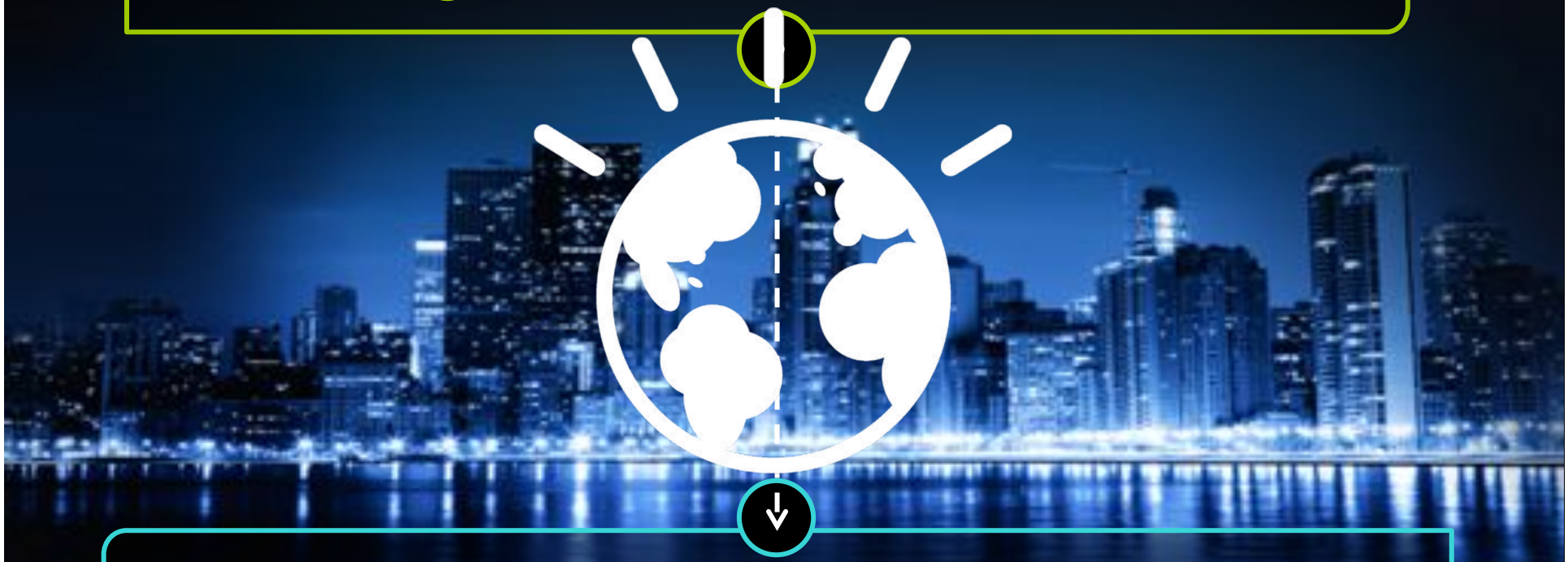
Working harder is not sustainable



Cities require innovative approaches

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धन्यवाद HINDI

Merci FRENCH

ありがとうございました JAPANESE

Obrigado BRAZILIAN PORTUGUESE

多谢 SIMPLIFIED CHINESE

THANK YOU !

多謝 TRADITIONAL CHINESE

Gracias SPANISH

Спасибо RUSSIAN

நன்றி TAMIL

ขอบคุณ THAI

Danke GERMAN

شكراً ARABIC

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