

Thematic Forum 1a: Using international standards to build smart sustainable cities and tackle climate change

The call for Impact & data-based Standards towards Building Back Better

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Former Senior Director for building at The Israeli Planning Administration
& Founder of the Israeli Green Building Council.



**The 15th Annual Session of Global Forum on Human Settlements
Post-Pandemic Recovery and Transformation:
Resilient Cities, Healthy Planet**

Urban growth & resilience scenarios

The Rational: the CITY cannot create inclusive growth, governance and services unless it modifies actions, rules and processes

physical & digital inaccessibility. Low access to needed aggregated data. Competition with the countryside and outer city business locations; and young adult exodus

Tel Aviv-Jaffa under Covid19 urban strategies & action plans. August 2020



העיר בצל קורונה

אסטרטגיה עירונית וכיווני פעולה

MID CITY.LABS
disruptive innovation for your city

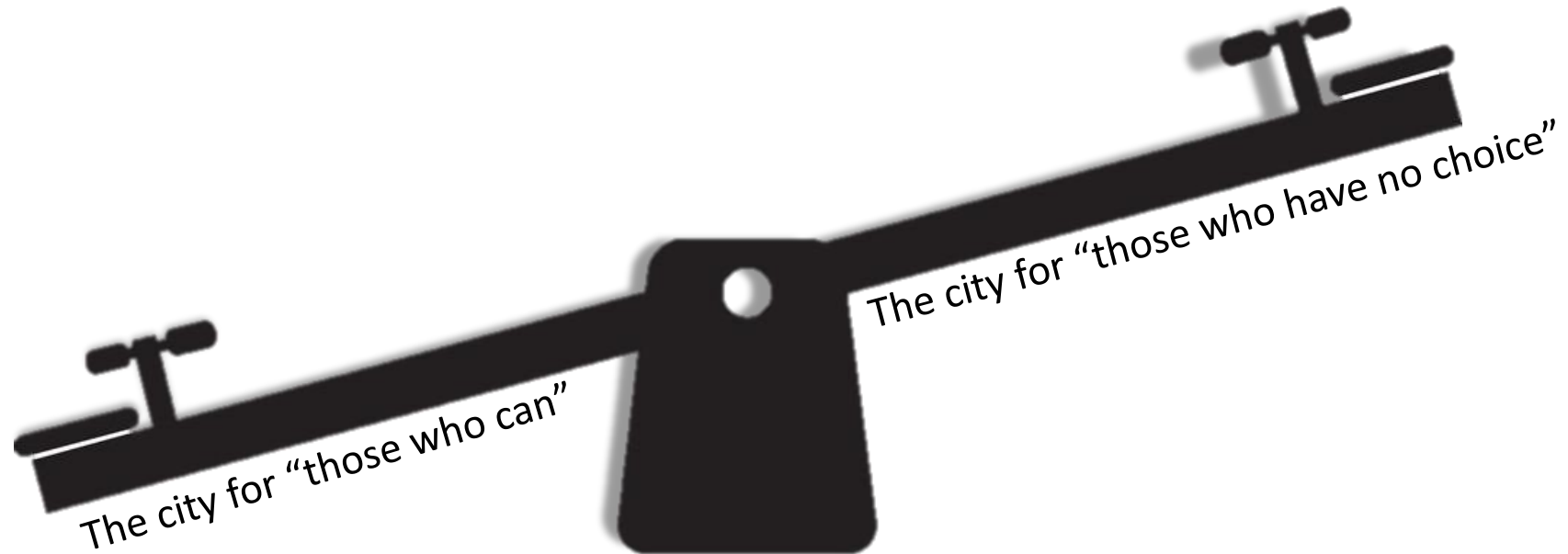
S.U.i.T.S
Smarter Urban IT & Strategies



THE CITY UNDER COVID19

Urban strategies & scenarios for Tel Aviv

Impact of irrelevant municipal interventions



Sufficient digital access for school and remote work

Large apartments/ small families

Lack of access to powerful broadband/ manual labor or essential service work

small apartment/insufficient space for all

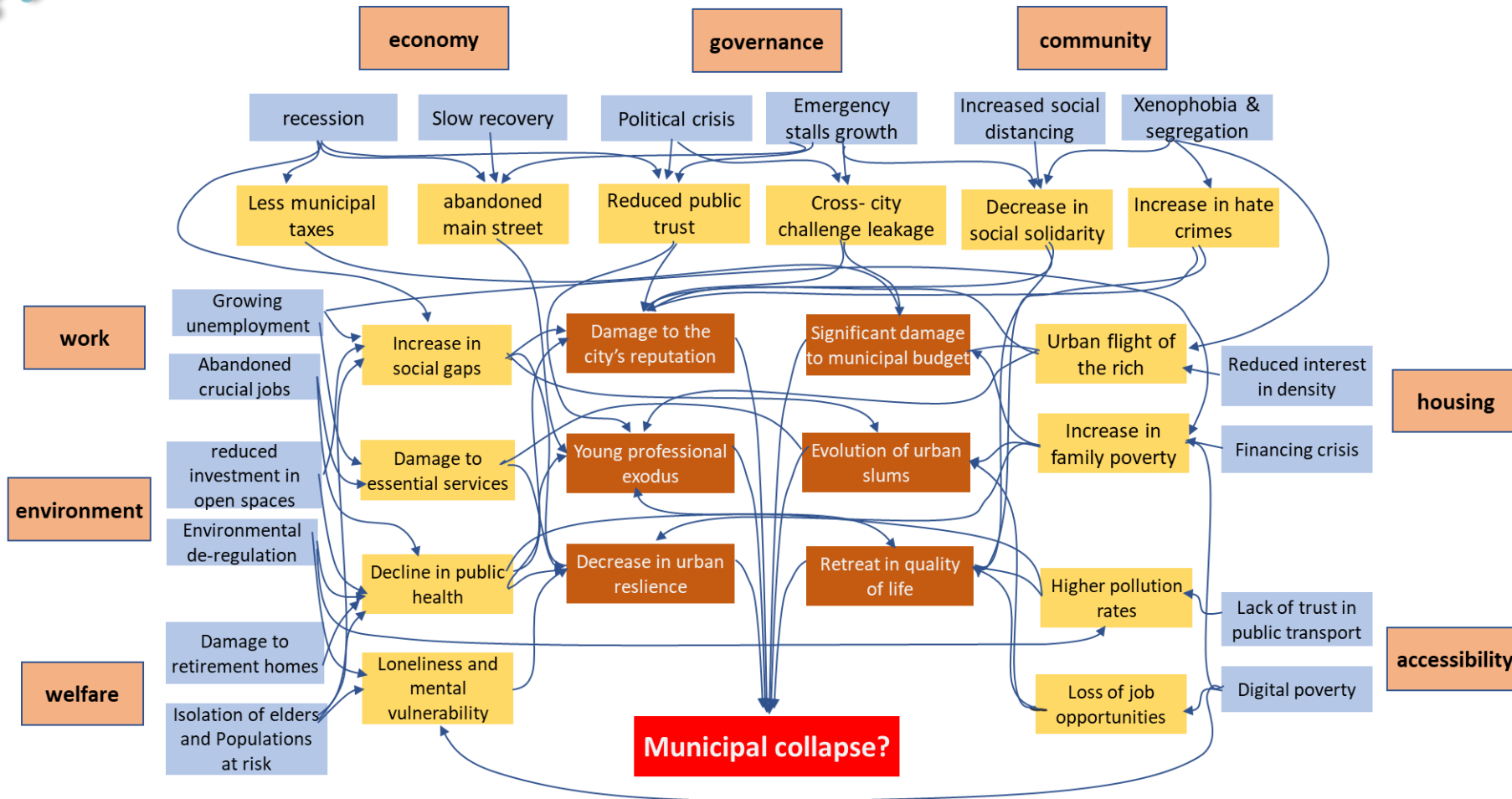
Lack of a sustainable restart may be devastating for the urban poor



THE CITY UNDER COVID19

Urban strategies & scenarios for Tel Aviv

Post Covid19 Business As Usual Scenarios



Not one theme - but a multi-layered complexity will determine how cities & communities will thrive and build back better

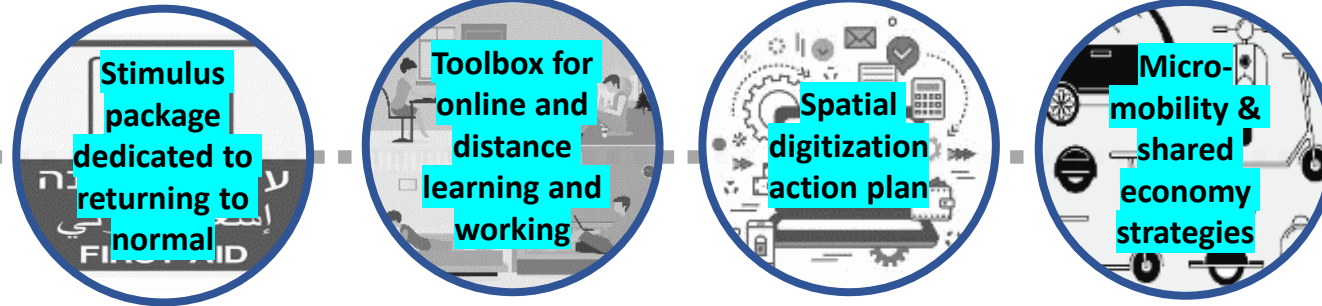


THE CITY UNDER COVID19

Urban strategies & scenarios for Tel Aviv

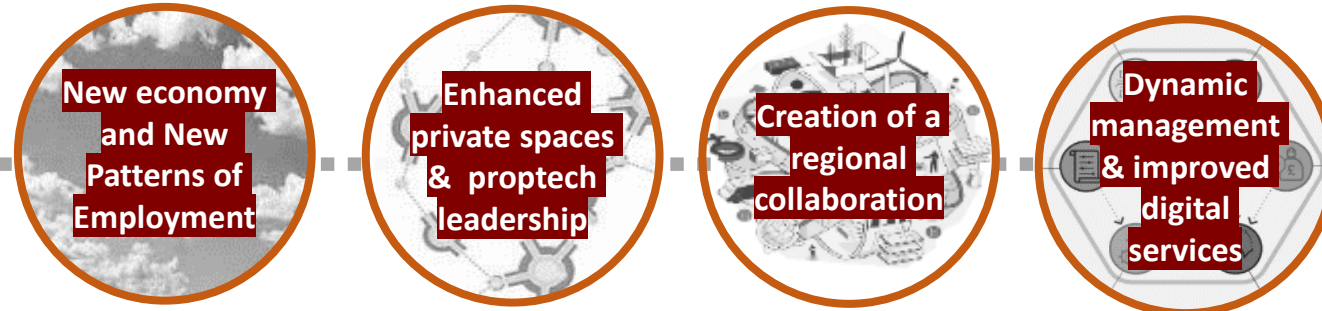
Proposed scenarios

Scenario 1#
Back to the familiar



Local economy	<div style="width: 25%; background-color: yellow;"></div> <div style="width: 75%; background-color: lightblue;"></div>
Execution speed	<div style="width: 100%; background-color: yellow;"></div>
Social impact	<div style="width: 75%; background-color: yellow;"></div> <div style="width: 25%; background-color: lightblue;"></div>
Improved sustainability	<div style="width: 10%; background-color: yellow;"></div> <div style="width: 90%; background-color: lightblue;"></div>
Future ready	<div style="width: 25%; background-color: yellow;"></div> <div style="width: 75%; background-color: lightblue;"></div>

Scenario 2#
The new City



Local economy	<div style="width: 100%; background-color: yellow;"></div>
Execution speed	<div style="width: 25%; background-color: yellow;"></div> <div style="width: 75%; background-color: lightblue;"></div>
Social impact	<div style="width: 75%; background-color: yellow;"></div> <div style="width: 25%; background-color: lightblue;"></div>
Improved sustainability	<div style="width: 75%; background-color: yellow;"></div> <div style="width: 25%; background-color: lightblue;"></div>
Future ready	<div style="width: 90%; background-color: yellow;"></div> <div style="width: 10%; background-color: lightblue;"></div>

Scenario 3#
Facing the community



Local economy	<div style="width: 75%; background-color: yellow;"></div> <div style="width: 25%; background-color: lightblue;"></div>
Execution speed	<div style="width: 75%; background-color: yellow;"></div> <div style="width: 25%; background-color: lightblue;"></div>
Social impact	<div style="width: 100%; background-color: yellow;"></div>
Improved sustainability	<div style="width: 90%; background-color: yellow;"></div> <div style="width: 10%; background-color: lightblue;"></div>
Future ready	<div style="width: 75%; background-color: yellow;"></div> <div style="width: 25%; background-color: lightblue;"></div>

**We need to utilize urban innovation (smart cities?) to create a sustainable restart of our cities,
without leaving anyone and
any city behind.**

But how...?

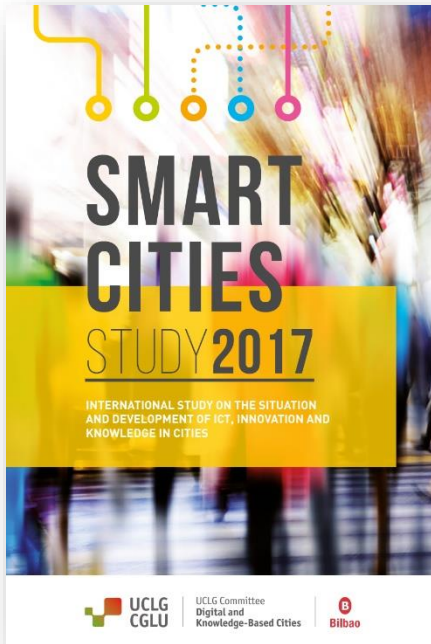


"A smart city is one that has digital technology embedded across all city functions."

What about impact ????

(and how do we make sure that 2008 doesn't happen again...)

Existing rating tools



SMART CITIES STUDY 2017

INTERNATIONAL STUDY ON THE SITUATION AND DEVELOPMENT OF ICT, INNOVATION AND KNOWLEDGE IN CITIES

UCLG CGLU UCLG Committee Digital and Knowledge-Based Cities Bilbao



HUAWEI NAVIGANT

UK SMART CITIES INDEX 2017

Assessment of Strategy and Execution for the UK's Leading Smart Cities

23 October 2017
Commissioned by Huawei from Navigant Consulting, Inc.

Eric Woods, Research Director; Roberto Rodriguez Labastida, Senior Research Analyst; Ryan Citron, Research Analyst; Tiffany Chow, Managing Consultant; Paige Luschner, Research Analyst



Smart cities
Ranking of European medium-sized cities



TU WIEN, Department of Geography, University of Liège, TU Delft, Research Institute for Housing, Urban and Mobility Studies (RHM)



IESE Business School University of Navarra
Center for Globalization and Strategy



IESE Cities in Motion Index

2016



EUROPEAN COMMISSION
Directorate General for Communications Networks, Content and Technology

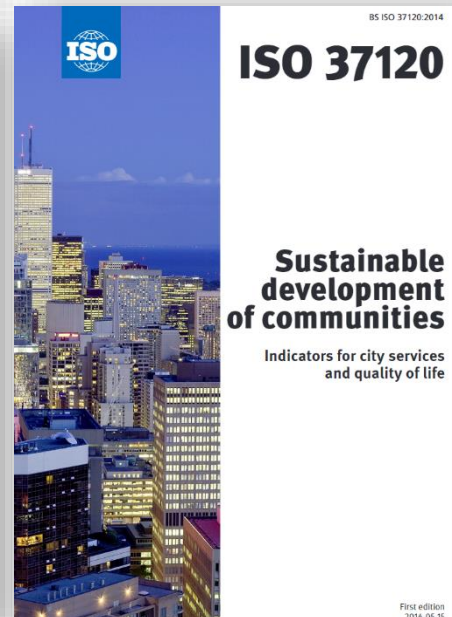
Digital Single Market
Digital Economy & Skills

DESI 2017

Digital Economy and Society Index

Methodological note

Updated 2 March 2017

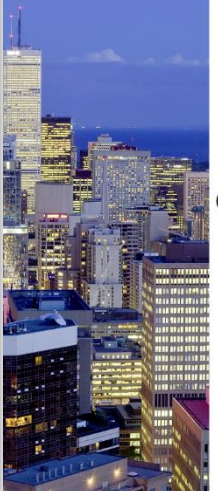


ISO 37120:2014

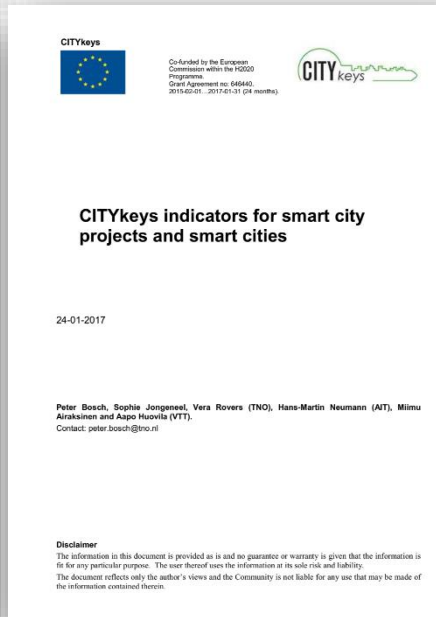
ISO 37120

Sustainable development of communities

Indicators for city services and quality of life



First edition 2014-05-15



CITYkeys

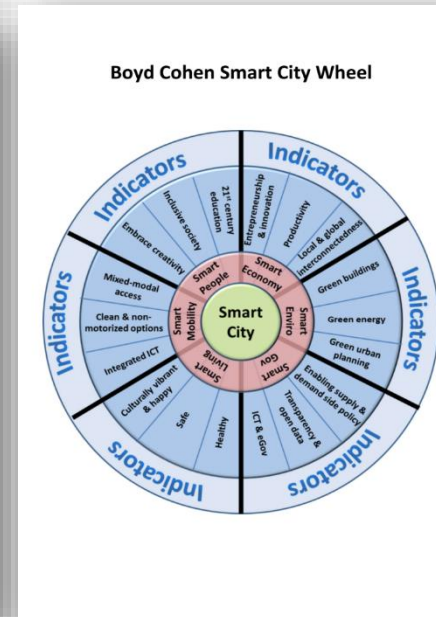
Co-funded by the European Commission within the H2020 Programme. Grant Agreement no: 646440, 2018-01-01 - 2019-12-31 (24 months).

CITYkeys indicators for smart city projects and smart cities

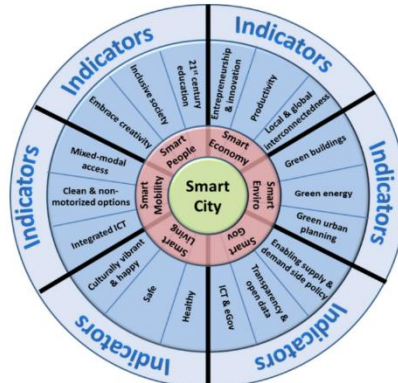
24-01-2017

Peter Bosch, Sophie Jongeneel, Vera Rovera (TNO), Hans-Martin Neumann (AIT), Miimu Alaraksinen and Aspo Huovila (VTT).
Contact: peter.bosch@tno.nl

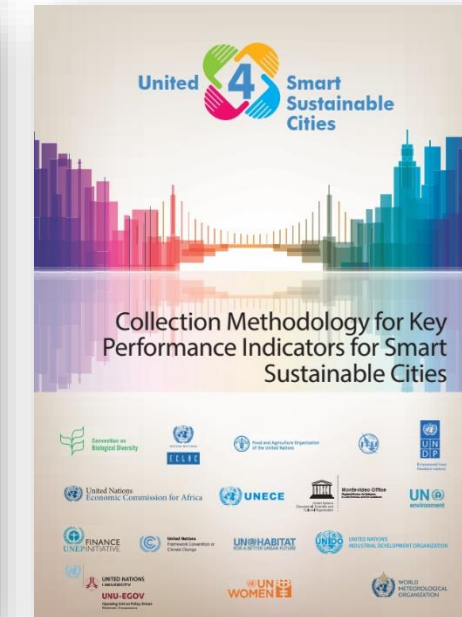
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Boyd Cohen Smart City Wheel




The diagram is a circular wheel with 'Smart City' at the center. It is divided into four quadrants: Smart People, Smart Economy, Smart Living, and Smart Gov. Each quadrant has associated indicators: Smart People (Inclusive society, Embedde creativity, Mixed-modal access, Clean & non-motorized options, Integrated ICT); Smart Economy (21st century education & innovation, Entrepreneurship & innovation, Productivity, Local & global interconnections); Smart Living (Green Buildings, Green energy, Green urban planning, Enabling supply & demand side policy); Smart Gov (Smart Living, Smart Gov, Transparency & open data, ICT & eGov, Healthy, Safe).

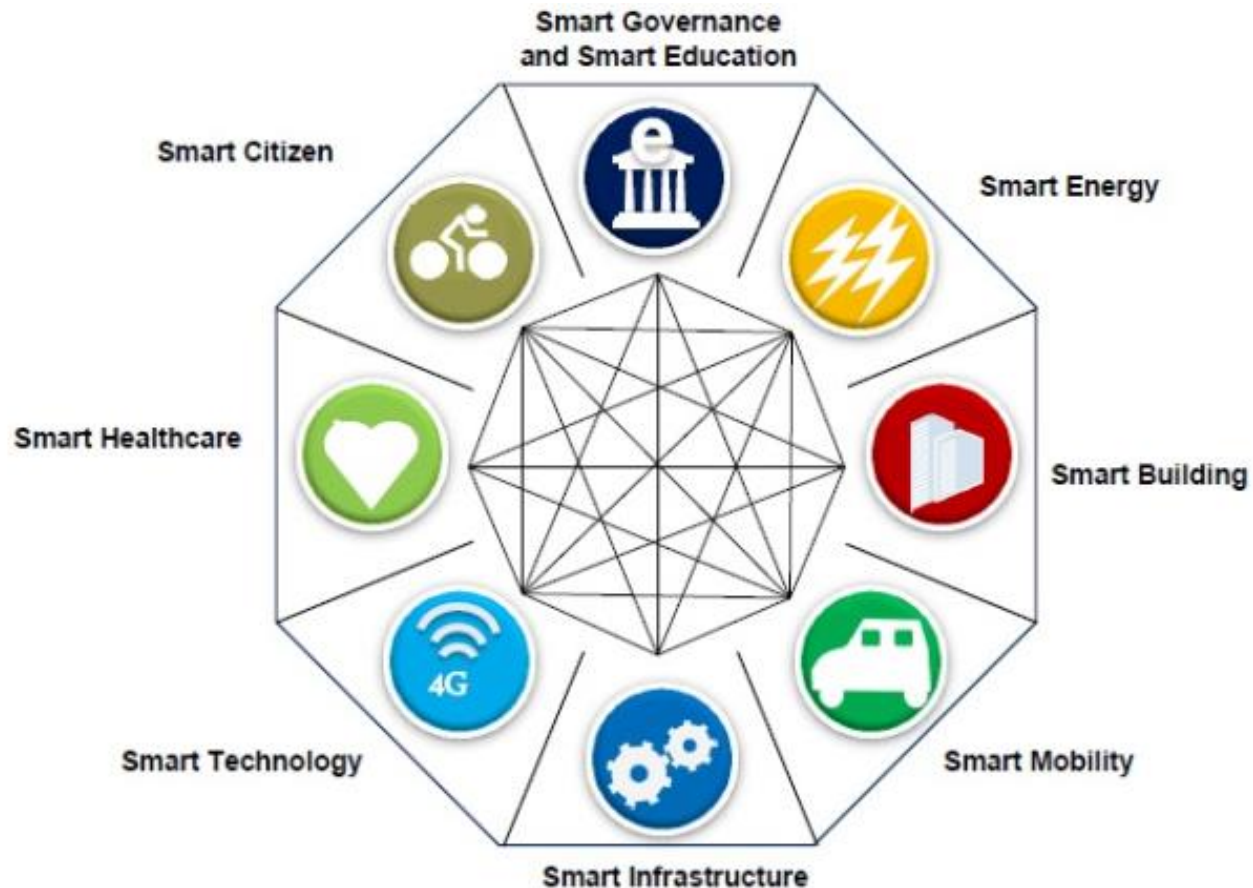


United 4 Smart Sustainable Cities

Collection Methodology for Key Performance Indicators for Smart Sustainable Cities



standards may promote common “check listing” instead of essential (relevant) qualitative change...



...& good indicators and solutions aren't always enough, since many localized cross-theme complex stresses are unsolvable with standard tools !





Department
for Business
Innovation & Skills

"The concept is not static, there is no absolute definition of a smart city, no end point,

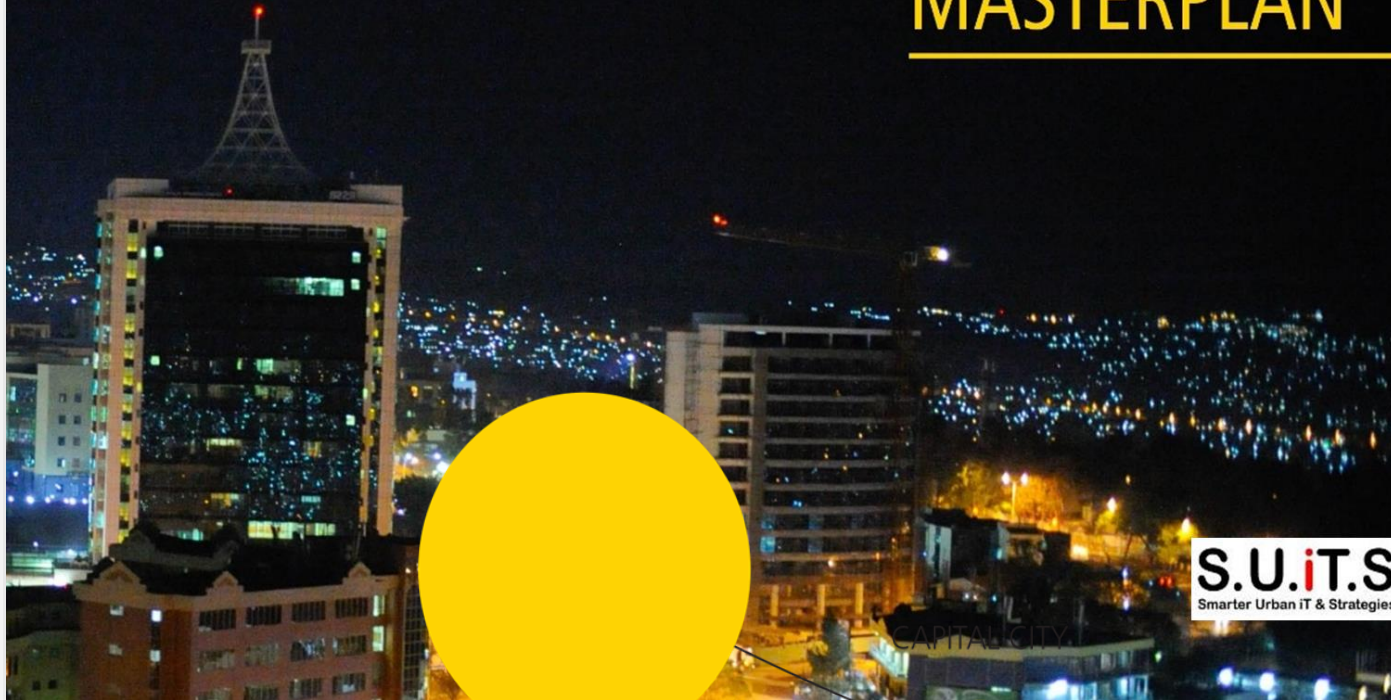
but rather a **process**, or series of steps, by which cities become more 'liveable' and resilient and, hence,

able to respond quicker to new challenges"

Arup & UK DBIS London 2013



SMART CITY RWANDA MASTERPLAN



S.U.i.T.S
Smarter Urban IT & Strategies

10 MILLION

850,000

SECONDARY CITIES

50,000 - 150,000

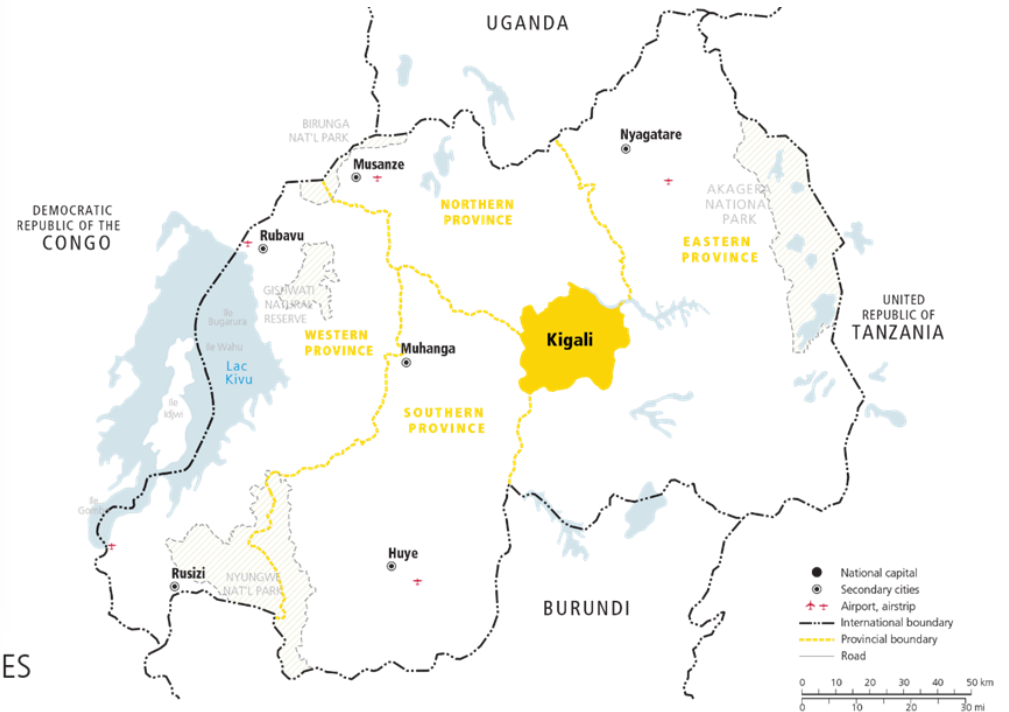
TOWNS

5,000 - 70,000

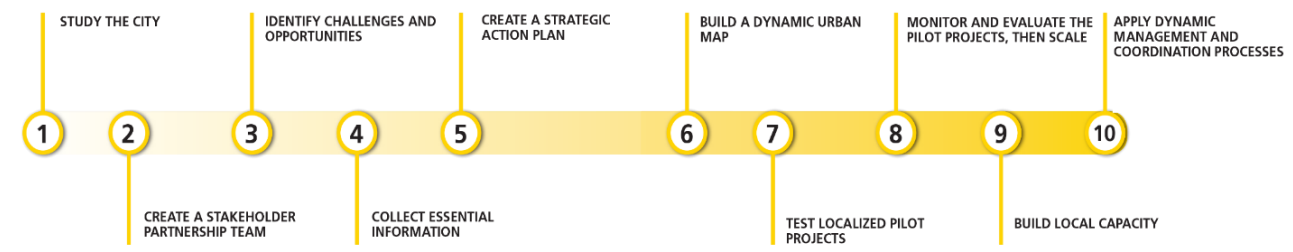
VILLAGES AND
TRADING CENTRES

< 5,000

Sustaining multi-level
sustainable & inclusive
urbanism for all



TEN STEPS OF IMPLEMENTATION



STRATEGIC INITIATIVES

A	B	C	D	E	F	G	H	I
1	4	6	10	12	16	19	23	26
2	5	7	11	13	17	20	24	27
3		8		14	18	21	25	
		9		15		22		

PILLARS	BUILDING BLOCKS	INITIATIVES
1 Smart governance and planning	A Data-led urban planning and management	1 Integrated, GIS-based urban management platforms
		2 Cross-ministry financial and project management platform
		3 Multi-stakeholder safer cities programme
	B Smart policies and regulations	4 Dynamic data-supported urban master planning
		5 Enabling environments for urban technology testing
	C Public engagement and open data	6 Data strategies including open data, privacy and cybersecurity
		7 Accessible internet zones in strategic and residential areas
		8 Digital citizen engagement tools accessible to all
		9 Urban Data accessible to all
	D Shared local infrastructure	10 Digitally monitor and manage utility networks
11 Explore smart micro grids based on the prosumer model		
E Efficient, demand based services	12 Regulatory frameworks for virtual power plants and other demand-based management solutions	
	13 Smart data-led 'door-to door' mobility solutions	
	14 Digital service points for rural settlements	
	15 Smart urban agriculture projects	
F Sustainable and resilient resource management	16 Sensor-based environmental data	
	17 Green and smart building labs	
	18 Smart, sustainable and shared neighbourhood pilot projects	
G Education, innovation and digital literacy	19 Innovation in education, from primary school to higher education	
	20 ICT skills training in education, for local authorities and the general public	
	21 National fund to encourage challenge-based innovation	
	22 Innovation teams in ministries and local authorities	
H Localized and challenge-based financial opportunities	23 Promote local digital business platforms	
	24 Create collaborative community co-working and digital excellence centers	
	25 Establish collaborative urban innovation acceleration labs with academy, community and industry	
I Digital transformation of financial services	26 Introduce personalized e-finance platforms for all life-time services	
	27 Electronic due-diligence and business loan systems for SMEs	
2 Smart and efficient services and utilities	D Shared local infrastructure	10 Digitally monitor and manage utility networks
		11 Explore smart micro grids based on the prosumer model
	E Efficient, demand based services	12 Regulatory frameworks for virtual power plants and other demand-based management solutions
		13 Smart data-led 'door-to door' mobility solutions
		14 Digital service points for rural settlements
	F Sustainable and resilient resource management	16 Sensor-based environmental data
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	27 Electronic due-diligence and business loan systems for SMEs	

Learning from green building standards (the good parts...)

from 1993 to today...

from light green to zero impact buildings



Green Facts
 John M. Langston High School
 Continuation & Langston-Brown
 Community Center
 Arlington, Virginia

LEED-NC rating out of	69
Silver	35
Sustainable Site	8
Water Efficiency	3
Energy & Atmosphere	4
Materials & Resources	6
Indoor Environmental Quality	11
Innovation & Design	3

USGBC LEED-NC rated Sept. 3, 2003.

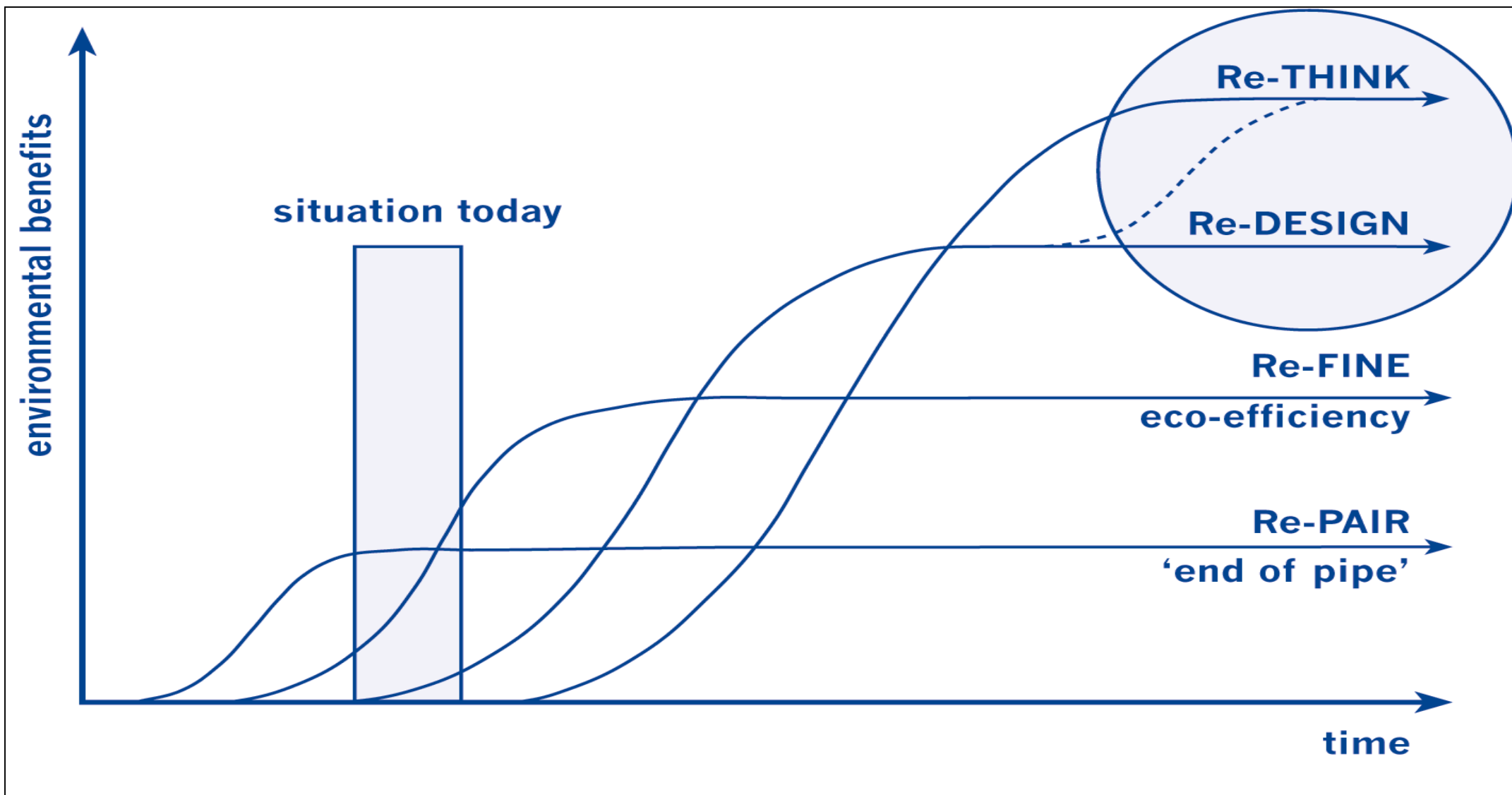


MEASURING IMPACT

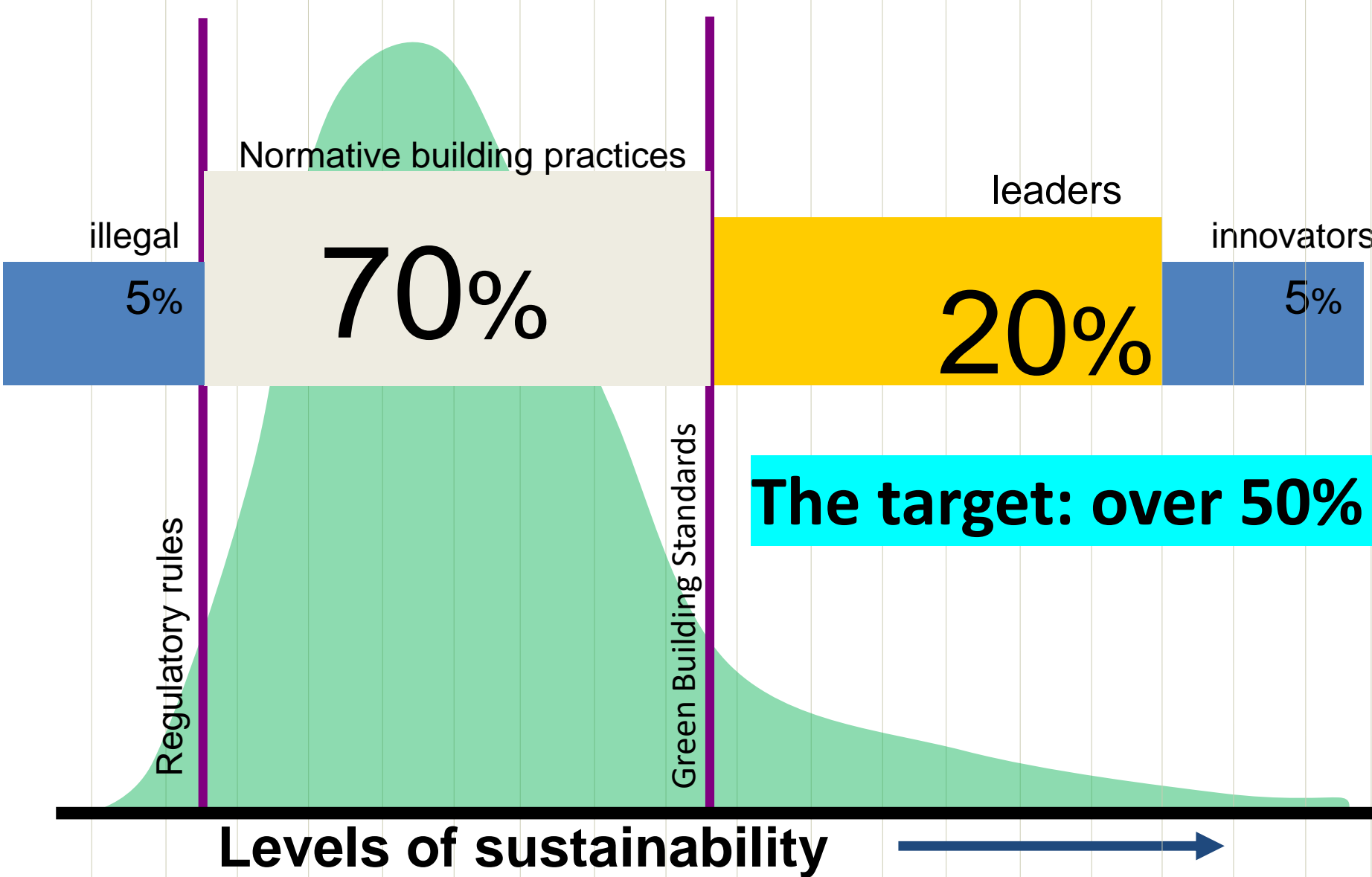
PERCEIVED ADVANTAGES OF BUILDING GREEN

- 8-9% decrease in operating costs
- 7.5% increase in building values
- 6.6% improvement in roi
- 3.5% increase in occupancy
- 3% rent increase

CELEBRATING SUCCESS



LONG TERM VISION



Building rating tools

of rating tools (in alphabetical order) that are administered by our Green Building Councils. Comprehensive list, as there are a number of green building rating tools and certifications that not administered by a World Green Building Council member Green Building Council.

stem

Assessment Standard for Green Building o

ential

BERDE

BREEAM-LV

BREEAM-NL

BREEAM

CASBEE

DGNB System

EDGE

GBC Brasil CASA

Green Building Index

Green Key Global

Green Star

GBC Home

GBC Quartieri

Green Star SA

GRESB

HQE

ILFI Zero Energy and Zero Carbon

INSIDE/INSIDE

LOTUS

Miljöbyggnad

OMIR

Parksmart

PEER

SITES

Swiss DGNB System

VERDE

Zero Waste

Building

ini

Kenya

nance Index

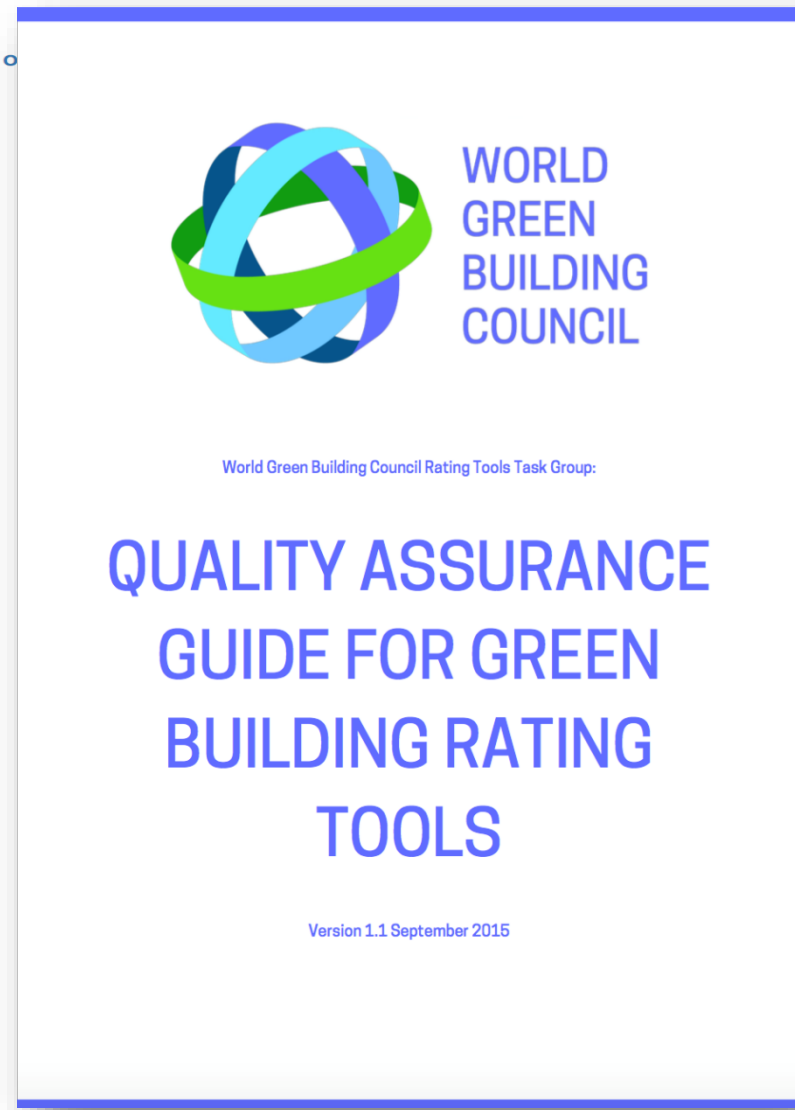
Building Certification

n Building Guideline (PGBG) BD+C

(habi)

en Building Product/Services

ding Standard

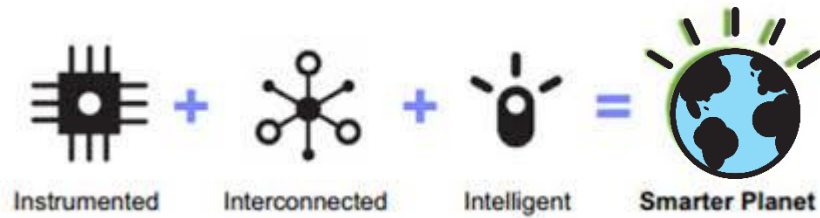


TAILORED SCALING



So how should we measure and implement smart & sustainable cities?

The 3 i's of a 'Smarter Planet' by IBM,



or

the 3 **i**'s of the smart & sustainable city process :

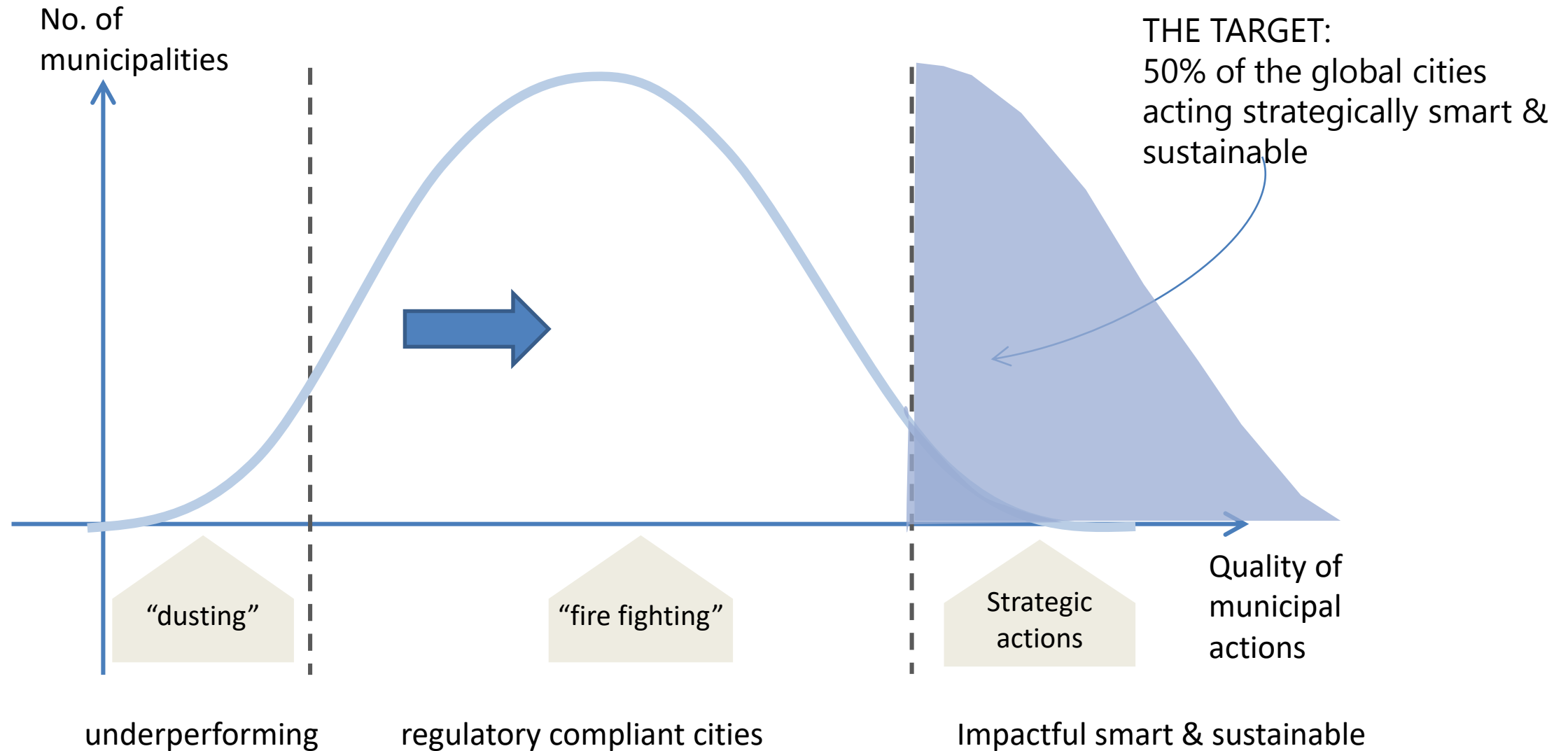
Localized innovation,

inclusive actions, and

Long term & ongoing impact

How can they be included in standards?

Improving ability of all cities to be smart & sustainability instead of celebrating the best of the best





**The IDC Smart & Sustainable
City Index 2018**

A new model of smart & sustainable city standards:

Simple. Dynamic. Self improving. Impact-based

Strategy (6 indicators)

do you have a **localized, comprehensive & measurable strategy** for a smart & sustainable city?

Management (8 indicators)

How, when and **why do you use data**, tech & smart processes

Infrastructure (16 indicators)

What actions are **designed and implemented to improve sustainability**, resilience and access to services & resources?

Innovation (10 indicators)

what activities are introduced to **improve stakeholder ability to reduce their challenges while promoting growth**

40 impact based & localized indicators

Section	Subject	Sub-sections	Max score	My City	
Part I: Strategy, resilience and sustainability			15		
1	A smart city masterplan		4		
2	Stakeholder engagement		2		
3	Urban sustainability action plan		2		
4	Urban resilience strategy		2		
5	Management of innovation & strategic processes		2		
6	Urban data strategy		3		
Part II: Management, planning and governance			20		
7	data-based management and planning	Using GIS as a multi-departmental tool	2		
		Data-based decisions in municipal operations & services	2		
		Data based evaluation of success or economic efficiency	1		
8	Smart policies and regulation		1		
9	Digital municipal services	Frequent & efficient use of the municipality's website/app	2		
		Essential services accessible through the municipal website	4		
10	Municipal transparency		4		
11	digital public participation and engagement		4		
Part III: Infrastructure, construction and environment			45		
12	Green and sustainable buildings and neighborhoods	Buildings meeting green building standards	2		
		Policies to improve sustainability in existing neighborhoods	2		
		New neighborhoods planned according to sustainable community rating systems	2		
13	Housing for all		2		
14	Public health and wellbeing	Smart initiatives to improve health, welfare, and wellbeing	2		
		Sensors to measure & inform of noise and pollution	4		
15	Smart and sustainable physical infrastructure	Smart control & management of municipal infrastructure	2		
		Systems to improve energy efficiency in public areas and buildings	4		
		Community based management of infrastructure	4		
16	Smart and demand-based municipal services	Smart Initiatives to encourage behavior change in the use of services and resources	3		
		Smart Initiatives aimed at improving urban mobility	3		
		Smart Initiatives aimed at improving public safety	3		
		Smart Initiatives aimed at reducing waste	3		
		Innovative projects to improve access & use of public spaces	3		
17	Inclusive Digital infrastructure	Free Internet in public areas	2		
		city-wide Internet infrastructure strategy	4		
Part IV: Innovation, education and local economy			20		
18	Education and digital literacy	Digital literacy and 21st century skills	2		
		Digital training for municipal employees	2		
19	Educational excellence	Educational initiatives geared to answer to local challenges	2		
		Cooperation between the municipality and research institutes	2		
20	17	Inclusive Digital infrastructure	Free Internet in public areas	2	
			city-wide Internet infrastructure strategy	4	
21	Smart urban economy	Focus on training or employing entrepreneurship and innovation processes to local urban issues or challenges?	1		
		Municipal support in innovation among local businesses	2		
		Digital tools to support local businesses	2		
		Shared economy initiatives in the city	4		
Total			100		

Theme 17: Digital infrastructure for everyone (maximum score - 6 points.)

The basis of a significant portion of online services is an extensive and reliable city ICT network city, including an open wireless network. But a communication network is not the goal in itself. Installing such a network must aim to provide for real needs, reduce gaps and ensure that communication is accessible in the places that is required most.

Therefore, a Smarty City must set up an ICT network that will, first and foremost, support goals such as promoting sustainability, resilience and equality. This network will encourage using public buildings or open spaces and will provide services to residents in the public sphere (such as more information to citizens or tourists).

The infrastructure and Digital Services must be accessible to all members of the public, and support also those in disadvantaged neighborhoods or needy populations (for free or subsidized) -- alongside focus points of economic growth.

Essence	Scoring properties	Max score
Broadband Internet and communications available for all populations in the city.	a. An initiative to provide free open web in major urban public areas (schools, libraries, clinics, open spaces such as public squares and parks, etc.) for general use and without the need to register in advance	2
	Strategy and implementation of broadband Internet access in public buildings in the city, 1 pt. Broadband Internet access open for public use in open public areas, 1 pt.	
	b. Urban strategy to implement broadband Internet in strategic areas in the city, such as disadvantaged neighborhoods or near subsidized populations	4
	A systematic urban plan to deploy high-speed broadband Internet in strategic areas, which is approved and budgeted by the city, 2 pts. provision of free or subsidized high-speed Internet access to challenged communities 2 pts.	

10 REDUCED INEQUALITIES
Answers to UN's Sustainable Development Goal (SDG)no. 10: **Reduced inequalities**. "Reduce inequality within and among countries."
In addition to this goal (and of course goal 11) this section reduces cost of living based on improved urban infrastructure, and therefore also addresses Goal 1 (No Poverty), Goal 6 (Clean Water and Sanitation), Goal 7 (Affordable and Clean Energy), Goal 9 (Industry, Innovation and Infrastructure) and Goal 17 (Partnerships for the Goals).

Free Internet in public areas	2	
city-wide Internet infrastructure strategy	4	



The IDC Smart & Sustainable City Index

Municipal Guidebook

Oct 2018



So to answer the question...

Urban Standards may have limited effect, unless...

- they don't try to portray a “perfect” city;
- they measure process over quantity; and
- they enable **open & localized innovation** that will allow for **inclusive change and impact for all.**

For questions, remarks and collaborations:
rafi@thesuits.net www.thesuits.net

S.U.i.T.S
Smarter Urban IT & Strategies

MID CITY.LABS
disruptive innovation for your city