

Management and Policies for Science and Technology

Innovative training for Institutional and
Human capacity building

Maria Fernanda Rollo | 09.01.2020

Framework

Strengthening research support structures represents a huge challenge in the context of the changes that the scientific community is going through, More than ever, integrated management of the lifecycle of knowledge management, creation, sharing and reuse needs to be properly and professionally ensured.

Framework

Valuing research management means understanding it as one of the fundamental stages of the scientific process, integrated in the Creation-Management-Communication triangle.

Valuing research management clearly implies the recognition of its community, bringing together a strong critical mass capable of promoting the sharing of experiences, opportunities for intra and interinstitutional cooperation and diagnosis and permanent monitoring.

Scientific and innovation ecosystem faces complex challenges and increasingly stimulating tensions, being pushed to expand its mission and to assume increased responsibility.

New challenges

- Changes in the paradigm of EU funding instruments
- Redefinition of regional and local policies of knowledge management and enhancement
- Digital skills
- The process of opening up scientific information and activity
- Data and data management
- Citizen science, public engagement and social impact
- Transparency, integrity and reproducibility of science
- Growing demands on ethics and intellectual property

- New models of production and scientific communication
- Scientific assessment and monitoring
- Combine research excellence with inclusive, collaborative and bottom-up research
- Institutional collaboration, co-creation and co-governance
- Knowledge information for supporting decision-making processes
- Bureaucracy free and scientific oriented management strategies
- Foster the approximation between scientific knowledge and the business sector, open innovation
- Sustainability

Next generation of research management

- Funding, evaluation, observation and management of R&D activities.
- Establishment and management of financial and institutional instruments.
- Management of organizations science and technology public policies.
- Support for the definition of public policies in science and technology.
- Definition and implementation of communication strategies and dissemination of scientific and technological knowledge and scientific culture.
- Management of Research and Technological Infrastructures
- Management of organizations dedicated to the valorization, transfer and commercialization of knowledge.

But, can Research
managers have
superpowers?

Do we need a Common Framework
of Reference for Research
Management?
How to build those shared building
blocks?

PT Ecosystem trends

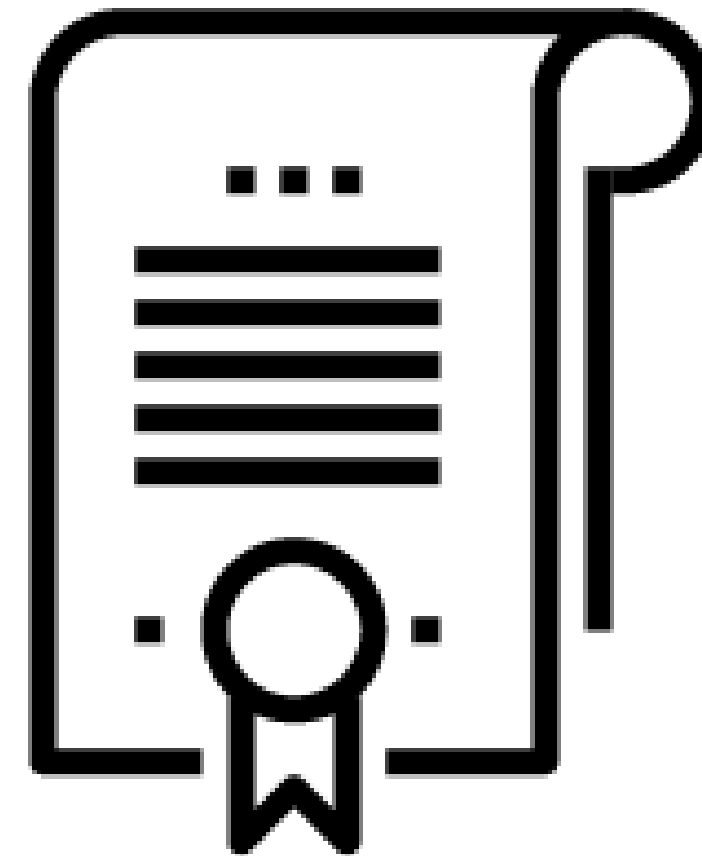
Scientific production



35x

In the last 25 years, Portuguese scientific production increased by 35x

Patents



45x

In the last 25 years, the number of Portuguese patents registered in Europe increased by 45x

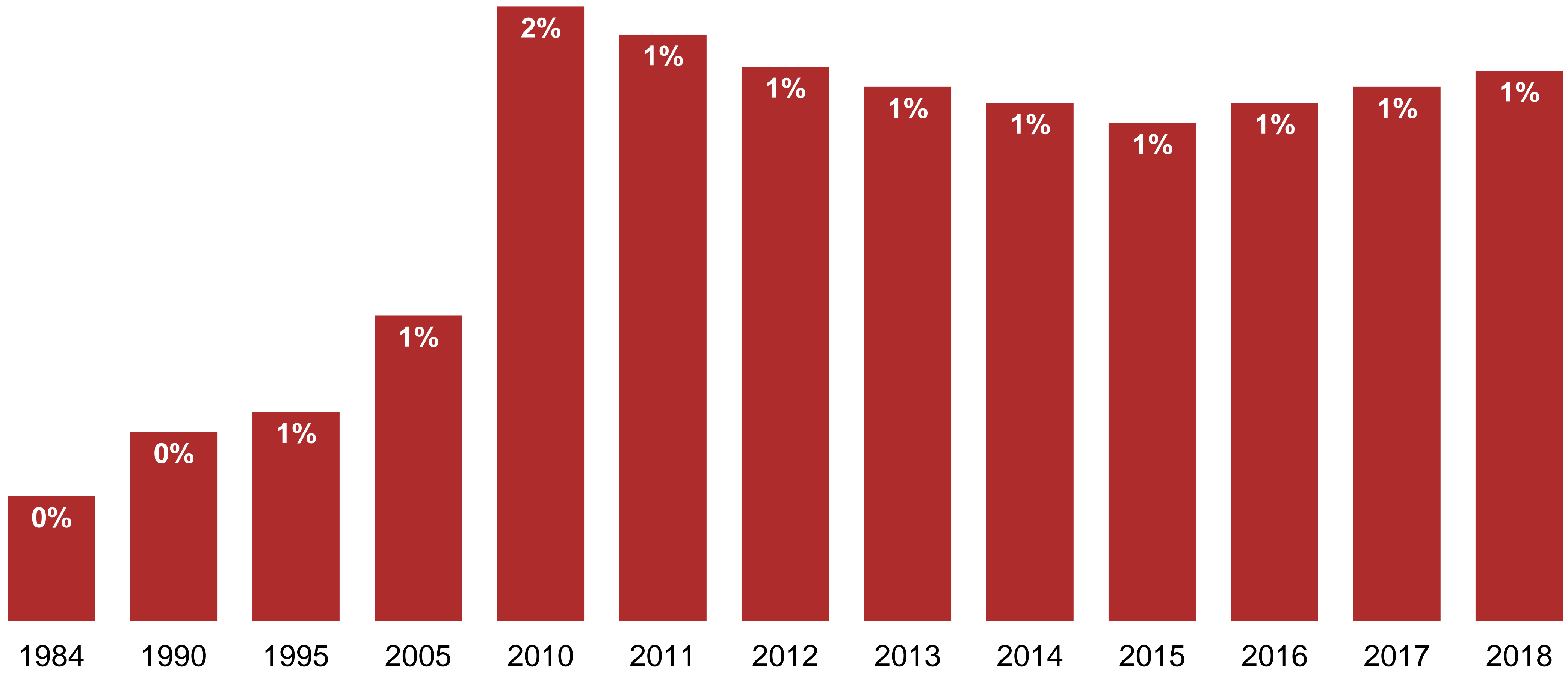
Annual rate of publications



2nd EU

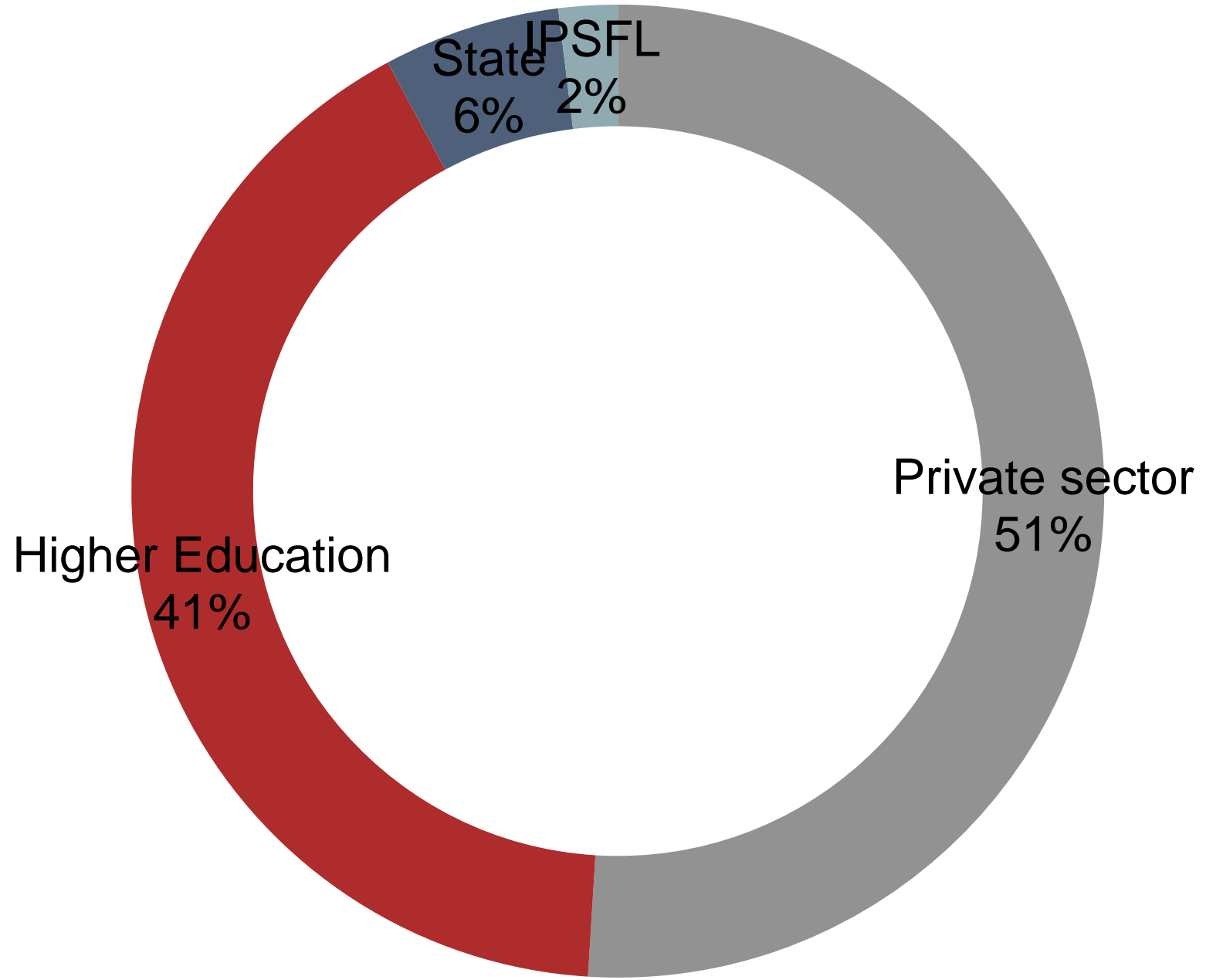
Country with the highest average annual growth rate of publications (2001-2014)

Evolution of R&D expenditure as a percentage of GDP



The role of private sector

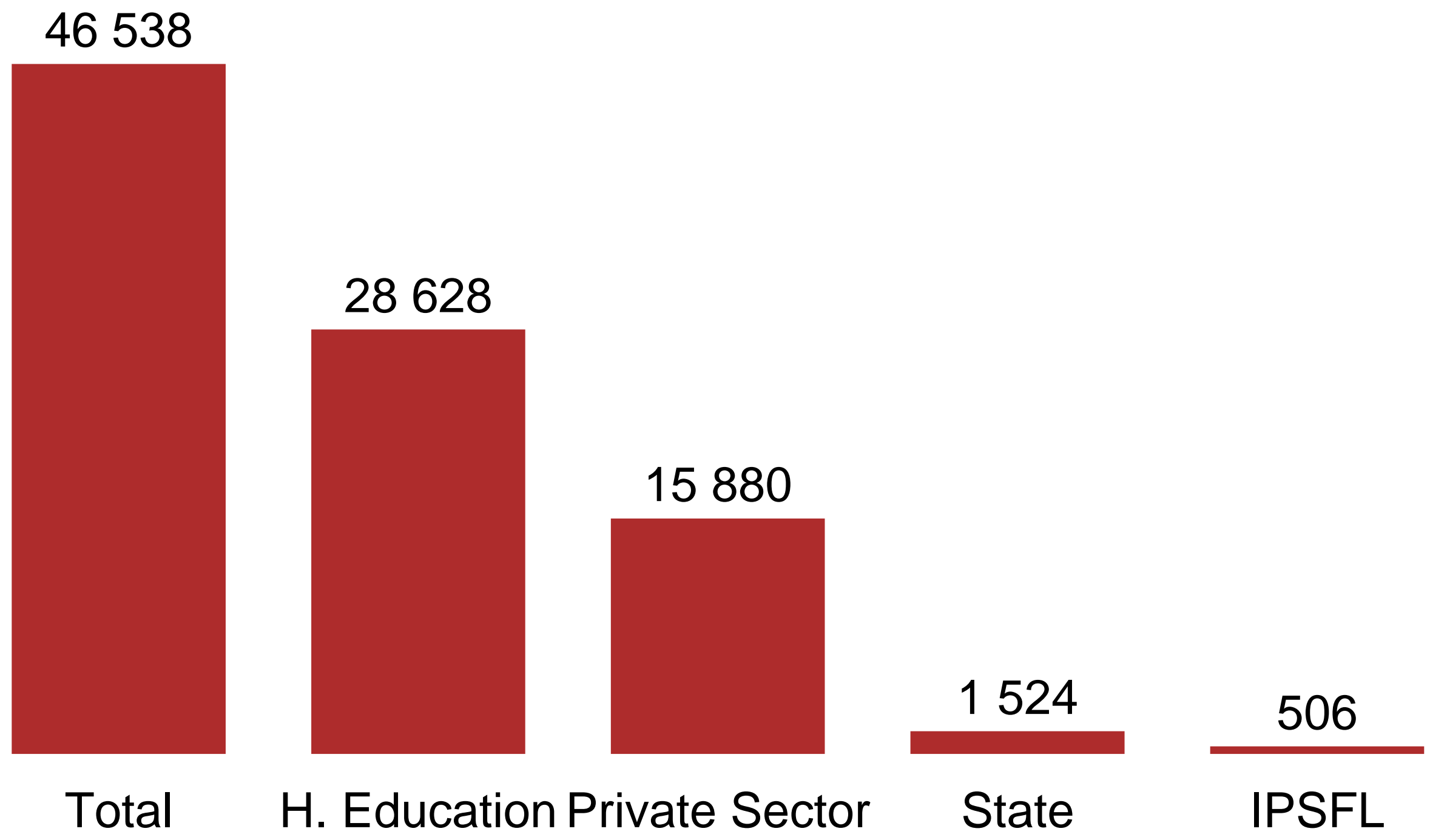
R&D expenditure



21%

The R&D expenditure in the private sector increased by 21% (+241M€) between 2016 and 2018

Researchers (FTE)



18%

The number of researchers in the private sector increased by 18% between 2016 and 2018

NOVA FCSH SOLUTION



POST-GRADUATION COURSE MANAGEMENT AND POLICY IN SCIENCE AND TECHNOLOGY

www.gestaociencia.pt | gestaociencia@fcsb.unl.pt



Vision

Qualified training and skills for the development of management activities in the scientific and technological system.

For what?

- Management of organizations, infrastructures, programs and projects
- Prepare applications and manage fundraising strategies
- Management of EU and national funds
- Prepare institutions for the next European framework programs
- Enhance research results and manage knowledge transfer processes
- Promote and manage scientific culture programs

For whom?



Science managers



Researchers



Professionals



Students

How it's made

ECOSYSTEM APPROACH

Systemic view of the scientific, technological and innovation system

REAL PROJECTS / RESIDENCES

Cross-functional training in a real environment

EXPERTS MENTORING

Participation of experts in seminars and project mentoring

COOPERATION

Collaboration with the science interface professionals platform (PIC)

Programme

Duration 2 semesters / 60 ECTS Fridays and Saturdays	Format After work + blended learning	Language Portuguese and English
Course Units 02 compulsory + 05 optional disciplines	Institutional residence Projects development in real contexts + experts mentoring	Tuition Fee 1 500€

Course Units

Information

Management and Policies of Science and Technology Project I

Compulsory | 1st semester | 5 ECTS

Management and Policies of Science and Technology Project II

Compulsory | 2nd semester | 5 ECTS

Science, Technology and Development Policy

Optional | 1st semester | 10 ECTS

R&D Units and Research Projects Management

Optional | 1st semester | 10 ECTS

History of the Scientific System in Portugal and Europe

Optional | 1st semester | 10 ECTS

Economy, Society and Innovation in the Contemporary World

Optional | 1st semester | 10 ECTS

Negotiation, evaluation and development of applications

Optional | 2nd semester | 10 ECTS

Concepts and Practices of Management and Innovation

Optional | 2nd semester | 10 ECTS

Industrial Development and Innovation Policies

Optional | 2nd semester | 10 ECTS

Scientific Culture and Science Communication

Optional | 2nd semester | 10 ECTS

Institutional residence

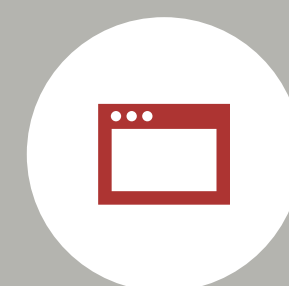
- **Project based learning:** each student will carry out an individual project of management of science and technology related to their interests. This project can be developed within an R&D Institution / private sector, either the institution to which students are associated, or other institution to be defined during the course.
- Individual **supervision** by a member of the teaching staff and a designated person from host institution.



2.º SEMESTRE



15
SESSÕES



5 ECTS



OBRIGATÓRIO

Invited experts

- **Alexandra Vilela**
Vogal da Comissão Diretiva do Compete 2020
- **Ana Abrunhosa**
Presidente da Comissão de Coordenação e Desenvolvimento Regional do Centro
- **Eduardo Maldonado**
Presidente da Agência Nacional de Inovação
- **Eloy Rodrigues**
Diretor dos Serviços de Documentação da Universidade do Minho
- **Ester Gomes da Silva**
Vice-Presidente da Comissão de Coordenação e Desenvolvimento Regional do Norte
- **João Baptista**
Subdiretor da Direção-Geral de Estatísticas da Educação e Ciência

Invited experts

- **João Nuno Ferreira**
Coordenador geral da FCCN, unidade da Fundação para a Ciência e a Tecnologia
- **Jorge Portugal**
Diretor-Geral da COTEC
- **Mário Santos Moreira**
Vice-presidente de Gestão e Desenvolvimento Institucional da Fundação Oswaldo Cruz | Fiocruz
- **Marco Bravo**
Diretor Executivo UT Austin Portugal Program
- **Ricardo Miguéis**
INESC (Head of Brussels Office)
- **Teresa Mendes**
Presidente do Instituto Pedro Nunes

Associated entities

- Direção-Geral de Estatísticas de Educação e Ciência
- Fundação Champalimaud
- Fundação para a Ciência e a Tecnologia
- IT – Instituto de Telecomunicações
- Instituto de Medicina Molecular
- EU-Life
- CATIM - Centro de Apoio Tecnológico à Indústria Metalomecânica
- CTCV - Centro Tecnológico da Cerâmica e do Vidro

Teaching staff



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INOV



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INESC TEC



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ITQB NOVA



Tiago Brandão
NOVA FCSH



Filipe Guimarães da Silva
NOVA FCSH

Final remarks

- . understanding the ecosystem - ongoing stresses and changes
 - . global vision, strategy definition
- . colaboration, cooperation... multiplicity and complementarity of partners
 - . collaborative practices - involve people and institutions
- . believe in science and continue the crusade by drawing attention to the indispensability of training people to help us take care of science and increase opportunities to do more and better science

Final remarks

- . we need to have a well-prepared, creative, committed science management team;
- . we need to continuously train people and
- . ensure their recognition and professional integration

Final remarks

Always keep in mind that science is not an end in itself, science makes sense as a social commitment, at the service of the people and planet we inhabit

Training of science managers should not be purely technical, but need to integrate a context of humanistic training.

Contacts



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GESTÃO E POLÍTICAS DE
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**Formamos
profissionais,
valorizamos o
conhecimento**