

Prospective Study for the ICT sector

Information, Communication and Electronics Technologies

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- II. Global technological trends and main European priorities
- III. The realities of the national ICT sector
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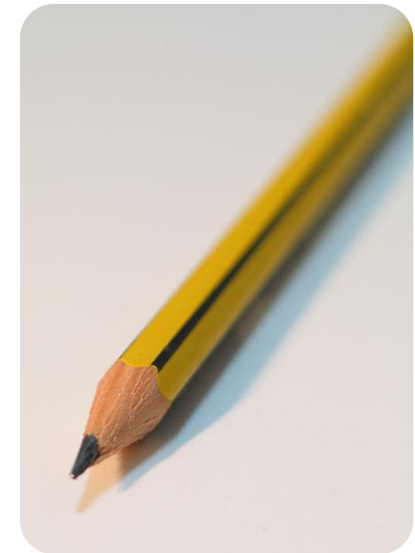


Introduction

Context

In light of the highly competitive business environment, it is essential that companies undertake the challenge of developing cutting-edge technological products with significant added value.

Thus, it is of utmost importance that companies in the sector of **Information, Communication and Electronics Technologies (ICT)** define their strategic orientations according to the opportunities offered by the national and international markets, ensuring by this means a sustainable growth and an increased competitiveness.



Introduction

Context

Inova-Ria - Associação de Empresas para uma Rede de Inovação em Aveiro (Inova-Ria), in the context of the Support System for Collective Actions (Sistema de Apoio a Acções Colectivas, SIAC), developed a **Prospective Study of the ICT sector**.

Given its nature, mission and experience, Sociedade Portuguesa de Inovação (SPI) was the entity selected by Inova-Ria for developing this work.



Introduction

Objectives

This study aims at **identifying priority areas, opportunities and strategic orientations for companies in the ICT sector in Portugal**. Specifically, it aims at:

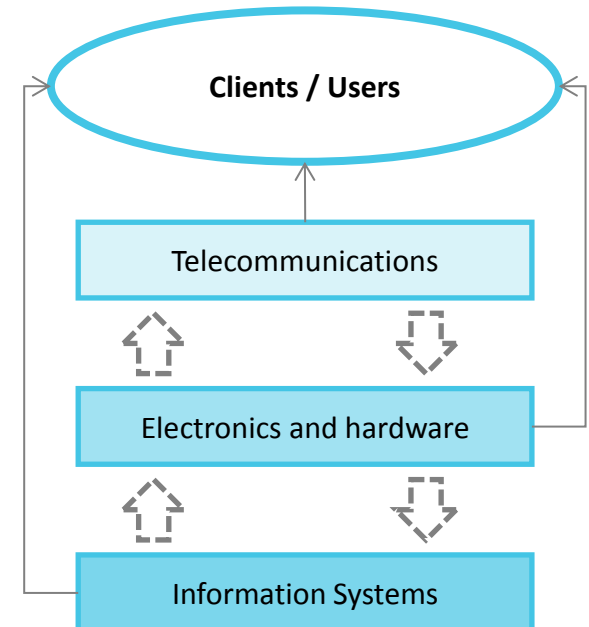
- Characterizing the ICT sub-sectors at a national and international level;
- Presenting the global technological trends and European priorities in the ICT sector;
- Building strategic orientations at a national level for each ICT sub-sector.



Introduction

Sub-sectors of ICT analysed in the study

- **Telecommunications** – wire and cable industry and manufacturers of communications equipment, telecommunication operators and companies that provide support;
- **Electronics and Hardware** - companies manufacturing computers, servers, storage systems;
- **Information Systems** - software and information systems development companies, consultancy companies in information systems and business solutions.



Global technological trends and main European priorities

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Global technological trends and main European priorities

The study presents for each sub-sector:



The major global technological trends (Listed horizontally in the following schemes)

Considering the analysis of a broad range of international strategic documents

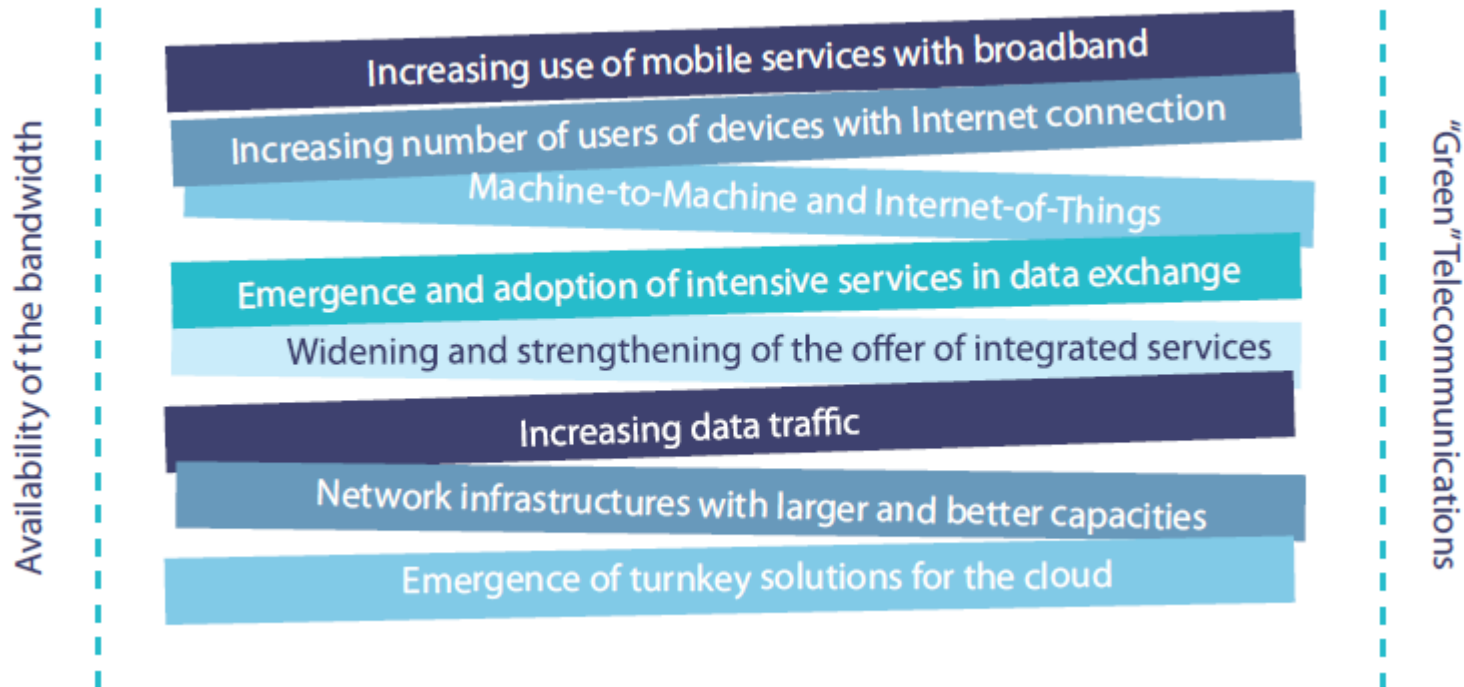


The priority areas at a European level (Listed vertically in the following schemes)

Considering the analysis of strategic and prospective documents of the European Commission

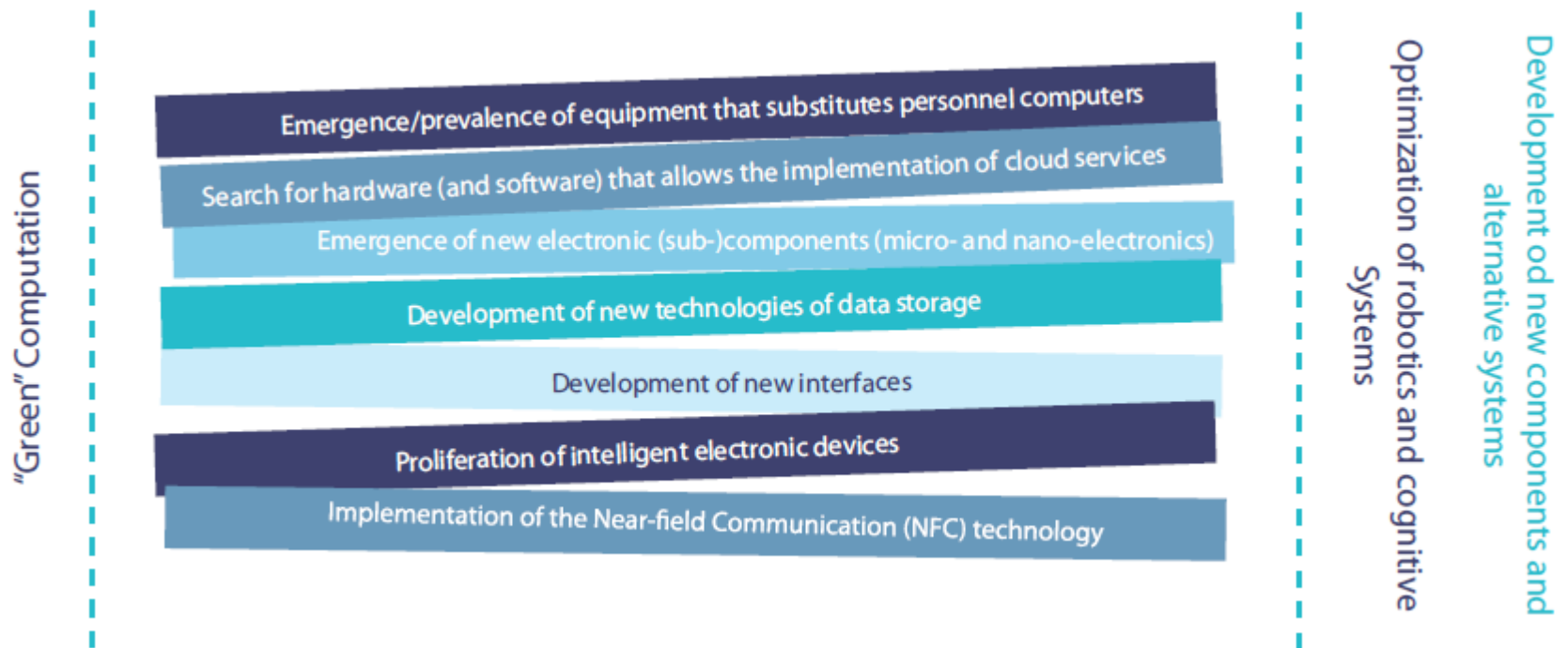
Global technological trends and main European priorities

Telecommunications: Technological Trends and Priority Areas



Global technological trends and main European priorities

Electronics and Hardware: Technological Trends and Priority Areas

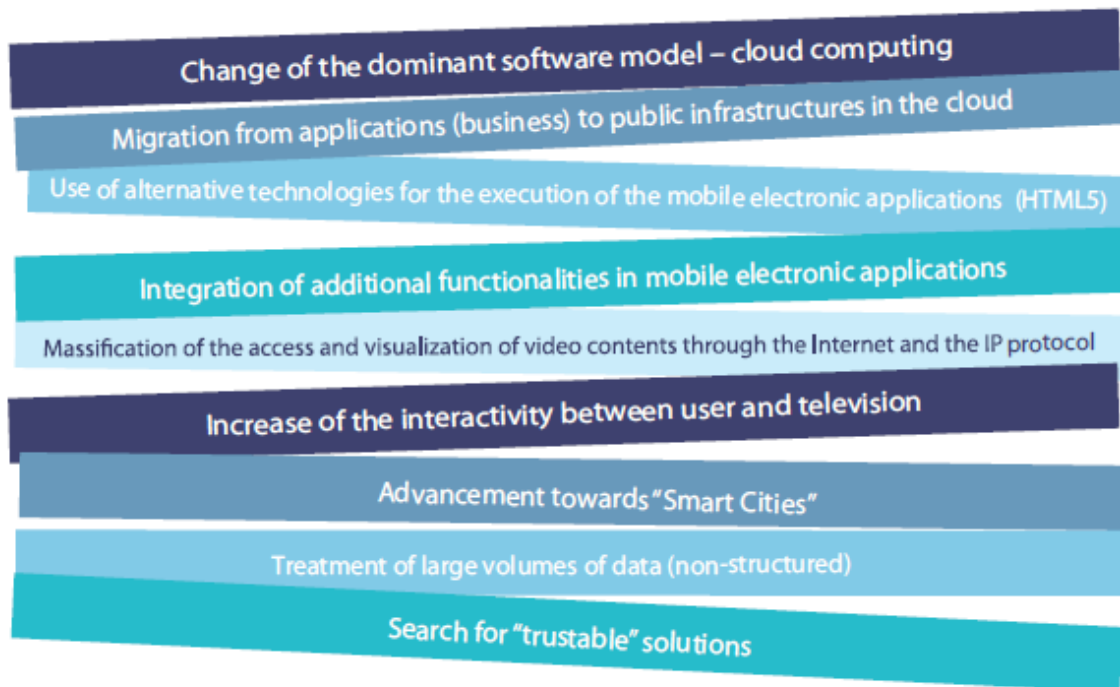


Global technological trends and main European priorities

Information Systems: Technological Trends and Priority Areas

Security and Trust

Promotion of the necessary conditions for the adoption of the full potential of cloud computing



Foster the development of solutions that address societal challenges

Digitalization of the commerce (e-commerce) and the services (e-government e e-health)

The realities of the national ICT sector

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The realities of the national ICT sector

Simplified SWOT analysis

STRENGTHS

- Advanced technological infrastructure
- Investment of companies of the sector in R&D activities
- Presence in some of the most relevant international markets
- Importance given to the ICT sector and to Innovation by governmental policies

WEAKNESSES

- Costs associated to the access to technological infrastructures
- Loopholes in the educational and innovation systems
- Reduced presence in advanced or developing market
- Lack of national players with significant dimension
- Weaknesses of the business environment, in particular of the legal system
- Fragilities specific to each sub-sector
- Weak inter- and intra-sectorial operation.

OPPORTUNITIES

- Increase in the demand for products and services related to ICT
- Potential in Portuguese speaking countries
- Importance given to ICT by European policies
- Existence of incentives for companies
- Importance attributed to economic diplomacy by public policies

THREATS

- Economic and financial fragilities of the country
- Non-alignment of the educational system with the market needs
- Competition from other countries.

Strategic Orientations

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Strategic Orientations

	R&DI	Internationalisation
Representative associations of the sector	<ul style="list-style-type: none"> • Development of mechanisms for monitoring the interfaces (technological and market) • Contribution to foster the inter-company cooperation and cooperation between companies and entities of the NSTS • Contribution to the participation of national entities in European technological platforms • Organisation of events with experts (national and international) of highly specialized technological areas 	<ul style="list-style-type: none"> • Disseminate the sub-sectors and their products/services • Development of internationalisation activities (concerted) • Contribution to the implementation of Soft Landing mechanisms
Companies	<ul style="list-style-type: none"> • Strengthening the development of R&DI projects (in cooperation) • Establishment of protocols with entities of the NSTS for capacity building • Organisation of the R&DI activities • Reinforcing participation in international R&DI projects • Focus on the development of differentiated products 	<ul style="list-style-type: none"> • Realization of international level product/service marketing actions • Definition of adequate internationalisation strategies for the identified target markets • Establishment of partnerships for the development and international promotion of exclusively Portuguese technology

Structure of the Study

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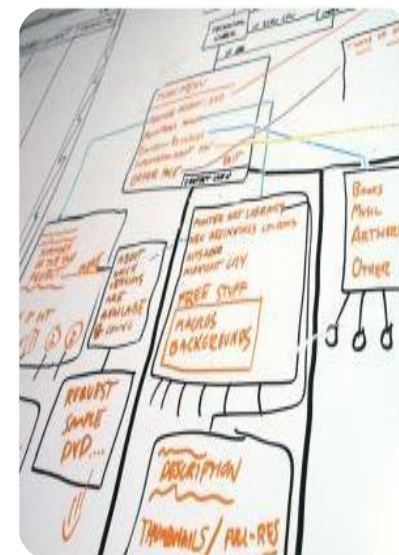
Structure of the Study

Chapter 1. The current scenario of the ICT sector

Brief presentation of the ICT sector and of each sub-sector analysed in the study (Telecommunications, Electronics and Hardware, Information Systems).

Chapter 2. Global technological trends

Presentation of the main global technological trends of the ICT sector, based on international strategic documents and working sessions with experts.



Structure of the Study

Chapter 3. European priorities in the ICT sector

Analysis of strategic and prospective documents from the European Commission.

Chapter 4. The realities of the national ICT sector

Brief characterization of the national ICT sector at a national level (materialised in a SWOT analysis).



Structure of the Study

Chapter 5. Strategic orientations

Presentation of strategic orientations for the sector, organized by type of stakeholder (representative associations of the sector and companies) and strategic axis (R&DI and Internationalisation).

For more information, please refer to the full version of the Prospective Study.

