ITUWebinars

Digital transformation for cities and communities

https://itu.int/go/dt4cc

Tencent 腾讯

Smart sustainable cities maturity model

-- Digital transformation for cities and communities

Yun LI

lynnyli@tencent.com

2021.09

Introduction

Yun LI

Director, Technical and Industry Standard Department, Tencent

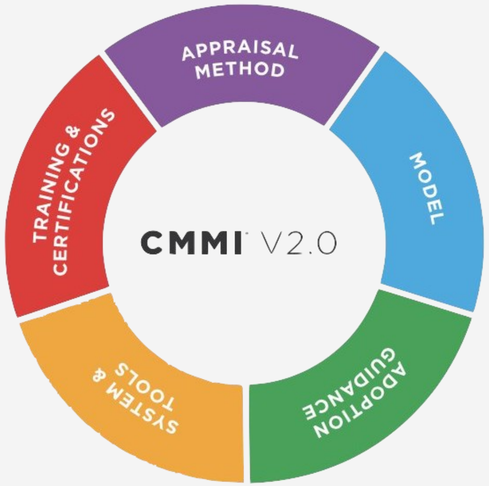
- Editor of ITU-T Recommendation ITU-T Y.4904 Smart sustainable cities maturity model
- Committee member of ISO/IEC JTC1/WG11
- Committee member of IEC SyC on smart cities
- Committee member of China national smart city standardization group

Tencent is a global technology leader and one of the largest technology company in Asia. Tencent Cloud is part of a rich digital ecosystem that includes some of China’ s top social, messaging, mobile payment, gaming, digital literature, music streaming, and video platforms.

Two million square-meter ‘Net City’
Dachanwan port district of Shenzhen, China

What is maturity model

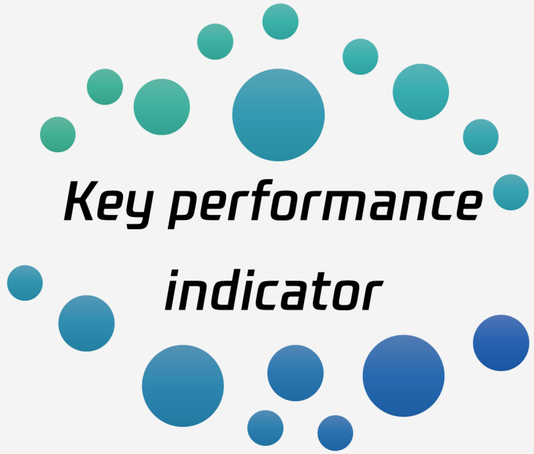
Maturity Model is a verified Self-Assessment Tool which helps organizations to quickly understand their current level of capability and performance in the context of their own business objectives and compared to similar organizations.

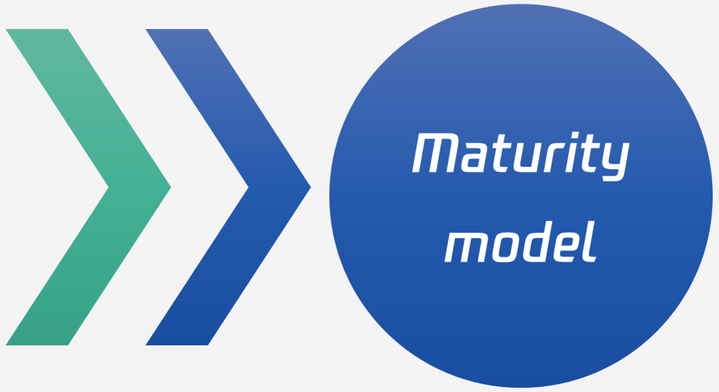


- **Improve Business Performance**
- **Leverage Current Best Practices**
- **Build Agile Resiliency and Scale**
- **Increase Value of Benchmarking**
- **Accelerate Adoption**

-- CMMI institute https://stage.cmmiinstitute.com/cmmi

Why maturity model is needed for cities

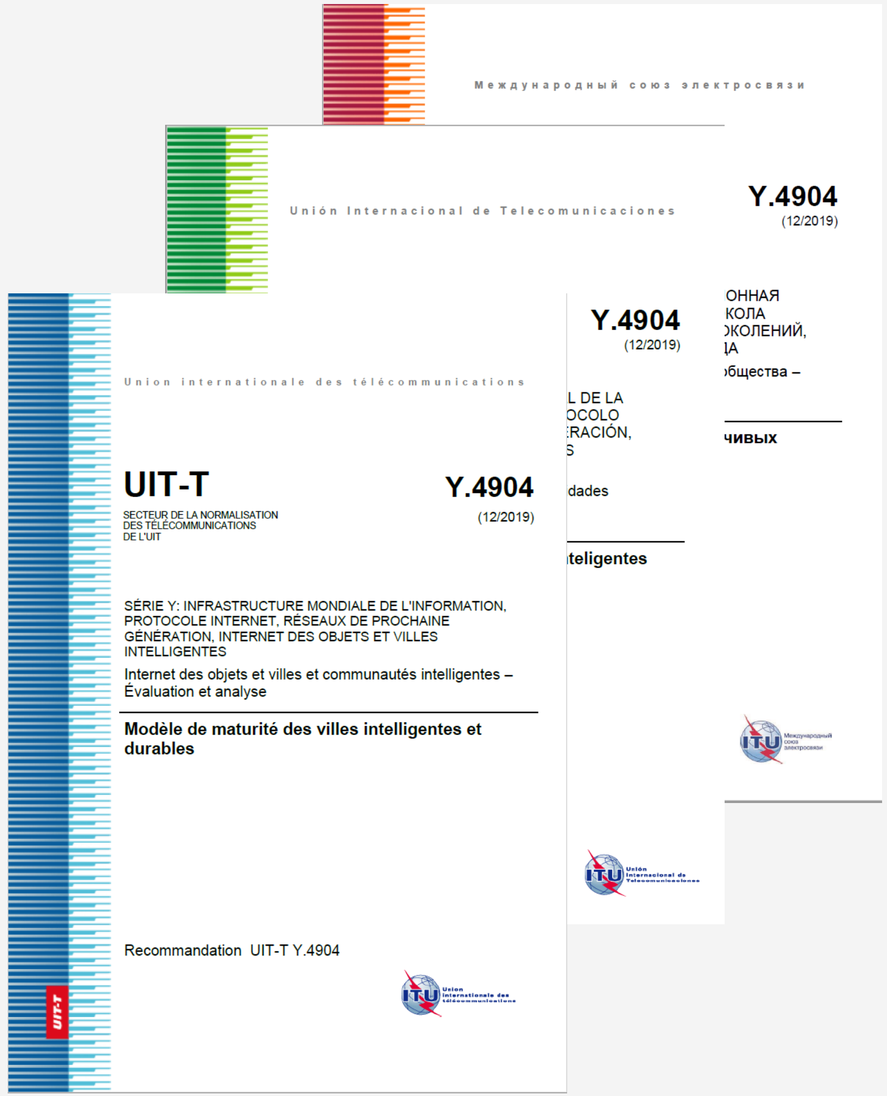




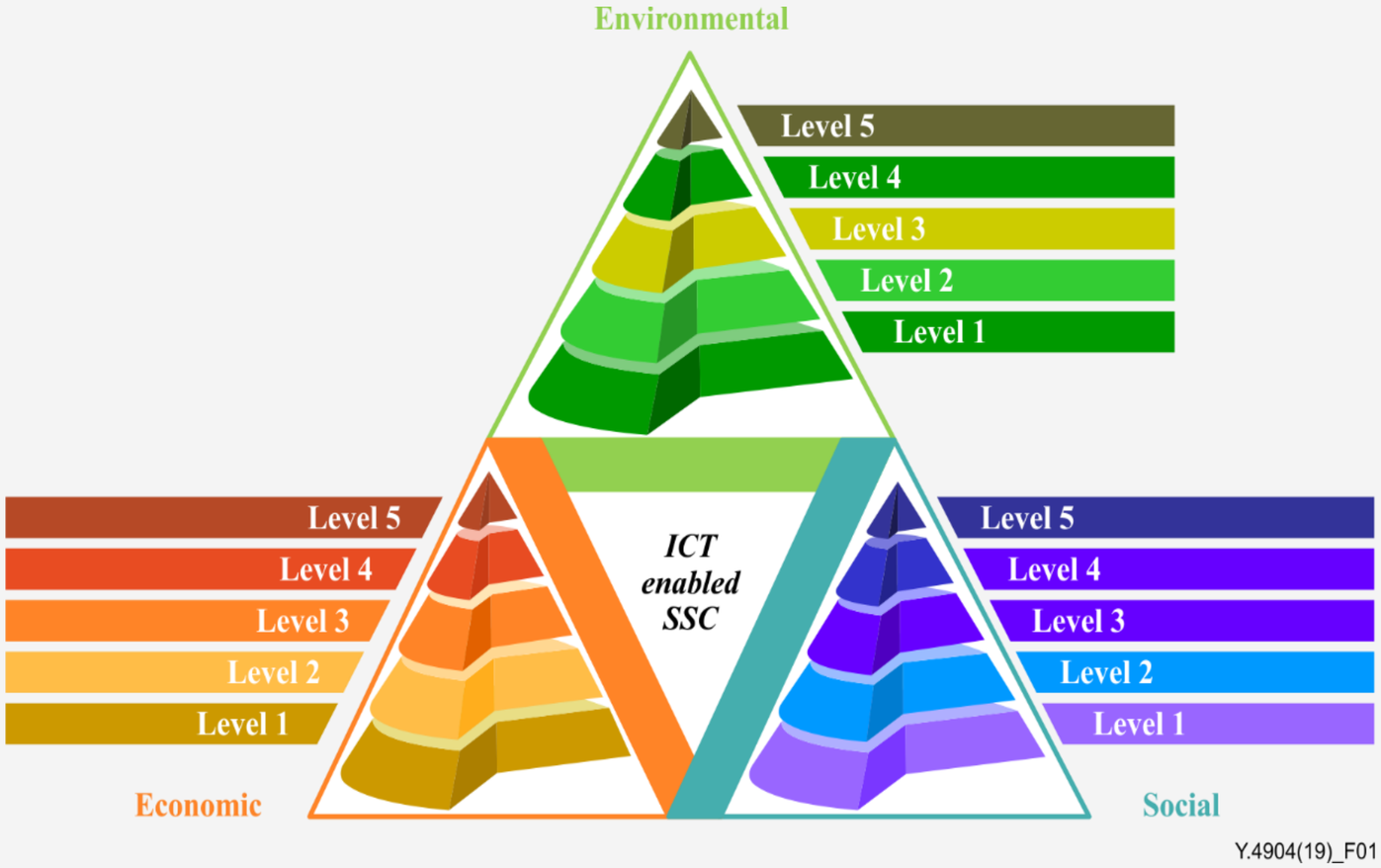
The Smart Sustainable Cities Maturity Model is designed to walk cities through the process of becoming a Smart sustainable City

- 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

ITU-T Y.4904 Smart sustainable cities maturity model

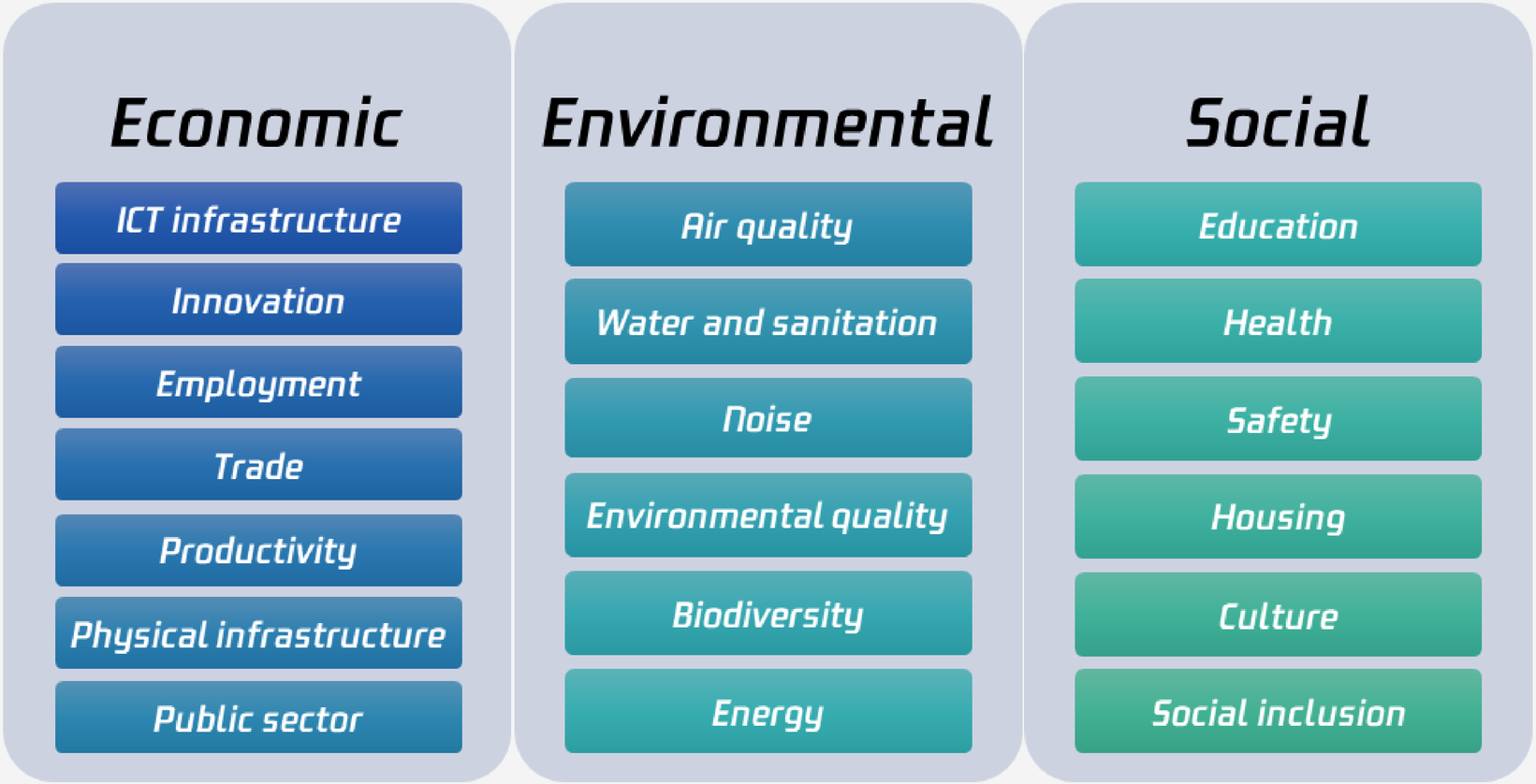


Smart sustainable cities maturity model

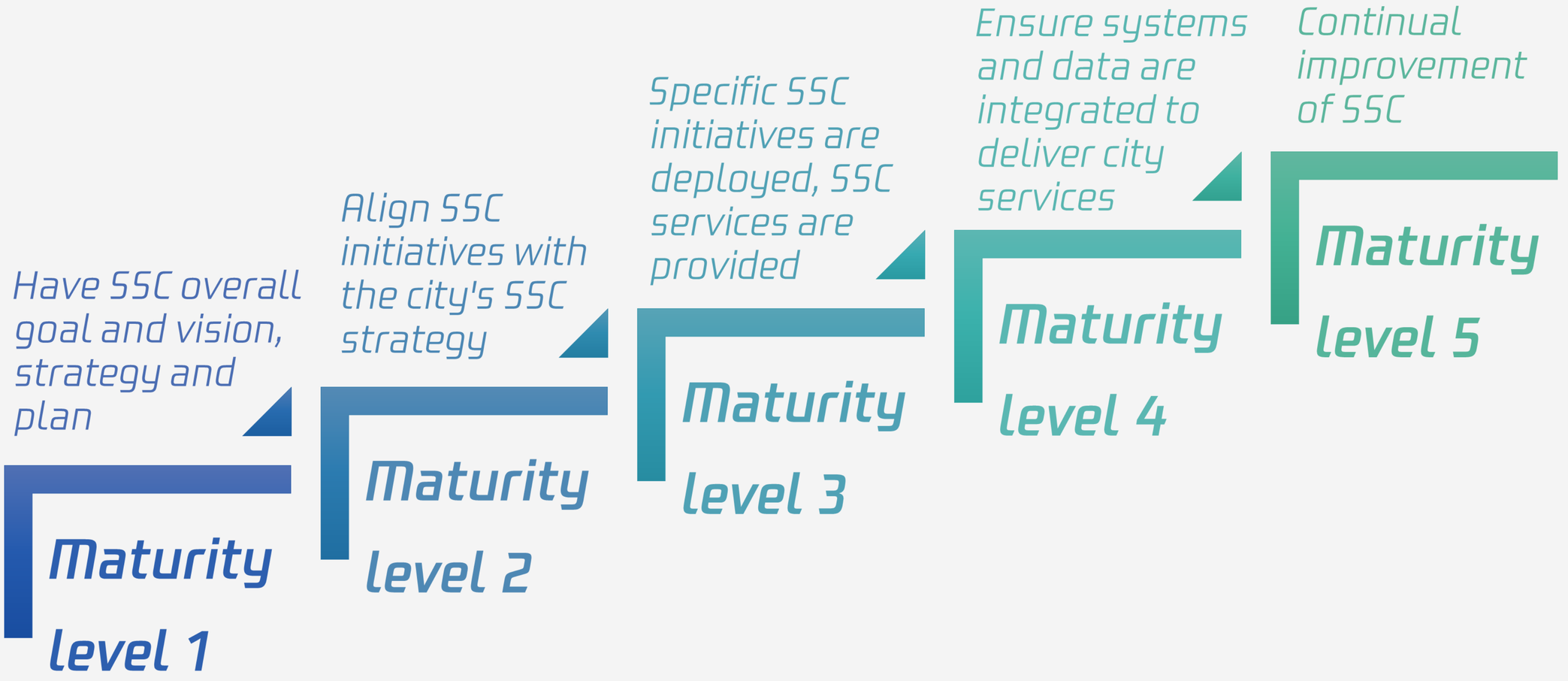


- general goals of a smart sustainable city
- identify development aspects and outline the necessary milestones
- identify KPIs for the purpose of the maturity assessment

Smart sustainable cities maturity model - Dimensions



Smart sustainable cities maturity model – Maturity levels



How to use the maturity model

Step 1 : Map KPIs, such as ITU-T SSC KPIs, into the maturity model;

Step 2: Prepare the maturity assessment related achievements and KPIs (cities can add additional KPIs according to their particular needs and strategy).

Step 3: Develop the performance matrix to show the maturity roadmap by setting target values for KPIs at each maturity level based on cities' situation and strategy.

Step 4: Conduct the maturity assessment at the beginning and also at different stages during the smart city development and determine the performance of the cities.

Step 5: Compare the cities' performance with respect to their baseline performance. The results of the comparison are recommended to include the results of the assessment, suggested actions, or any other suitable information required by the maturity model.

Guidance on how to use the maturity model - Step 1

Step 1 : Map KPIs, such as ITU-T SSC KPIs, into the maturity model;

Step 2: Prepare the maturity assessment related achievements and KPIs (cities can add additional KPIs according to their particular needs and strategy).

Step 3: Develop the performance matrix to show the maturity roadmap by setting target values for KPIs at each maturity level based on cities' situation and strategy.

Step 4: Conduct the maturity assessment at the beginning and also at different stages during the smart city development and determine the performance of the cities.

Step 5: Compare the cities' performance with respect to their baseline performance. The results of the comparison are recommended to include the results of the assessment, suggested actions, or any other suitable information required by the maturity model.

Smart sustainable cities maturity model – KPI mapping

Maturity level	Topic	KPI	Referenced ITU-T Recommendations		
			Y.4901	Y.4902	Y.4903
Level 1 and onward					
Level 2 and onward					
Level 3 and onward					
Level 4 and onward					
Level 5 and onward					

Guidance on how to use the maturity model - Step 2

Step 1 : Map KPIs, such as ITU-T SSC KPIs, into the maturity model;

Step 2: Prepare the maturity assessment related achievements and KPIs (cities can add additional KPIs according to their particular needs and strategy).

Step 3: Develop the performance matrix to show the maturity roadmap by setting target values for KPIs at each maturity level based on cities' situation and strategy.

Step 4: Conduct the maturity assessment at the beginning and also at different stages during the smart city development and determine the performance of the cities.

Step 5: Compare the cities' performance with respect to their baseline performance. The results of the comparison are recommended to include the results of the assessment, suggested actions, or any other suitable information required by the maturity model.

Smart sustainable cities maturity model - achievements table

	Strategy	Infrastructure	Data	Services and applications	Assessment	KPIs performance
Maturity Level 1						
Maturity Level 2						
Maturity Level 3						
Maturity Level 4						
Maturity Level 5						

Guidance on how to use the maturity model - Step 3

Step 1 : Map KPIs, such as ITU-T SSC KPIs, into the maturity model;

Step 2: Prepare the maturity assessment related achievements and KPIs (cities can add additional KPIs according to their particular needs and strategy).

Step 3: Develop the performance matrix to show the maturity roadmap by setting target values for KPIs at each maturity level based on cities' situation and strategy.

Step 4: Conduct the maturity assessment at the beginning and also at different stages during the smart city development and determine the performance of the cities.

Step 5: Compare the cities' performance with respect to their baseline performance. The results of the comparison are recommended to include the results of the assessment, suggested actions, or any other suitable information required by the maturity model.

Smart sustainable cities maturity model – performance matrix

Dimension	Topic	KPIs	Current KPI value for maturity level 1	Interim target KPI value for maturity level 2	Interim target KPI value for maturity level 3	Interim target KPI value for maturity level 4	Long-term target KPI value for maturity level 5
Economic	ICT infrastructure	Household Internet access	Baseline collected	Interim target value e.g., 30%	Interim target value e.g., 40%	Interim target value e.g., 60%	Target value e.g., 80%
		Electricity system outage time	Baseline collected	–	Interim target value e.g., 30 mins.	Interim target value e.g., 25 mins.	Target value e.g., 15 mins.

Guidance on how to use the maturity model - Step 4

Step 1 : Map KPIs, such as ITU-T SSC KPIs, into the maturity model;

Step 2: Prepare the maturity assessment related achievements and KPIs (cities can add additional KPIs according to their particular needs and strategy).

Step 3: Develop the performance matrix to show the maturity roadmap by setting target values for KPIs at each maturity level based on cities' situation and strategy.

Step 4: Conduct the maturity assessment at the beginning and also at different stages during the smart city development and determine the performance of the cities.

Step 5: Compare the cities' performance with respect to their baseline performance. The results of the comparison are recommended to include the results of the assessment, suggested actions, or any other suitable information required by the maturity model.

Guidance on how to use the maturity model - Step 5

Step 1 : Map KPIs, such as ITU-T SSC KPIs, into the maturity model;

Step 2: Prepare the maturity assessment related achievements and KPIs (cities can add additional KPIs according to their particular needs and strategy).

Step 3: Develop the performance matrix to show the maturity roadmap by setting target values for KPIs at each maturity level based on cities' situation and strategy.

Step 4: Conduct the maturity assessment at the beginning and also at different stages during the smart city development and determine the performance of the cities.

Step 5: Compare the cities' performance with respect to their baseline performance. The results of the comparison are recommended to include the results of the assessment, suggested actions, or any other suitable information required by the maturity model.

What’ s next ?

Verification Reports

City Snapshots

Case Studies

Factsheets

Thanks