



BSI Standards Publication

Guidance for practical implementation of ISO 37155 series for supervising at each life cycle phase of smart community infrastructures

National foreword

This British Standard is the UK implementation of ISO 37190:2025.

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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**Guidance for practical
implementation of ISO 37155
series for supervising at each life
cycle phase of smart community
infrastructures**

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CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
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Foreword

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This document was prepared by Technical Committee ISO/TC 268, *Sustainable cities and communities*, Subcommittee SC 1, *Smart community infrastructures*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

In the foreseeable future, urban density is likely to increase, resulting in further urbanization complexity. From this perspective, a “smart community” approach is an important concept to address the urban challenges by integrating different forms of infrastructures in a rational and efficient manner.

An important aspect of a smart community is integrating infrastructures as “a system of systems”. A system of systems (SoS) is the collection of multiple, independent systems in context as part of a larger, more complex system. A system is a group of interacting, interrelated and interdependent components that form a complex and unified whole. In addition to that, smart community has various stakeholders including users, and each smart community infrastructure has an extended scope lifecycle (See [Figure 1](#)). A major benefit of a system of systems is that the sector specific performance of all infrastructures can be validated with regard to their contribution to the overall goals of a community. As a result of this validation, these goals can be adapted and improvement targets for each infrastructure can be derived. Thus, an intended concept of a smart community being validated and updated through its lifecycle concerning the integration and operation of smart community infrastructures is realized efficiently at all times.

There are three major issues in developing and operating smart community infrastructures (see [Figure 2](#)):

Element (A): allocation of specification requirements to each component of a system and validation of the allocating procedures;

Element (B): specification requirements associated with interaction and adoption of countermeasures into planning and operation;

Element (C): process to facilitate information sharing and communication among stakeholders.

To provide guidelines for the common framework comprised of those three elements that ISO/TR 37152 identifies, the ISO 37155 series has been developed. The series is composed of two documents, ISO 37155-1 and ISO 37155-2. ISO 37155-1 is about the element (B), providing specification requirements to manage interactions and to adopt adequate measures into planning and operation whereas ISO 37155-2 is focusing on the element (A), providing guidelines for specification to ensure consistency of smart community infrastructure and to adopt adequate measures into planning and operation. The element (C), information sharing and communication among stakeholders, is described in both documents.

More and more smart cities are being built and planned across the globe. This has increased the demand to utilize existing guidelines and platforms to develop and operate smart cities and smart community infrastructures efficiently and practically. Experts and government officials responsible for developing smart cities and infrastructures, particularly in developing countries, have argued the benefits of guidelines which enable utilizing ISO/TR 37152 and the ISO 37155 series in a practical manner.