



Research Support Area VALORIZATION AND TECHNOLOGY TRANSFER OFFICE



SAPIENZA
UNIVERSITÀ DI ROMA

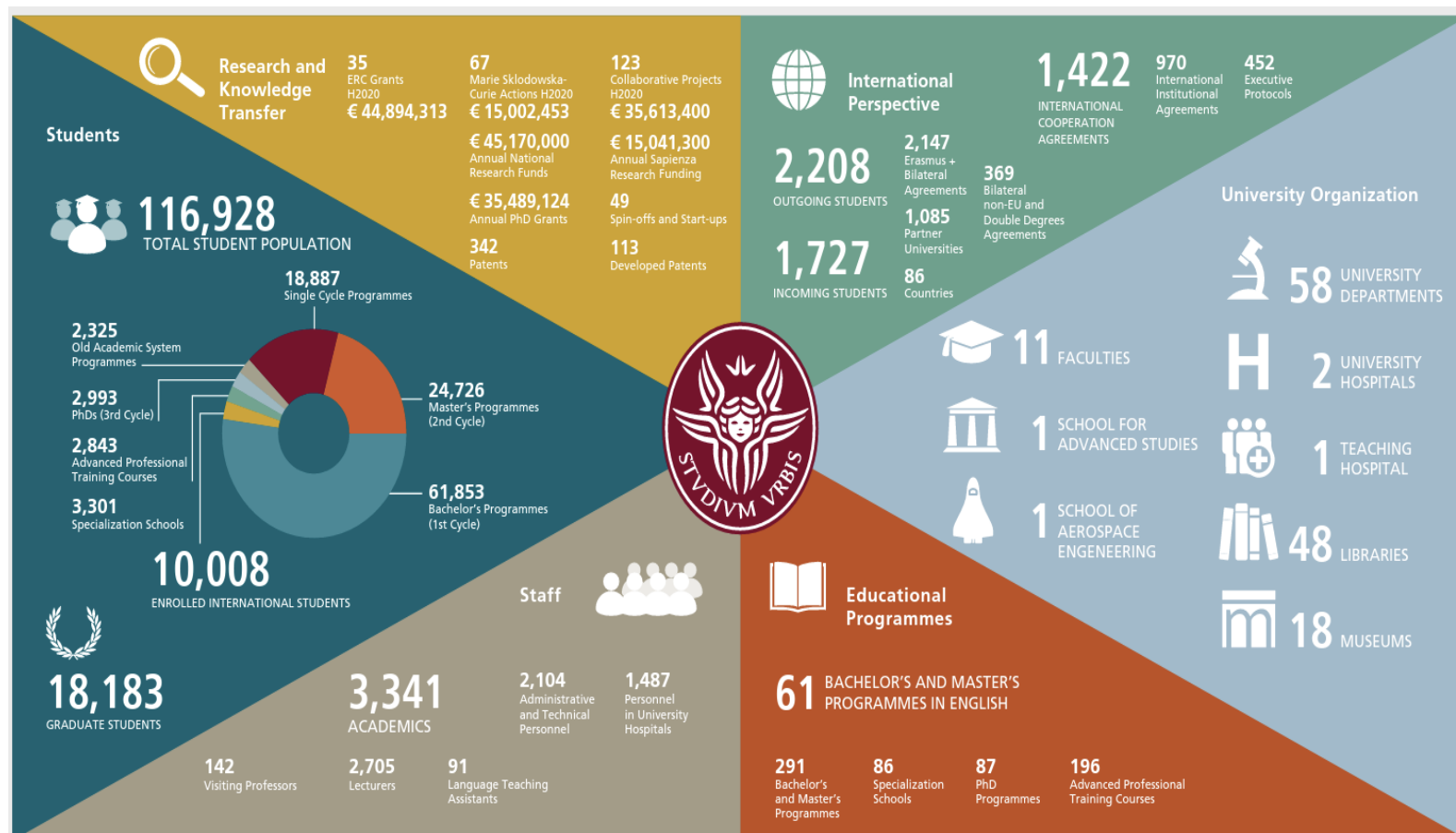
***TECHNOLOGY TRANSFER TOOLS:
PROOF OF CONCEPT & ENTREPRENEURIAL CULTURE***

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Bucarest March 30th 2023



Facts and figures: Sapienza at a glance



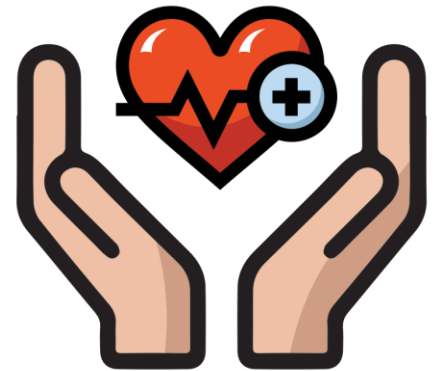
The development virtuous cycle



Discover



Develop



Deliver

image: National Institute of Environmental Health Sciences – NIH Usa

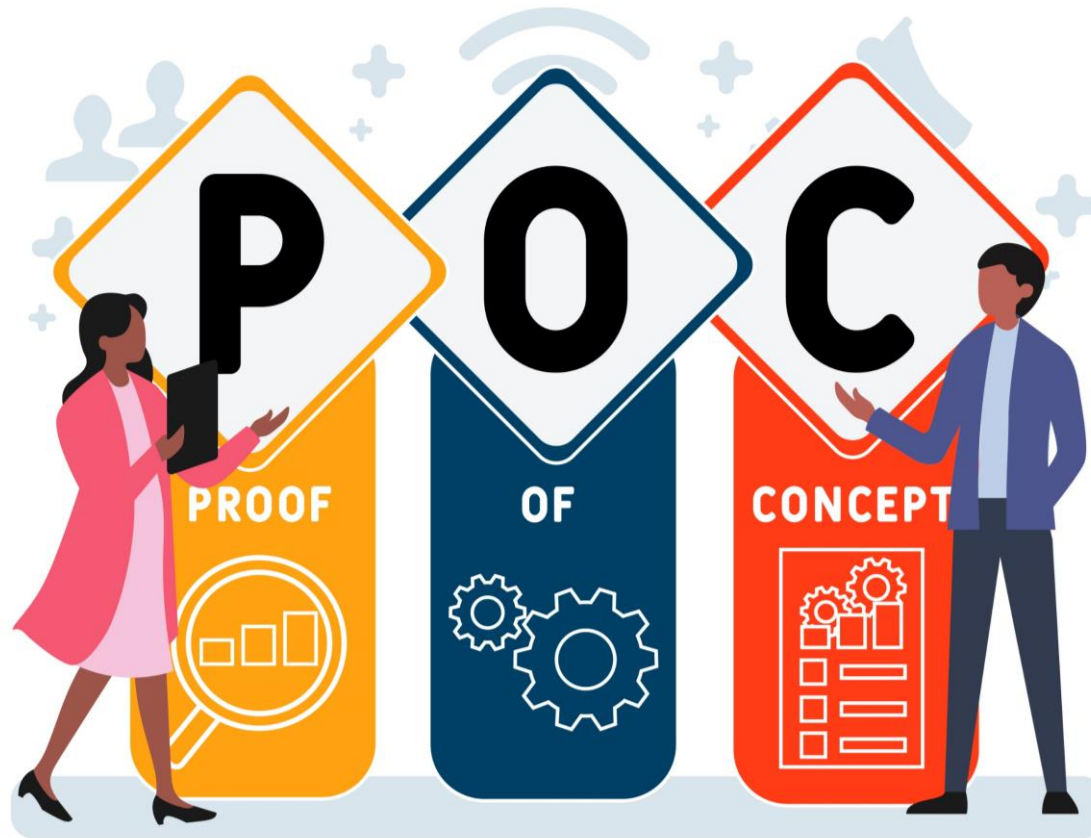
The technology transfer actions in support of inventors

- ❑ active cooperation between Office and inventors
- ❑ knowledge transfer manager **KTM**
- ❑ Inventors' cooperation for bridging **connections with stakeholders** interested in the new technology
- ❑ **confidential agreement** to protect the (patented) technology
- ❑ support for managing **commercial negotiations**
- ❑ **search/support for funding**

Knowledge Transfer Manager



IP protection linking academic team and graduate with industry for improved management practice and business performance



verification methodology that analyzes whether an idea can be turned into reality

Image: European Research Council

What is the meaning of Proof of Concept?



- evidence that shows that a business proposal, design idea, etc. will work usually based on an experiment or a pilot project
 - *It is important to demonstrate proof of concept.*
 - *You need to start with proof of concept to show the process is better and win people over.*

Proof of Concept projects' goals

- Increase TRL maturity (Technical Readiness level) from starting point to + 2
- Companies and industrial key players' involvement
- Dialogue with stakeholders
- Support to young researchers
- Interdisciplinarity
- Meeting with industrial potential partners for patents promotion

EU TECHNOLOGY READINESS LEVEL

TRL	Description	
1		Basic principles observed
2		Technology concept formulated
3		Experimental proof of concept
4		Technology validated in lab
5		Technology validated in relevant environment
6		System demonstrated in relevant environment
7		System prototype demonstration in operational environment
8		Actual system completed and qualified
9		Actual system proven in operational environment

Source: Technology Readiness Level adaption by the European Commission

Types of PoC funding

In-house funding	Public funding	Private funding
Grant: without restrictions on IP or future commitments	Grant: possible co-financing required	Totally on a negotiated basis
Impley fund raising abilities	Success rate can vary	Smart money & follow up capacity
Utmost flexibility	Management and reporting costs	Substantial commitment on future and background activities
	Dumb money: no added value on activities' support	High transaction costs & complex negotiations

Proof of Concept project types of funding

In-house funded Proof of Concept



Politecnico
di Torino



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



ISTITUTO
ITALIANO DI
TECNOLOGIA



POLITECNICO
MILANO 1863

Public funded Proof of Concept



European
Innovation
Council



Private funded Proof of Concept



“Boosting Innovation Technology for Market Product Solutions – BIT4MaPS”

- Sapienza’s Programme BIT4MaPS” was funded by the Italian Ministry for Economic Development with the purpose of enhancing the industrial property of the main Italian research institutions while supporting the competitiveness of Italian companies
- BIT4MaPS includes eight “Proof of Concept” projects that were selected among Sapienza patents’ portfolio on the basis of their technological maturity, their innovation content and multidisciplinary approach

“Boosting Innovation Technology for Market Product Solutions – BIT4MaPS”

- The Programme is worth € 456.000,00 and has been running for eighteen months (from March 2021 to September 2022)
- The eight “Proof of Concept” projects belong to several fields of Science: Chemistry and Biotechnology, Civil and Construction Engineering, Mechanical Engineering, Architecture, Design and Public heritage



Enhancement Programme "Boosting Innovation Technology for Market Product Solutions – BIT4MaPS"

Through the [Proof of Concept call for proposals](#), the Italian Ministry of Economic Development (MISE) aimed **to enhance the value of industrial property rights** of research subjects to support the competitiveness of our country's entrepreneurial system.

Sapienza has obtained 456,000.00 euros for its **Enhancement Programme** called **"Boosting Innovation Technology for Market Product Solutions - BIT4MaPS"**, lasting 18 months.

Eight projects have been financed through this Programme, corresponding to the same number of **patents in the Sapienza portfolio**, selected on the basis of technological maturity, interdisciplinarity, and innovativeness criteria.

The eight Proof of Concept projects are distributed in the areas of **Chemistry and Biotechnology; Engineering, Civil Mechanics and Construction; Architecture, Design and Cultural Heritage** as shown in the table:

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Navigation

[Outreach](#)

[Innovation and Technology Transfer](#)

Links

[Sapienza patents for business \(in Italian\)](#)

[Proof of Concept call \(in Italian\)](#)

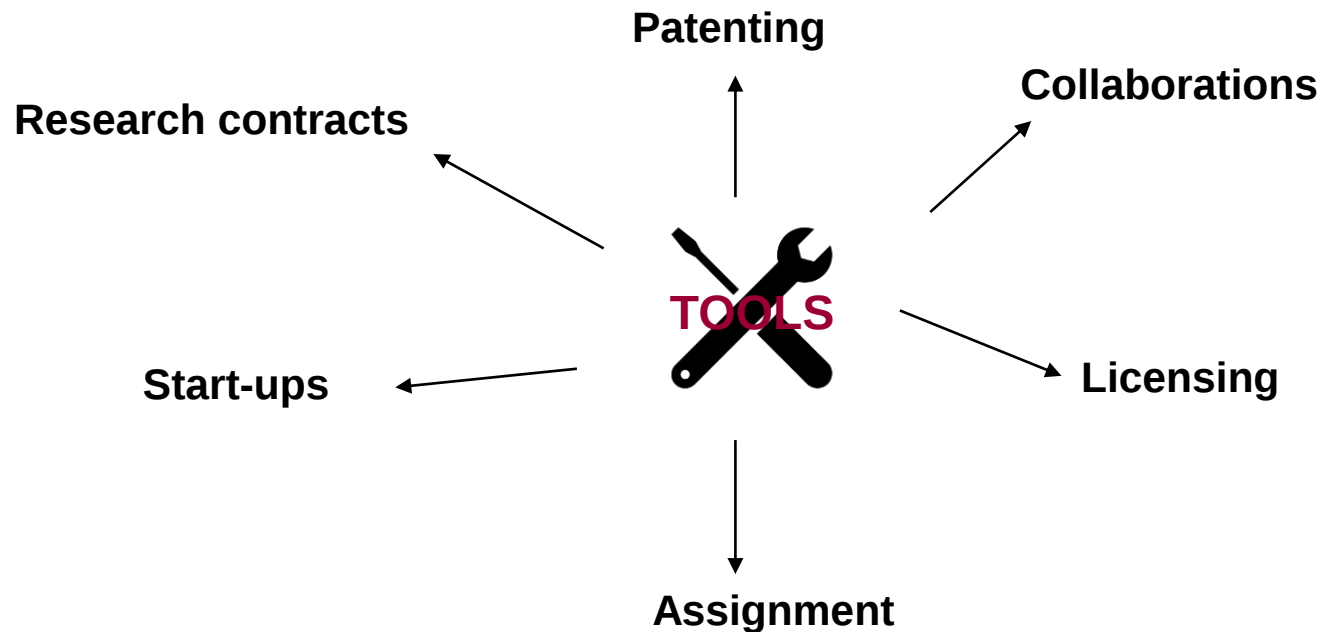
[Link: BIT4MaPS](#)

Sapienza's eight Proof of Concept projects

<u>PoC</u>	<u>Department</u>	<u>Patent</u>
AERO-elastic response of pre-stressed MORPHing shells - AEROMORPH	Ingegneria Strutturale e Geotecnica	Link
Dual imaging probe integrating gamma ray and ultrasound detection for medical diagnostics – ULTRAGAMMA	Scienze e Biotechnologie Medico-Chirurgiche	Link
Nano4S - Silicon NanoStructures: the connection bridge between electronics and biological systems	Ingegneria dell'Informazione, Elettronica e Telecomunicazioni	Link
Long-span tensairity roof structure for emergency scenarios	Ingegneria Strutturale e Geotecnica	Link
Nox2 and cardiovascular disease – CardioNox2	Scienze e Biotechnologie Medico-Chirurgiche (Latina)	Link
Preclinical evaluation for a Y90 labeled radiopharmaceutical suited for radio-guided surgery	Chimica e Tecnologie del Farmaco	Link
Hysteretic absorber for seismic protection of civil structures	Ingegneria Strutturale e Geotecnica	Link
nano-MAIA / nano Material Applications for Innovative conservation of Artworks	Chimica	Link

University third mission

MAKE RESEARCH RESULTS AVAILABLE FOR WIDER USE



Sapienza start-ups: an overview

- **newly created, privately held companies** supported by the University
- **produce goods and services** deriving from activities carried out **in an academic context**
- based on an **innovative** and **reproducible technology**
- **potential for commercial exploitation**
- **virtuous cycle** involving *university - industry - local administration* and the *surrounding territory*

The most appropriate means

Start-up is the most appropriate means for technology transfer if the following conditions apply:

- technology, and its related market, are so specialized that the full effectiveness of the invention's exploitation by licensing is limited
- the market is not yet “ready” to receive and get full advantage from the technology and the needs of its related market have to be created

Valorization and Technology Transfer Office

Start Up of Sapienza University: highlights

- Many start-ups are hosted by the University which gives the company its facilities (labs, instruments, spaces) while they still keep a close relationship with their research group
- Sapienza pays specific attention to students and young researchers, fostering their entrepreneurial vocation and interdisciplinary approach
- Sapienza annually organizes competitions among students and awards for the presentation of innovative ideas, financing grants and supporting them in their business plan

Valorization and Technology Transfer Office

Start Up: an overview

- These are **newly created, privately held companies**, supported by the University, created to **produce goods and services** resulting from the activities carried out **in an academic context** (by professors, researchers, students, PhD students, scholarship students, fellows and all types of contract employees) that have a **potential for commercial exploitation**.
- It is the most appropriate means of technology transfer when the following conditions apply:
 - ✓ the **technology**, and the relative market, are so **specialised** that they limit the opportunities and the full effectiveness of an exploitation of the invention through licensing;
 - ✓ the **market is not yet “ready”** to receive and take full advantage of the technology developed, and therefore the needs and relative market **must be created**.

Promoting entrepreneurship and technological transfer

- **Start-ups:** excellence tools for creating innovative business on academic research
 - academy certificate of origin – website logo
 - more flexible corporate structure
 - «comfort zone» - incubator
 - kick off support
 - students and third party researchers as promoting members and shareholders of the company
 - awards & grants for the presentation of innovative ideas
- TALENT Lab

Facts and figures

- **41** Sapienza start-ups as of today
- globally generated **60** employees
- **7 million euros** turnover





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Thank you for your attention

Bucarest March 30th 2023

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