

## Management of Research, Development and Innovation (RDI)

*“Knowledge is the foundation of generating wealth in developed societies, and research and development are the foundations of production of such knowledge, but it is in innovation that a means to transform knowledge into economic development can be found”.* This statement is part of the introduction of the NP 4457:2007 standard. This standard was published in Portuguese in January 2007 as a result of an initiative on “Sustained Development of Company innovation” led by COTEC Portugal – Associação Empresarial para a Inovação.

Headed by the President of IPQ (the Portuguese Standardization State Agency), the Technical Committee CT 169 – Research, Development and Innovation Activities, included members from universities, governmental innovation agencies, technology and research centres, company associations, individual companies and certification bodies, one of which was APCER, was created to discuss, draft, and prepare the first set of the Portuguese “family” of innovation standards.

The objective of this standard is to encourage and support companies operating in Portugal, in particular COTEC associate members, to develop innovation in a more systematic and efficient manner, in order to reinforce their competitive advantages in an increasingly global and knowledge-based economy.

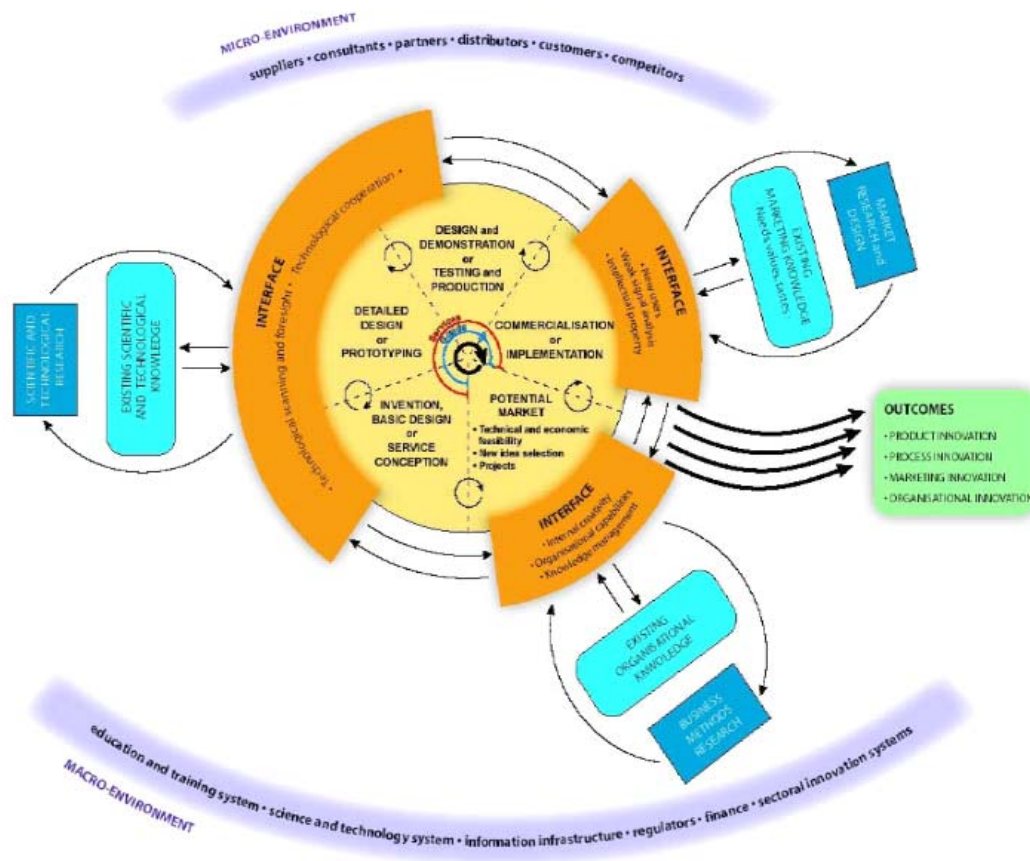
The Portuguese “family” of innovation standards includes:

- NP 4456:2007 Management of Research, Development and Innovation (RDI). Terms and definitions
- NP 4457:2007 Management of Research, Development and Innovation (RDI). RDI management system requirements
- NP 4458:2007 Management of Research, Development and Innovation (RDI). RDI project requirements
- NP 4461:2007 Management of Research, Development and Innovation (IDI). Competence and assessment of RDI management system auditors and RDI project auditors

*«Innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations»* (Oslo Manual, OECD, November 2005). According to this definition, upon which the NP 4457:2007 was based, company innovation is broader, not being restricted to technological innovation.

The RDI management system follows a PDCA approach that adds value to the chain-linked interaction model (a model for innovation in the knowledge-based economy<sup>1</sup>), in the sense that it eases the RDI processes to fit in the

organizational structure. The standard was made to be applicable to all organizations irrespectively of size, complexity or sector in which it operates, past experience in RDI activities and existing organizational structures of RDI. In order to achieve this goal, the standard was designed to be simple, flexible and adaptable, leaving the solutions that fulfil the specified requirements to be selected by each particular company rather than prescribing them.



The following structure of the standard requirements was adopted in order to present the PDCA approach to RDI management in a simple and clear manner:

- General Requirements
- Management Responsibilities
- Planning RDI
- Implementation and Operation
- Evaluation of Results and Improvement

Requirements which were found to be common to other management standards (either identical to them or needing minor adjustments) were kept in the NP standard as close as possible to the comparable requirements of the other management system standards, namely ISO 9001, ISO 14001, OHSAS 18001, ISO 22000. The objective was to keep compatibility as much as possible.

The implementation of an RDI management system enables organizations to:

- Systematize RDI activities to take advantage of internal know-how

- Establish goals and objectives that help control operational resources
- Plan, organize and monitor RDI units
- Improve their organizational image and competitiveness in relation to other national and international competitors
- Closely follow technological developments in order to pre-empt the market and identify opportunities for improvement
- Integrate RDI management with other previously implemented management systems
- Establish interaction between RDI and other organizational departments and divisions
- Develop patented technology which can later be licensed and serve as a source of revenue
- Demonstrate RDI activity transparency within the organization to public and other project finance entities
- Monitor and identify opportunities for improvement and implement corrective actions based on results emerging from research, development and innovation activities

Cooperation with IPAC (the Portuguese Accreditation State Agency) in the definition of a robust Accreditation Scheme was a key issue to guarantee full credibility to the certification process of RDI management systems.

This NP standard was initially implemented in 15 companies from different economic sectors and different sizes operating in Portugal. After one year, the interest of this standard is growing among other companies hoping that it leads to a significant impact on the number of RDI certifications.

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<sup>1</sup> Caraça, Ferreira, Mendonça (2006), Chain-linked Interaction Model.