

SS ISO 18435-2 : 2019
ISO 18435-2:2012, IDT
(ICS 25.040.40)

SINGAPORE STANDARD

**Industrial automation systems and integration –
Diagnostics, capability assessment and
maintenance applications integration**

– Part 2 : Descriptions and definitions of application
domain matrix elements

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ISBN 978-981-48-9438-8

The content of this Singapore Standard was approved on 17 October 2019 by the Manufacturing Standards Committee (MSC) under the purview of the Singapore Standards Council.

First published, 2019

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Singapore Institute of Manufacturing Technology
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National Foreword

This Singapore Standard was prepared by the Working Group on Smart Manufacturing Readiness Level set up by the Technical Committee on Smart Manufacturing under the purview of MSC.

This standard is identical with ISO 18435-2:2012, "Industrial automation systems and integration – Diagnostics, capability assessment and maintenance applications integration – Part 2: Descriptions and definitions of application domain matrix elements", published by the International Organization for Standardization.

NOTE – Reference to International Standards are replaced by applicable Singapore Standards and Technical References.

This standard is expected to be used by system integrators, government agencies, testing, inspection and certification bodies, professional institutions, institutes of higher learning and training providers.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

- 1. Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "Mature Standards". Mature Standards will not be subject to further review, unless there are requests to review such standards.*
- 2. An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 18435-2 was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 5, *Interoperability, integration, and architectures for enterprise systems and automation applications*.

ISO 18435 consists of the following parts, under the general title *Industrial automation systems and integration — Diagnostics, capability assessment and maintenance applications integration*:

- *Part 1: Overview and general requirements*
- *Part 2: Descriptions and definitions of application domain matrix elements*

The following part is under preparation:

- *Part 3: Applications integration description method*

Introduction

The relationship between the different parts of ISO 18435 is illustrated in Figure 1. The focus of each part is indicated by dotted lines that bound specific portions of the unified modeling language (UML) class diagram representing the integration model for an application and between applications.

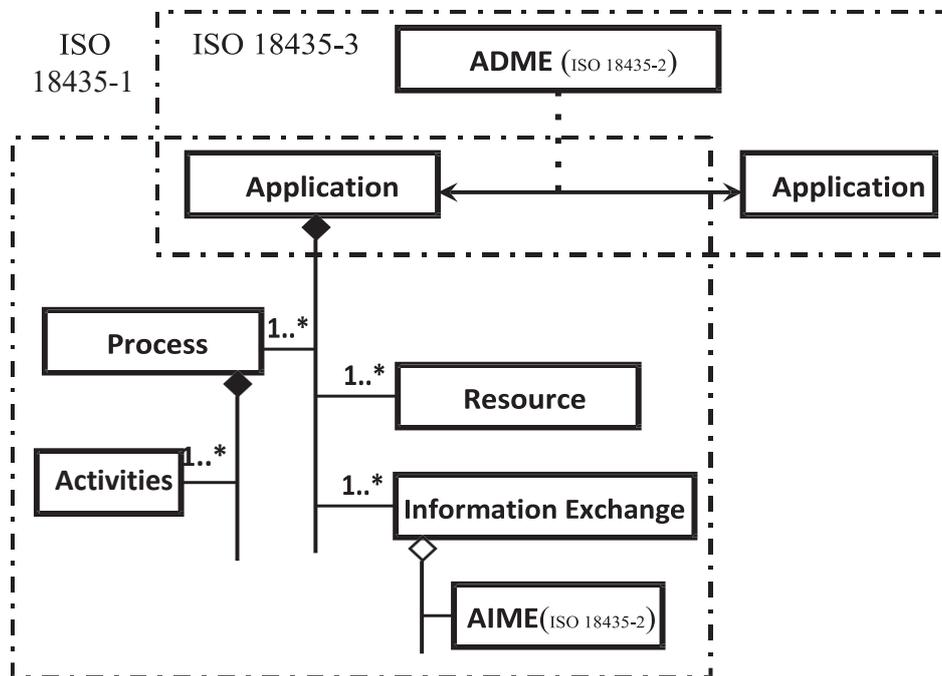


Figure 1 — Relationship between the different parts of ISO 18435

ISO 18435-1 provides an overview of the elements and the rules of a method to describe an automation application's integration requirements. The elements include the key aspects when integrating an automation application with other applications and the relationships of these key aspects. The rules include the information exchanges to support interoperability within an application and between applications. The focus is on the production operations and maintenance operations domains, including the capability assessment activities.

This part of ISO 18435 provides the detailed definitions of the application interaction matrix element (AIME) and application domain matrix element (ADME) structures and their relationships. In particular, the steps for constructing an ADME that can be supported by a specific combination of a set of AIMEs are described.

ISO 18435-3 defines a recommended method to describe the interoperability and integration requirements between applications in two or more automation domains within an enterprise. The focus is on the production operations and maintenance operations domains, including the capability assessment activities.

Industrial automation systems and integration — Diagnostics, capability assessment and maintenance applications integration —

Part 2: Descriptions and definitions of application domain matrix elements

1 Scope

This part of ISO 18435 defines the structures and templates for

- an application interaction matrix element;
- an application domain matrix element.

This part of ISO 18435 also defines the relationship between these types of elements.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 18435-1, *Industrial automation systems and integration — Diagnostics, capability assessment and maintenance applications integration — Part 1: Overview and general requirements*

ISO 15745-1, *Industrial automation systems and integration — Open systems application integration framework — Part 1: Generic reference description*