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Ergonomics methods —

Part 2: A methodology for work analysis to support design

Ergonomie —

Partie 2: Méthodologie d'analyse du travail à l'appui de la conception

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Foreword

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This document was prepared by the European Committee for Standardization (CEN) (as EN 16710-2:2016) and was adopted without modification other than those given below. It was assigned to Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 1, *General ergonomics principles*, and adopted under the "fast-track procedure".

— Source documents for 3.2, 3.4, 3.6 have been updated to ISO 6385:2016.

A list of all parts in the ISO 16710 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The ergonomic design approach involves considering human capabilities, skills, limitations and needs. It is developed on the basis of a decision process, which calls upon not only scientific and technical knowledge data provided by existing standards but also expression of the “know-how” capitalised by the intended user population. Know-how and other knowledge data provided by standards can only become meaningful when based on preliminary analysis of real-work.

Ergonomics design focuses on the actual activity of operators. The methodology described in this document therefore increases the effectiveness and efficiency of the machinery or system being designed; improves human working conditions; and reduces adverse effects on health, safety and performance.

This methodology can lead to one or more suitable solutions embracing situations to be confronted by future users. Applying this will raise productivity, improve work quality, reduce technical support, maintenance and training needs, and will enhance user/operator satisfaction.

Application of this methodology will be most effective when management is closely involved (adoption, communication, etc.).

Extensive ergonomics knowledge exists in relation to organizing and establishing an efficient design process. Applying this knowledge, this present document structures a user-based approach and proposes corresponding requirements for project managers. This approach complements existing design methods and requires reference to ergonomists.

This process concerns both established, as described by ISO 12100, and emergent risks and their association with the independent evolution of any system, user variability and conditions of equipment usage.

In this respect, the methodology for work analysis presented in this document is based on the resultant design being at least partly determined by anticipated future developments, especially those indicated by the client.

This is a shared procedure, in which the client provides specifications detailing the knowledge helpful to a design suited to the needs and expectations of users. Examples of the contribution of an ergonomics design approach to preparing specifications are included in informative Annex A.

Design based on an ergonomics process is necessary to meet any “performance obligation” (i.e. obligation of result).

This document complements knowledge generated by work activity analysis to enhance the quality of references and other solutions validated within a participative framework. This is indeed the case when a compromise solution cannot be found in relation to a specific point because the underlying knowledge cannot be validated. This document facilitates orientation towards a shared final decision.