



# OVERVIEW OF U4SSC & ITU WORK

Dr. Okan Geray, Smart Dubai Office, UAE, U4SSC Management Team, ITU SG20 Rapporteur





1. City Science Application Framework
2. Guidelines on Strategies for Circular Cities
3. ITU Y.4904 Smart Sustainable Cities Maturity Model
4. City Twinning Program



# 1. CITY SCIENCE APPLICATION FRAMEWORK



- Aims to address and solve **urban challenges and problems,**
- Uses **data** extensively,
- Applies **scientific techniques and methods by using STI (Science, Technology & Innovation)**

Source: U4SSC “City Science Application Framework”



# 1. CITY SCIENCE APPLICATION FRAMEWORK



## City Science Application Framework

Case Studies of the City Science Application Framework			
Air quality management in Southern California, USA	Smart Dubai Happiness Meter in Dubai, United Arab Emirates	Crime prediction for more agile policing in cities - Rio de Janeiro, Brazil	Data driven energy savings in the Hyperdome shopping centre in Queensland, Australia
<p>[Flipbook]</p>	<p>[Flipbook]</p>	<p>[Flipbook]</p>	<p>[Flipbook]</p>
Fine dust filtration in Stuttgart, Germany	Smart Dubai - Rashid - City Concierge	Identifying the cascading effects on vital objects during flooding	Unlocking the potential of trust-based AI for city science and smart cities
<p>[Flipbook]</p>	<p>[Flipbook]</p>	<p>[Flipbook]</p>	<p>[Flipbook]</p>

Source: U4SSC “City Science Application Framework”

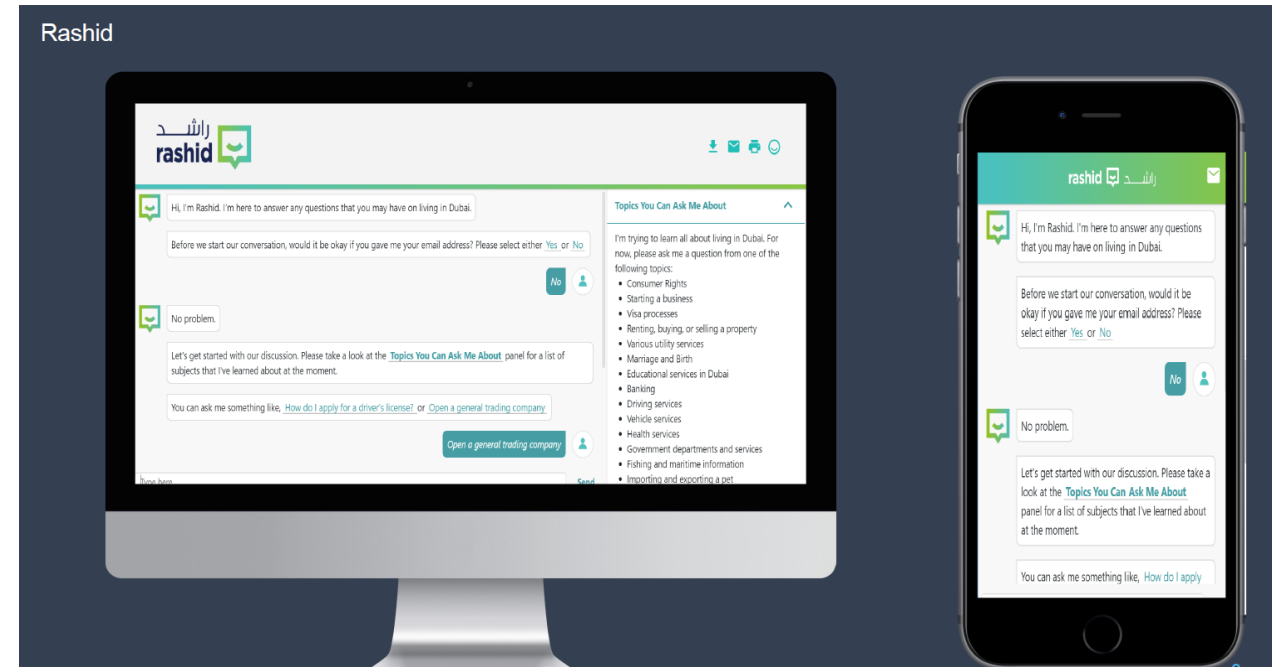
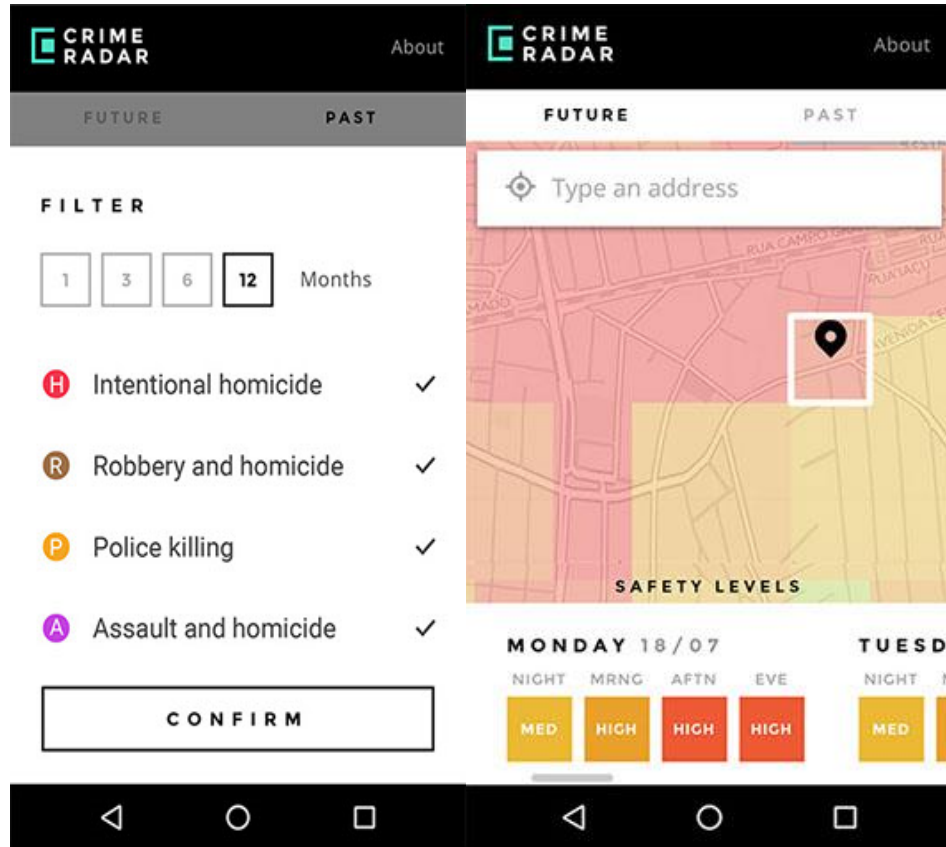


# 1. CITY SCIENCE APPLICATION FRAMEWORK CASES



## RIO DE JANEIRO - CRIME PREDICTION

## SMART DUBAI - CITY CONCIERGE



Source: U4SSC "City Science Application Framework"



# 1. CITY SCIENCE APPLICATION FRAMEWORK CASES



## QUEENSLAND HYPERDOME - ENERGY SAVINGS



## STUTTGART - FINE DUST FILTRATION



Source: U4SSC “City Science Application Framework”



# 2. GUIDELINES ON STRATEGIES FOR CIRCULAR CITIES



		City Assets & Products								
Circular Action Items		Buildings	Public Spaces & Infr.	Digital Infr.	Natural Resources	Human Related & Owned Resources	Private Sector Assets	Waste	Mfctrd. Goods	Services
	Sharing									
	Recycling									
	Refurbishing									
	Reusing									
	Replacing									
	Digitizing									

Source: U4SSC “Guidelines on strategies for Circular Cities” – To be published



## 2. GUIDELINES ON STRATEGIES FOR CIRCULAR CITIES



### 1. Assess Current Circularity (Baselining)

- KPIs, Action Items, Enablers

### 2. Prioritize and Determine Future Circularity

### 3. Catalyze / Boost Circularity

### 4. Assess Projected Circularity Impact

- Achievement of KPIs, Effectiveness of action items & enablers, Lessons Learnt

Source: U4SSC “Guidelines on strategies for Circular Cities” – To be published





## 2. GUIDELINES ON STRATEGIES FOR CIRCULAR CITIES

### ROTI BANK - INDIA



### SMART DUBAI - CIRCULAR ICT SERVICES & INFRASTRUCTURE



### WOHNBUDDY - VIENNA



- 60+ ICT services used by 50+ entities
- \$1.2billion saved in 12 years

Source: U4SSC "Guidelines on strategies for Circular Cities" – To be published



## 2. GUIDELINES ON STRATEGIES FOR CIRCULAR CITIES

SRI LANKA KIRINDA - WILD  
COAST TENTED LODGE

INDIA - USE OF PLASTIC WASTE  
IN ROAD CONSTRUCTION



TORONTO AND LONDON - THE LIBRARY OF THINGS



Source: U4SSC "Guidelines on strategies for Circular Cities" – To be published



## 3. Y.4904 SMART SUSTAINABLE CITIES MATURITY MODEL



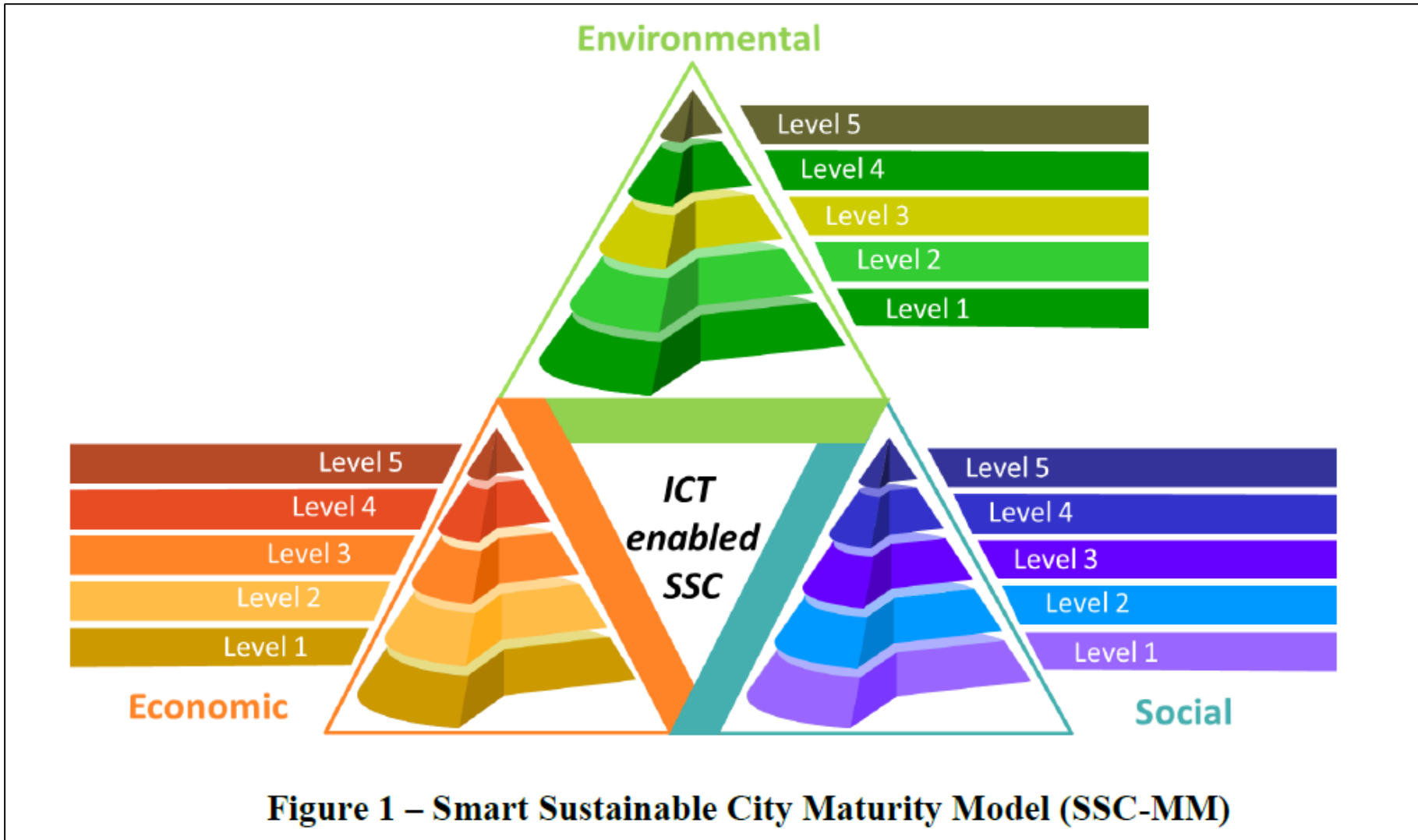
The objectives of SSC-MM include:

- Describe general smart sustainable city goals, recognizing that these will vary from city to city.
- Assess the current situation in developing SSCs.
- Assist in formulating a development strategy and outline the necessary milestones.
- Learn the challenges and global best practices in developing SSCs.
- Help cities to do self- evaluation and enable them to share the results with other cities.

Source: ITU-T Y.4904 Smart Sustainable Cities Maturity Model Recommendation



# 3. Y.4904 SMART SUSTAINABLE CITIES MATURITY MODEL



Source: ITU-T Y.4904 Smart Sustainable Cities Maturity Model Recommendation



# 3. Y.4904 SMART SUSTAINABLE CITIES MATURITY MODEL



Table 1 – Recommended achievements for each maturity level

	Strategy	Infrastructure	Data	Services and applications	Assessment	KPIs performance
<b>Maturity Level 1</b>	The overall strategy is developed	Key ICT infrastructures are identified in the strategy	Key aspects on data are identified in the strategy.	Strategy and priorities for services and applications on city level are identified.	Assessment plan is ready.	Long term targets for KPIs are set in city SSC strategy and baseline values for KPIs are collected.
<b>Maturity Level 2</b>	SSC initiatives are aligned with the strategy	ICT Infrastructures are operated independently	Ontology and methodology to identify, capture, organize and utilise data are agreed	Domain services and applications are operated by particular systems.	Self-assessment on ICT infrastructure development and services are carried out	Interim KPI targets for maturity level 2 are achieved.
<b>Maturity Level 3</b>	Evaluation on SSC initiatives is carried out	Accessibility of ICT infrastructures is improved	Data is properly stored, processed and managed in systems and platforms.	Services and applications are delivered to the public. Application and service operation is monitored and analysed to improve service performance and quality.	User satisfaction assessments are carried out.	Interim KPI targets for maturity level 3 are achieved.
<b>Maturity Level 4</b>	Strategy is developed on improving integration and cooperation	Cross-domain ICT infrastructures are provided with interoperability capabilities	Open data is accessible to the public	Cross-domain services and applications are available to the public	Stakeholders' satisfaction assessments are carried out	Interim KPI targets for maturity level 4 are achieved.
<b>Maturity Level 5</b>	Improvement and optimization potential is explored	Continual developments on infrastructure are carried out	Improvements on data sharing, utilization and exchange, etc. are made	Continuous improvements of services and applications are made by applying advanced state of the art technologies	Systematic assessment process is established with corresponding actions.	Long term targets for KPIs are achieved.

Source: ITU-T Y.4904 Smart Sustainable Cities Maturity Model Recommendation



# 3. Y.4904 SMART SUSTAINABLE CITIES MATURITY MODEL



**Annex A**

**Sample template for performance matrix to set the target values of KPIs**

(This annex forms an integral part of this Recommendation.)

**Table A.1 – Sample template for performance matrix of SSC-MM in economic dimension**

Dimension	Topic	KPIs	Long-term target KPI value for maturity level 5				
			Interim Target KPI value for maturity level 4				Target value
			Interim target KPI value for maturity level 3			Interim target value	
			Interim target KPI value for maturity level 2		Interim target value		
			Current KPI value for maturity level 1	Interim target value			
Economic	ICT infrastructure	KPI 1	Current value	Interim target value	Interim target value	Interim target value	Target value
		KPI 2					
		...					
	Innovation	KPI 1					
		KPI 2					
		...					
	Employment	KPI 1					
		KPI 2					
		...					
	Trade	KPI 1					
		KPI 2					
		...					
	Productivity	KPI 1					
		KPI 2					
		...					
			KPI 1				

Source: ITU-T Y.4904 Smart Sustainable Cities Maturity Model Recommendation



## 4. CITY TWINNING PROGRAM



**GLOBAL COUNCILS**  
SUSTAINABLE DEVELOPMENT GOALS



### What is City Twinning Program?

- A program to couple or twin low and high progressing cities
- Address challenges of low progressing cities by providing access to counter-parts from cities with successful implementations of solution(s)
- Twinned cities to define a joint program of action

Note: U4SSC Implementation Programme can provide high-level coaching and advice for formulating the joint program of action.

Source: SDG11 Global Council, U4SSC Implementation Programme



## 4. CITY TWINNING PROGRAM



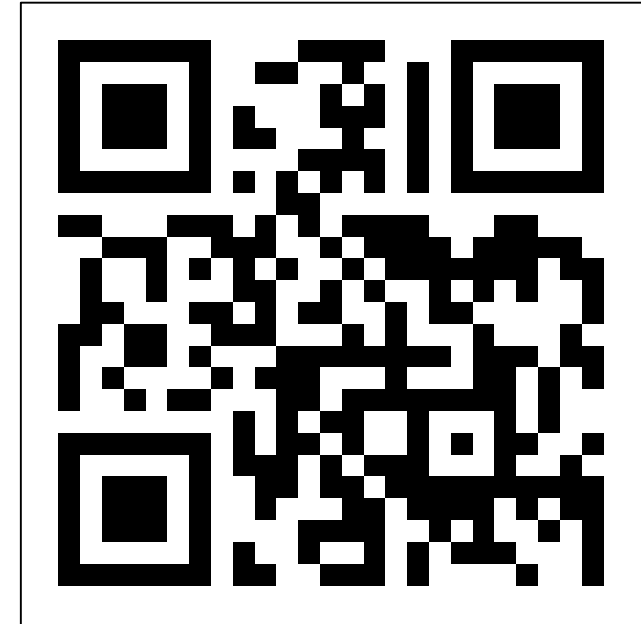
### How can I participate in the City Twinning Program?

- A city organization can sign up to the City Twinning Program from:

<http://www.sdg11gc.com/>

- by specifying:

- City contact information, and
- SDG11 target(s) of interest



- Matching of cities, i.e. city twins, will be done by the SDG11 Global Council in partnership with the U4SSC Implementation Programme.

Source: SDG11 Global Council, U4SSC Implementation Programme

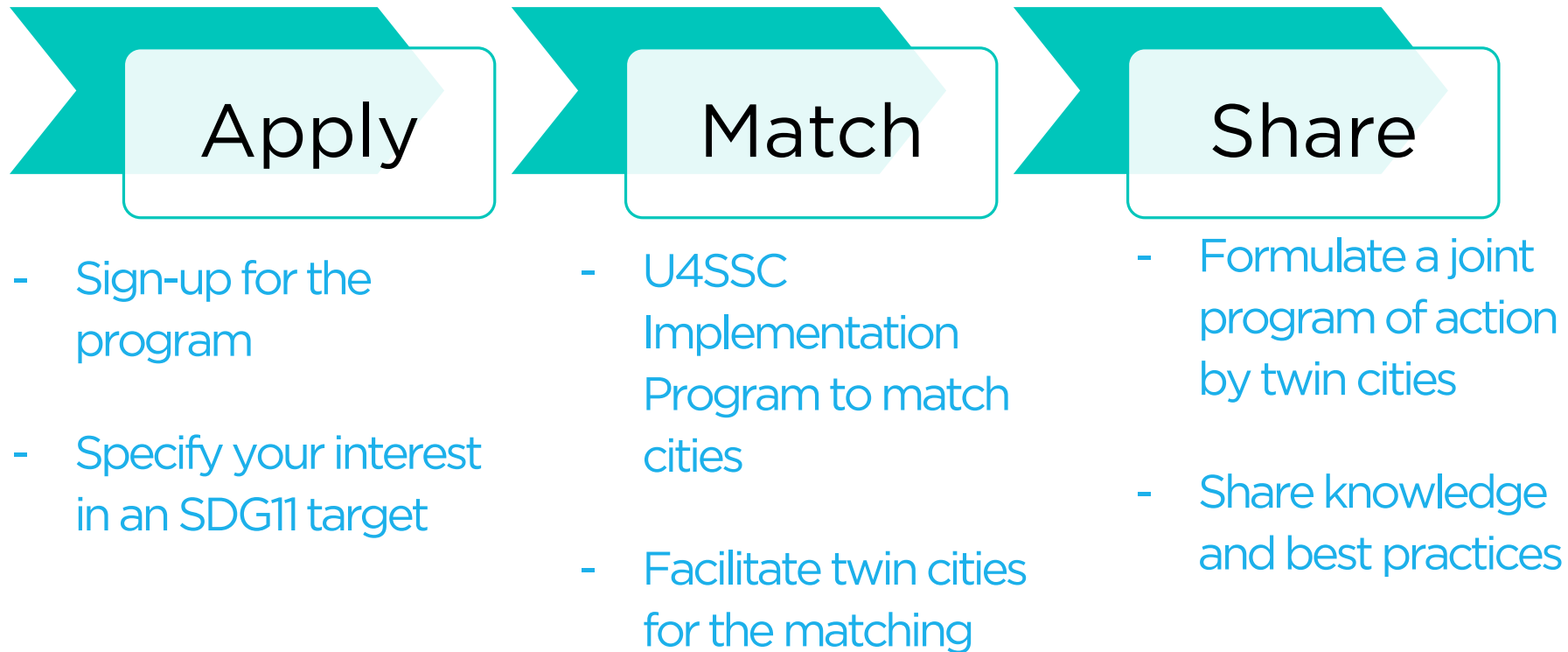




# 4. CITY TWINNING PROGRAM



## What are the steps of City Twinning Program?



Source: SDG11 Global Council, U4SSC Implementation Programme



THANK  
YOU

