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Smart community infrastructures — Disaster risk reduction — Basic framework for implementation

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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*.

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Introduction

Disaster risk reduction (DRR) is a systematic approach in identifying, assessing and reducing the risks of disaster. It aims to reduce socio-economic vulnerabilities to disasters as well as dealing with geophysical, hydrometeorological, environmental and other hazards that trigger them. For example, with regard to hydrometeorological and environmental hazards, climate change is often the multiplier of disaster risk, as climate change is projected to exacerbate existing risks through increased frequency or intensity. For this reason, it is essential for smart communities to design DRR measures that allow communities to adapt to climate change and become sustainable and resilient. This approach is essential for both developing economies as well as developed economies.

Amongst many means to implement DRR in communities, infrastructures are one of the most fundamental means to be utilized. Smart community infrastructures are primarily designed, constructed and operated to serve the needs of ordinary situations; however, it is also essential to plan, build, utilize, maintain and improve community infrastructures taking into consideration DRR. Such infrastructure can be utilized alongside existing community infrastructure and supplemented by nature-based solutions.

The United Nations Sendai Framework for Disaster Risk Reduction (SFDRR) [7] identifies several key areas on how infrastructure can be used for DRR and strengthened to reduce disaster risk and enhance community resilience to shocks caused by natural hazards that can lead to infrastructure service disruptions. This includes infrastructure and technologies that can identify hazard risks, investing in DRR and technologies that can facilitate the sharing of information, which can support life-saving services.

Smart community infrastructures are planned, implemented and operated with the collaboration of multiple stakeholders, including the public and private sectors and integration of funding for investment, cooperation and coordination.

This document provides ten principles as described in 4.1, with general requirements for each principle. These contribute to the realization of the four priorities for action of the SFDRR, with regards to community infrastructure. These principles include four overarching principles and six principles for focus areas for the continuous improvement of DRR. Together, these ten principles provide community stakeholders a framework to implement DRR and enhance community resilience by using smart community infrastructure. This document is intended to be used by stakeholders relevant to smart community infrastructure, including community managers, planners, funders, providers and administrators, who wish to reduce disaster risk and enhance the resilience of communities and their infrastructures.

NOTE The four priority areas from the SFDRR are:

1. understanding disaster risk;
2. strengthening disaster risk governance to manage disaster risk;
3. investing in disaster risk reduction for resilience;
4. enhancing disaster preparedness for effective response.