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Standard

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**Smart water management —
Part 1:
General guidelines and governance**

Gestion intelligente de l'eau —

Partie 1: Lignes directrices générales et gouvernance

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

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Foreword

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Introduction

In recent years, governments, enterprises and researchers have shown increasing interest in incorporating digital and smart approaches, including sensor monitoring, real-time data transmitting, data processing, artificial intelligence (AI) and real-time controlling, into water systems. The worldwide demand for water from the growing population, increasing urbanization and maintaining the cost of ageing infrastructure drive the growth of the smart water management market.

With the development of smart water management, water utilities are facing increasing challenges in developing an appropriate digital strategy for water, wastewater, stormwater systems and service. First, data silos and electro-mechanical rotating equipment with various communication protocols block systems integration and interoperability. Second, cybersecurity and user data protection are critical considerations when deploying smart water management. Third, managing data for valuable information is the key element in designing and managing a smart water system. Fourth, adopting digital technologies can bring up human resources concerns related to skills gaps, workforce transition and change management.

The digital maturity of water utilities is different but they all need to have digital architecture and general guidelines to develop value systems and governance to adapt to the changing environment and face these new challenges.

While there are some standards on data exchanging and data sharing relating to smart city and smart community infrastructures, standards on smart management in the water and wastewater domain have still to be developed.

This document provides principles and guidelines for smart water management relating to drinking water, wastewater, stormwater systems and services. It is intended to help water utilities decrease operational expenditure, increase workforce efficiency and increase user engagement and satisfaction. It also helps guide a new generation of water utilities during their uptake of digital strategy and integration into water services adapted to their context, and accelerates collaboration with public agencies and other businesses in the smart cities field.

