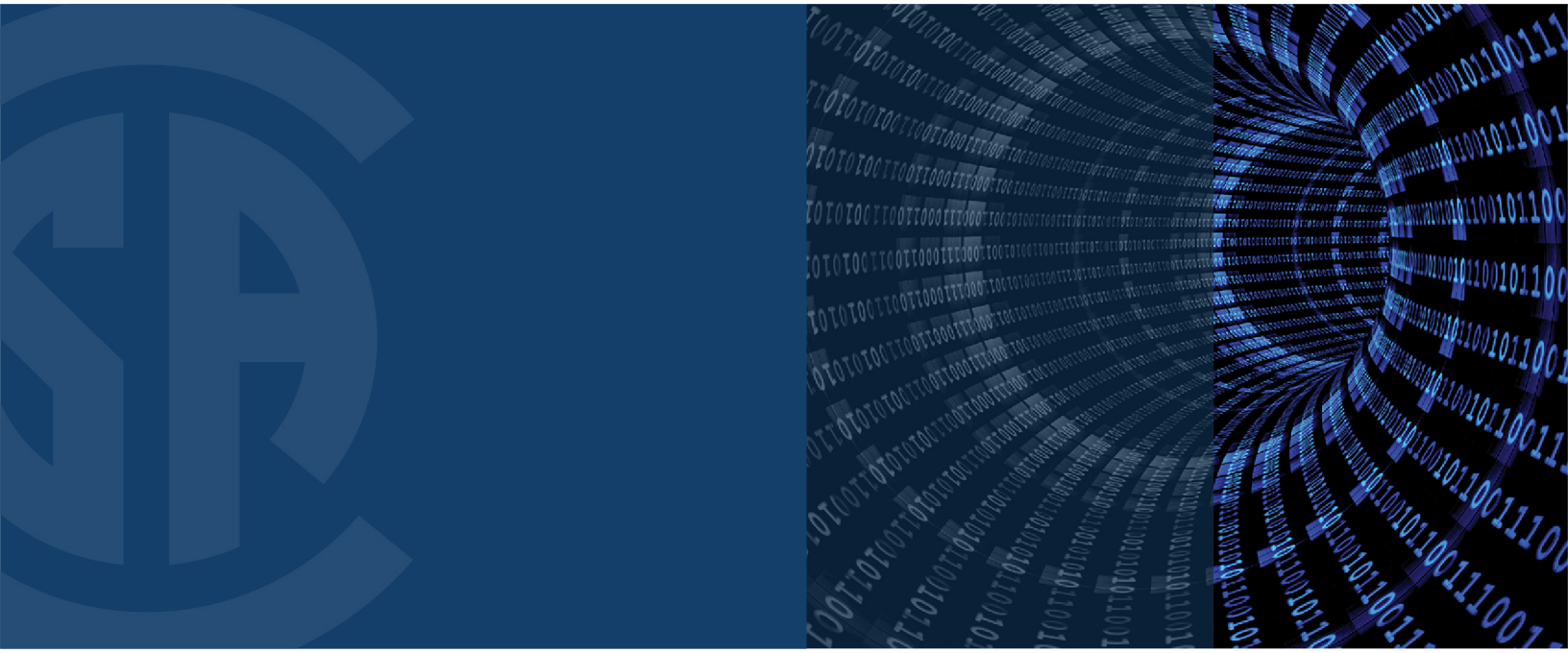
CSA ISO/IEC 21972:20
(ISO/IEC 21972:2020, IDT)
National Standard of Canada

CSA ISO/IEC 21972:20
Information technology — Upper level ontology for smart city indicators
(ISO/IEC 21972:2020, IDT)



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CSA Preface

Standards development within the Information Technology sector is harmonized with international standards development. Through the CSA Technical Committee on Information Technology (TCIT), Canadians serve as the SCC Mirror Committee (SMC) on ISO/IEC Joint Technical Committee 1 on Information Technology (ISO/IEC JTC1) for the Standards Council of Canada (SCC), the ISO member body for Canada and sponsor of the Canadian National Committee of the IEC. Also, as a member of the International Telecommunication Union (ITU), Canada participates in the International Telegraph and Telephone Consultative Committee (ITU-T).

For brevity, this Standard will be referred to as "CSA ISO/IEC 21972" throughout.

At the time of publication, ISO/IEC 21972:2020 is available from ISO and IEC in English only. CSA Group will publish the French version when it becomes available from ISO and IEC.

The International Standard was reviewed by the CSA TCIT under the jurisdiction of the CSA Strategic Steering Committee on Information and Communications Technology and deemed acceptable for use in Canada. From time to time, ISO/IEC may publish addenda, corrigenda, etc. The TCIT will review these documents for approval and publication. For a listing, refer to the *Current Standards Activities* page at **standardsactivities.csa.ca**. This Standard has been formally approved, without modification, by the Technical Committee and has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

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a) *Standard designation (number);*
b) *relevant clause, table, and/or figure number;*
c) *wording of the proposed change; and*
d) *rationale for the change.*

Contents

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Information technology — Upper level ontology for smart city indicators

1 Scope

This document establishes general principles and gives guidelines for an indicator upper level ontology (IULO) for smart cities that enables the representation of indicator definitions and the data used to derive them. It includes:

— concepts (e.g., indicator, population, cardinality); and

— properties that relate concepts (e.g., cardinality_of, parameter_of_var).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced documents (including any amendments) applies.

ISO 37120:2018, *Sustainable development of communities — Indicators for city services and quality of life*

"Time Ontology in OWL, W3C Recommendation 19 October 2017". Accessed at https://www.w3.org/TR/owl-time/

ISO 4217, *Codes for the representation of currencies*

ISO 80000 (all parts), *Quantities and units*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 37120 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
cardinality
number of elements in a set

[SOURCE: ISO/IEC 11179-3:2013, 3.2.13]

3.2
description logic
DL
family of formal knowledge representation languages that are more expressive than propositional logic but less expressive than first-order logic