

# ISO 9241-220:2019 (E)

## Ergonomics of human-system interaction — Part 220: Processes for enabling, executing and assessing human-centred design within organizations

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Abbreviated terms
5	Conformance
6	Purpose and benefits of this document
6.1	Purpose of human-centred design
6.2	Purpose of HCD process descriptions
6.3	Benefits of using HCD process descriptions
7	HCD processes
7.1	HCD process model
7.2	HCD processes
7.3	Relationships between the HCD processes
8	Using the HCD process descriptions
8.1	Uses of the process descriptions
8.1.1	General
8.1.2	Implementing human-centred design as part of a system development or procurement process and/or support life cycle
8.1.3	Assessing an enterprise's existing capability to carry out the human-centred processes
8.1.4	Improving the application of human-centred design as part of an existing system development process
8.1.5	Development of competence in human-centred design
8.2	Applying the process descriptions
8.2.1	General
8.2.2	Integration with systems and software engineering
8.2.3	Implementation of the processes
8.2.4	Iteration of processes
9	HCD process descriptions
9.1	Format
9.2	Ensure enterprise focus on human-centred quality (HCP.1)
9.2.1	Purpose and outcomes of HCP.1
9.2.2	Incorporate human-centred quality in business strategy (HCP.1.1)
9.2.3	Institutionalize human-centred quality (HCP.1.2)
9.3	Enable human-centred design across projects and systems (HCP.2)
9.3.1	Purpose and outcomes of HCP.2
9.3.2	Integration of human-centred design (HCP.2.1)
9.3.3	Resources for human-centred design (HCP.2.2)
9.3.4	Authorization and control of human-centred quality (HCP.2.3)
9.4	Execute human-centred design within a project (HCP.3)
9.4.1	Purpose and outcomes of HCP.3
9.4.2	Plan and manage human-centred design for the project (HCP.3.1)

- 9.4.2.1 Overall Purpose and outcomes
- 9.4.2.2 Establish human-centred quality objectives (HCP.3.1.1)
- 9.4.2.3 Manage threats and opportunities that arise from use of the interactive system (HCP.3.1.2)
- 9.4.2.4 Define extent of human-centred design in the project (HCP.3.1.3)
- 9.4.2.5 Plan each HCD process activity (HCP.3.1.4)
- 9.4.2.6 Manage HCD process activities within the project (HCP.3.1.5)
- 9.4.3 Identify the context of use (HCP.3.2)
- 9.4.3.1 Overall purposes and outcomes
- 9.4.3.2 Identify the intended user population and differentiate groups of users (HCP.3.2.1)
- 9.4.3.3 Identify other relevant aspects of the context of use and reported issues (HCP.3.2.2)
- 9.4.4 Establish the user requirements (HCP.3.3)
- 9.4.4.1 Overall purpose and outcomes
- 9.4.4.2 Identify the user needs (HCP.3.3.1)
- 9.4.4.3 Specify the user requirements (HCP.3.3.2)
- 9.4.4.4 Negotiate and prioritize the user requirements in the context of a project (HCP.3.3.3)
- 9.4.5 Design solutions that meet user requirements (HCP.3.4)
- 9.4.5.1 Overall purpose and outcomes
- 9.4.5.2 Specify the user-system interaction (HCP.3.4.1)
- 9.4.5.3 Produce and refine user interface design solutions (HCP.3.4.2)
- 9.4.6 User-centred evaluation (HCP.3.5)
- 9.4.6.1 Overall purpose and outcomes
- 9.4.6.2 Plan for evaluation throughout the project (HCD 3.5.1)
- 9.4.6.3 Plan each evaluation (what to evaluate and how) (HCP.3.5.2)
- 9.4.6.4 Carry out each evaluation (HCP.3.5.3)
- 9.5 Introduction, operation and end of life of a system (HCP.4)
- 9.5.1 Overall purposes and outcomes
- 9.5.2 Introducing the system (HCP.4.1)
- 9.5.3 Human-centred quality in operation (HCP.4.2)
- 9.5.4 Human-centred quality during upgrades (HCP.4.3)
- 9.5.5 Human-centred quality at the end of life of a system (HCP.4.4)

#### **Annex A (informative) Work products for HCD processes**

- A.1 Work products and their use
  - A.1.1 General
  - A.1.2 Use of work products
  - A.1.3 Sources of the work products in this document
- A.2 Description of work products
  - A.2.1 Generic work products
  - A.2.2 Specific work products related to human-centred quality described in ISO/IEC TR 25060
- A.3 Process work product list
  - A.3.1 Format of the list
  - A.3.2 Use of the list
  - A.3.3 Process work product list

#### **Annex B (normative) Tailoring of processes and work products**

- B.1 General
- B.2 Tailoring process
  - B.2.1 Purpose
  - B.2.2 Outcomes
  - B.2.3 Activities
- B.3 Work product management

#### **Annex C (informative) Relationship to other human-centred design standards**

- C.1 General
- C.2 Relationship to ISO 27500
- C.3 Demonstration of conformance to other standards for human-centred design
- C.4 Cross-reference between ISO 9241-210 and HCPs in this document

#### **Annex D (informative) Uses of the document**

- D.1 Uses of the process descriptions
  - D.1.1 General
  - D.1.2 Implementing human-centred design
  - D.1.3 Assessing an enterprise's existing capability to carry out the human-centred processes

- D.1.4 Improving the application of human-centred design as part of an existing system development process
- D.1.5 Development of competence in human-centred design
- D.2 Organizational context for implementing human-centred design

**Annex E (informative) Human-centred quality**

- E.1 General
- E.2 Usability
- E.3 Accessibility
- E.4 User experience
- E.5 Harm from use
  - E.5.1 General
  - E.5.2 Harm to the user
  - E.5.3 Harm to the organization using the interactive system
  - E.5.4 Harm to the organization supplying or acquiring the interactive system
  - E.5.5 Harm to other stakeholders
- E.6 Specific applications of human-centred quality
- E.7 Relationship to quality in use in ISO/IEC 25010:2011

**Annex F (informative) Risk management and human-centred design**

- F.1 General
- F.2 Avoiding harm through human-centred design
  - F.2.1 General
  - F.2.2 Design strategies for mitigation of risk
  - F.2.3 Management of organizational threats

Page count: 90