



**United Smart Sustainable Cities**

## **Blockchain for Cities (B4C)**

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# Blockchain for Smart Sustainable Cities

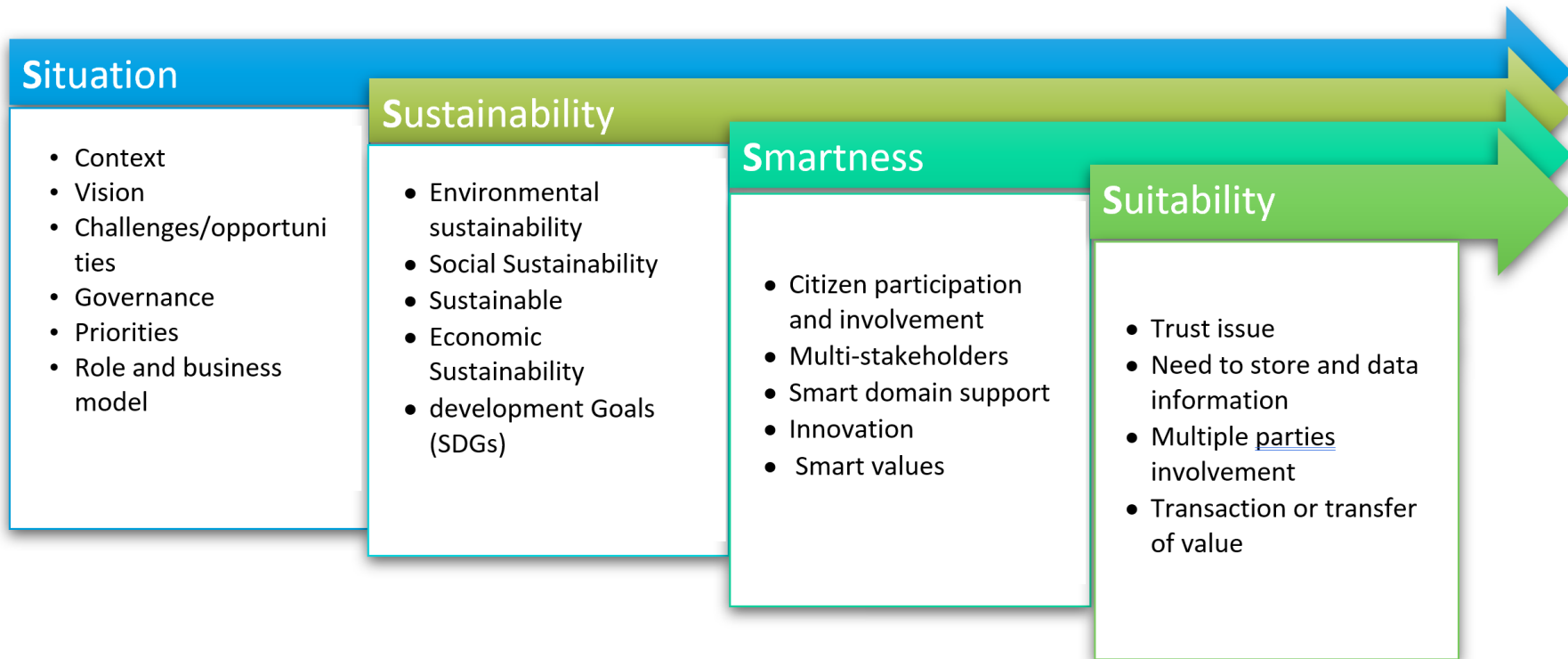
This report explores the role played by blockchain technologies in designing an efficient, secure, and scalable distributed architecture to address the significant challenges on interoperability protocols, security and privacy, data collection and sharing, data analytics, and latency within smart cities. It underscores a series of use-cases highlighting the adoption of this technology into various spheres. Building on the analysis of the use-cases, the report also identifies promising areas for future research in this domain.

Based on the analysis of the use-cases, this report demonstrates the complexity of the blockchain for cities and proposes a framework highlighting the critical dimensions and patterns for the application of blockchain in smart cities.



# Blockchain for Smart Sustainable Cities: Framework

The report presents a cross-case analysis highlighting the challenges, opportunities, and lessons learned from the use-cases presented previously. The findings from these analyses are summarised in the “4S framework” below.



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## Blockchain for Smart Sustainable Cities: Key considerations

The report looks to address the key considerations in implementing blockchain technologies as a part of smart sustainable city initiatives. These considerations are critical for municipal managers as well as decision- and policy-makers to reflect on and integrate when considering smart cities initiatives that involve the applications of blockchain.

- 1 Building a Blockchain SSC ecosystem
- 2 Defining a governance model
- 3 Prioritizing sustainability and smartness in technology and innovation adoption
- 4 Complying with the standards and regulation
- 5 Ensuring data protection and privacy
- 6 Acquiring knowledge and developing capabilities



# Blockchain for Smart Sustainable Cities : Report Structure

## Chapter 1: Introduction

Context and Background on Smart cities, definitions and understandings

Objectives of the report and the target audience

Research approach and methodology

## Chapter 2: Unfolding Blockchain technology

Introduction to Blockchain technologies

Blockchain technology process

Features and properties of Blockchain technologies

Type of Blockchain technologies

Blockchain potentials, challenges and implications

## Chapter 3: Blockchain for smart sustainable cities and communities

Smart sustainable cities and communities

Smart city and community challenges

## Chapter 4: Blockchain for cities: Use-cases

Blockchain for cities

Blockchain for cities use-cases

## Chapter 5: Blockchain Smart sustainable cities Framework

Situation and Context of B4C

Sustainability in B4C

Smartness in B4C

Suitability of B4C

## Chapter 6: Conclusion & Key considerations for B4C





**United 4 Smart Sustainable Cities**

## **Simple Ways to be Smart**

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# Simple Ways to be Smart: Introduction

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- Smart solutions promise to improve city administration, decision-making, infrastructure, quality of life, economic success and communication.
- Often they involve substantial investments in high-tech infrastructure and innovative systems.
- Many cities, especially smaller cities and those in developing countries, have to balance resources for smart projects against other priorities and lack high-level skills needed to implement smart city solutions.
- Such cities can still be smarter, with simple, low-cost solutions. Using e-mail more effectively, cloud storage, map services, digital forms, social media and mobile apps are potential simple, smart solutions.
- This guide aims to:
  - Collect examples of solutions, the problems they address, the resources needed and the benefits that can be expected,
  - Point readers to more detailed information about these solutions,
  - Analyse the types of solutions available, and
  - Guide cities in the implementation of such solutions.



# Simple Ways to be Smart: Status update

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## Process

- Recruited more than 100 experts
- Developed criteria for case selection
- Developed template for contributions
- More than 30 cases were discussed
- Input from local government representatives about needs
- Case selection
- Groups contributed to report chapters
- Report consolidation is underway

## Timeframes

- Began in February 2020
- Collected cases April 2020 – June 2020
- Drafting report since July 2020
- Complete draft by 15 October (meeting 7) to share with members





# Simple Ways to be Smart: Report structure

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## Chapter 1: Introduction

- Background on smart cities, definitions and understandings
- Purpose of the report and the target audience
- Explains what we mean by simple and smart

## Chapter 2: Why smart matters

- Challenges that cities face, particularly smaller and less prominent cities
- The need for innovation and the potential of smart solutions

## Chapter 3: Ways to be smarter

- About the themes and cases
- Five themes, 2 cases in each
  - City administration
  - Environment
  - People
  - City experience
  - City resilience

## Chapter 4: A simple smart framework

- Framework for understanding simple smart
- How changes in information and communication enable different city actions and outcomes

## Chapter 5: Implementing simple smart

- Notes for cities on planning, building information capabilities, partnering and measuring

## Chapter 6: Conclusion

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