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National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
http://www.nsai.ie

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ENTERPRISE INTEGRATION - DECISIONAL REFERENCE MODEL

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Page

Foreword

This document (CEN/TS 14818:2004) has been prepared by Technical Committee CEN/TC 310, “Advanced manufacturing technologies”, the secretariat of which is held by BSI.

During its preparation, contributions have also been received from ISO/TC 184/SC5, “Industrial automation systems and integration/Architecture, communications and integration frameworks”, ISO/TC 184/SC 5 – IEC/SC 65 A /JWG15, “Enterprise control-system integration”, and the IFAC/IFIP Task Force on Enterprise Integration.

The concepts, rules and model defined in this document are an implementation of the requirements defined in ISO 15704. It also constitutes an input for the work on enterprise control system integration being undertaken by ISO/TC 184/SC 5 – IEC/SC 65 A /JWG15.

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Introduction

This document defines the generic concepts and rules in terms of a decisional reference model that are needed to enable the creation of a particular enterprise decisional model for industrial business and to provide support for the use of the reference model by industrial enterprises to achieve better enterprise integration.

Enterprise integration can be achieved in various manners and at various levels. It can be obtained by:

a) data (data modelling), in ISO 10303 (STEP) and ISO 15531 (MANDATE);

b) organization (modelling of systems, processes, etc.), as in prEN ISO 19439 (former ENV 40003), prEN ISO 19440 [1] (former ENV 12204);

c) communication (modelling of networks), as in the OSI seven-layer model.

This document addresses the integration as being dealt with by consistent and integrated enterprise-wide decision-making [2] [3]. The approach is based on and contains selected elements from the GRAI decisional model.

It is not the intention of this document to suggest users should abandon their own method of handling decision-making, but to define the set of decisions that are necessary to control production and provide a structured decision-making environment leading to a better coordination and synchronization of these decisions.

This document aims at supporting the development of Decisional Hierarchy Model defined in ISO/IEC 62264 – *Enterprise-Control System Integration*. It contains definitions and descriptions of the common concepts, rules and principles necessary to model enterprise-wide decision-making structure, focusing on the production management and control system. The decisional model defined in this document is a reference model which is consistent and complementary to: prEN ISO 19439 (revision of ENV 40003), *Framework for enterprise modelling*, prEN ISO 19440 (revision of ENV 12204) [1], *Language constructs for enterprise modelling*, and ISO 15704, *Requirements for enterprise reference architecture and methodologies*.