

## **Ergonomic design of control centres - Part 1: Principles for the design of control centres**

Ergonomic design of control centres - Part 1:  
Principles for the design of control centres

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 11064-1:2001 sisaldab Euroopa standardi EN ISO 11064-1:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.05.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 11064-1:2001 consists of the English text of the European standard EN ISO 11064-1:2000.</p> <p>This document is endorsed on 18.05.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This part of ISO 11064 specifies ergonomic principles, recommendations and requirements to be applied in the design of control centres, as well as in the expansion, refurbishment and technological upgrades of control centres. It covers all types of control centres typically employed for process industries, transportation and logistic control systems and people deployment services.</p>	<p><b>Scope:</b></p> <p>This part of ISO 11064 specifies ergonomic principles, recommendations and requirements to be applied in the design of control centres, as well as in the expansion, refurbishment and technological upgrades of control centres. It covers all types of control centres typically employed for process industries, transportation and logistic control systems and people deployment services.</p>
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**Võtmesõnad:** definitions, design, ergonomics, human factors e, human factors engineering, layout, monitoring device, operating stations, work safety, work spaces, work systems, working conditions (physical), workroom

ICS 13.180; 25.040.10

English version

Ergonomic design of control centres

Part 1: Principles for the design of control centres  
(ISO 11064-1 : 2000)

Conception ergonomique des centres  
de commande – Partie 1: Principes  
pour la conception des centres de  
commande (ISO 11064-1 : 2000)

Ergonomische Gestaltung von  
Leitzentralen – Teil 1: Grundsätze für  
die Gestaltung von Leitzentralen  
(ISO 11064-1 : 2000)

This European Standard was approved by CEN on 2000-12-15.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
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## Foreword

International Standard

ISO 11064-1 : 2000 Ergonomic design of control centres – Part 1: Principles for the design of control centres, which was prepared by ISO/TC 159 'Ergonomics' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 122 'Ergonomics', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 11064-1 : 2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

## Introduction

Driven by demands for safer, more reliable and efficient operations, innovations in information technology have led to the increased use of automation and centralized supervisory control in the design of user-system interfaces and their associated operational environments. Notwithstanding these developments, the operator has retained a critical role in monitoring and supervising the behaviour of these complex automated systems. As the scale of automated solutions has grown, so have the consequences of equipment and human failures.

The job of the operator can at times be very demanding. The consequences resulting from inappropriate operator action in control rooms, such as acts of omission, commission, timing, sequence and so on, can be potentially disastrous. Accordingly, this part of ISO 11064 has been prepared to set up a generic framework for applying requirements and recommendations relating to ergonomic and human factors in designing and evaluating control centres with the view to eliminating or minimizing the potential for human errors.

A specific control centre project is often part of a design project for a larger system. The design of the control centre should not be developed separately from the objectives and goals associated with the context of this wider system. Consequently, it is necessary to view the ergonomic aspects of a control room design in relation to issues which, at first sight or by tradition, may seem to fall outside the scope of ergonomic design projects. These judgements will need to be taken on a case by case basis and are not necessarily resolved by a prescriptive approach.

This part of ISO 11064 includes requirements and recommendations for a design project of a control centre in terms of philosophy and process, physical design and concluding design evaluation, and it can be applied to both the elements of a control room project, such as workstations and overview displays, as well as to the overall planning and design of entire projects. Other parts of ISO 11064 deal with more detailed requirements associated with specific elements of a control centre.

## 1 Scope

This part of ISO 11064 specifies ergonomic principles, recommendations and requirements to be applied in the design of control centres, as well as in the expansion, refurbishment and technological upgrades of control centres.

It covers all types of control centres typically employed for process industries, transportation and logistic control systems and people deployment services.

Although this part of ISO 11064 is primarily intended for non-mobile control centres, many of the principles specified in this document could be applicable to mobile control centres, such as those found on ships and aircraft.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 11064. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 11064 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6385, *Ergonomic principles in the design of work systems*.

ISO 11064-3, *Ergonomic design of control centres — Part 3: Control room layout*.

## 3 Terms and definitions

For the purposes of this part of ISO 11064, the following terms and definitions apply.

### 3.1

#### **control centre**

combination of control rooms, control suites and local control stations which are functionally related and all on the same site

[ISO 11064-3:1999, definition 3.1]

### 3.2

#### **control room**

core functional entity, and its associated physical structure, where operators are stationed to carry out centralized control, monitoring and administrative responsibilities

[ISO 11064-3:1999, definition 3.4]

### 3.3

#### **control suite**

group of functionally related rooms, co-located with the control room and including it, which houses the supporting functions to the control room, such as related offices, equipment rooms, rest areas and training rooms

[ISO 11064-3:1999, definition 3.6]