



UNIVERSITÀ DEGLI STUDI DI TRIESTE

Ruolo dell'Università nello
sviluppo del trasferimento
tecnologico nell'area triestina.





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We are the

**Innovation
office** tech & people

***Tech&people* because our aim is to establish a long-term strategic relationships with the stakeholders about the challenges of the future and not only provide short-term (cheap) contextual problem solving**





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Economic environment

Peculiar entrepreneurial background (98% SMEs)

Manufacturing focalization (districts)

Scientific resources (Public Research Bodies)

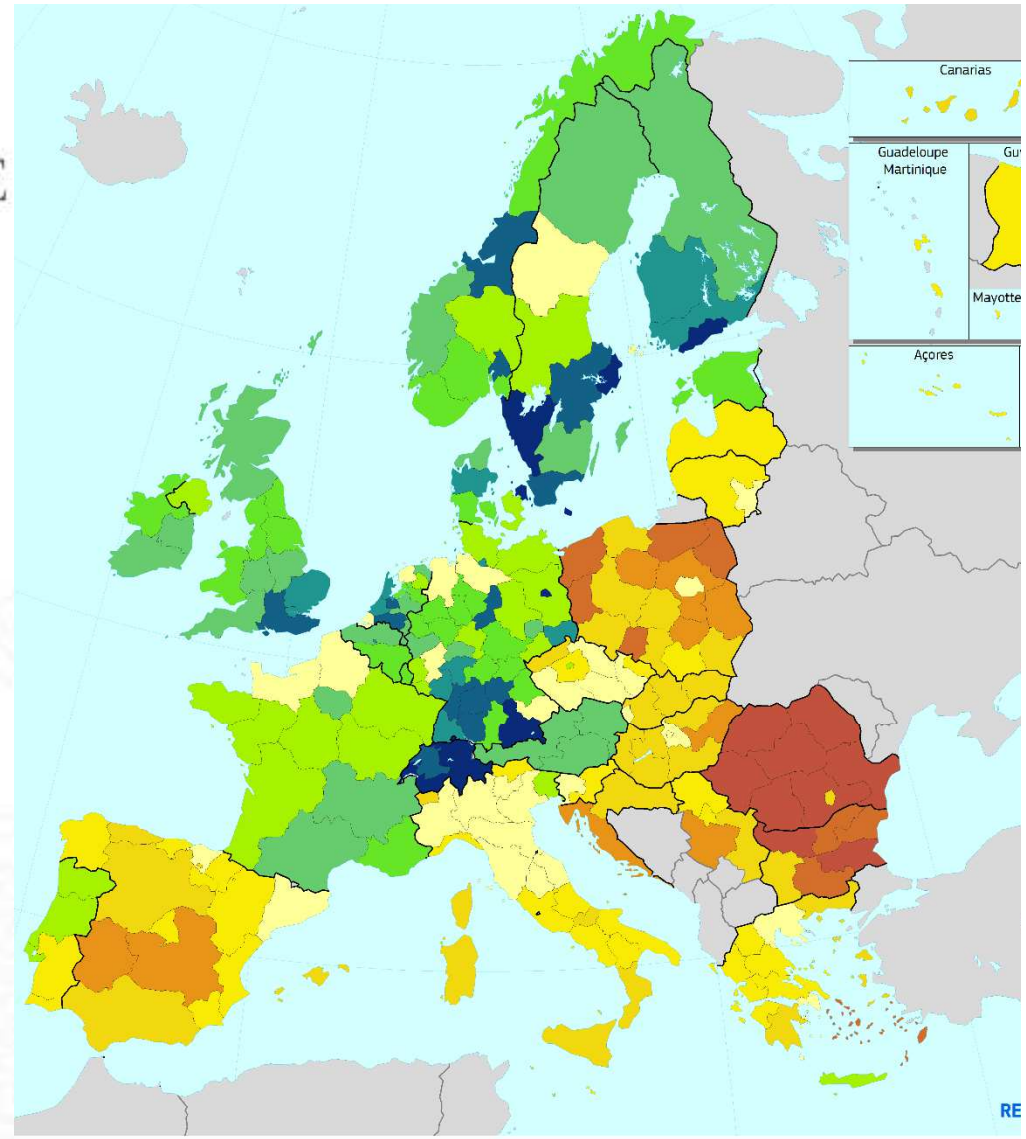
Regional policies in R&D (AREA Science Park)





Regional Innovation Scoreboard 2019

strong positive
correlation between
regional innovation
performance
and regional
competitiveness



Regional performance groups



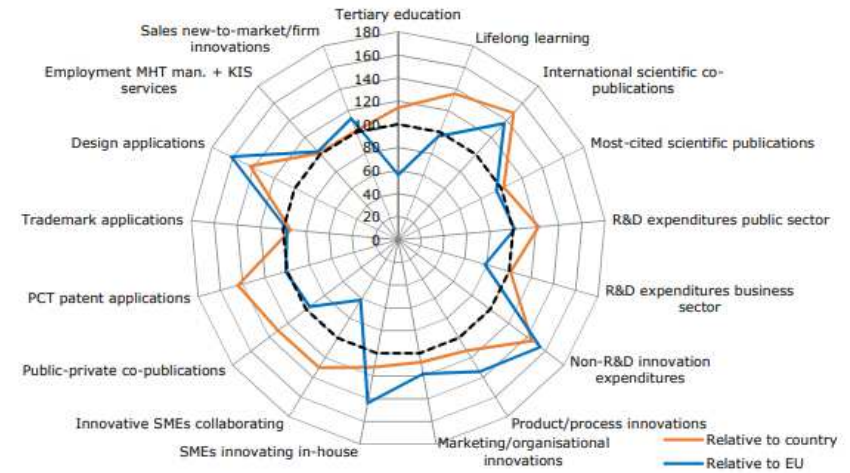
Source: European Commission - Regional Innovation Scoreboard 2019



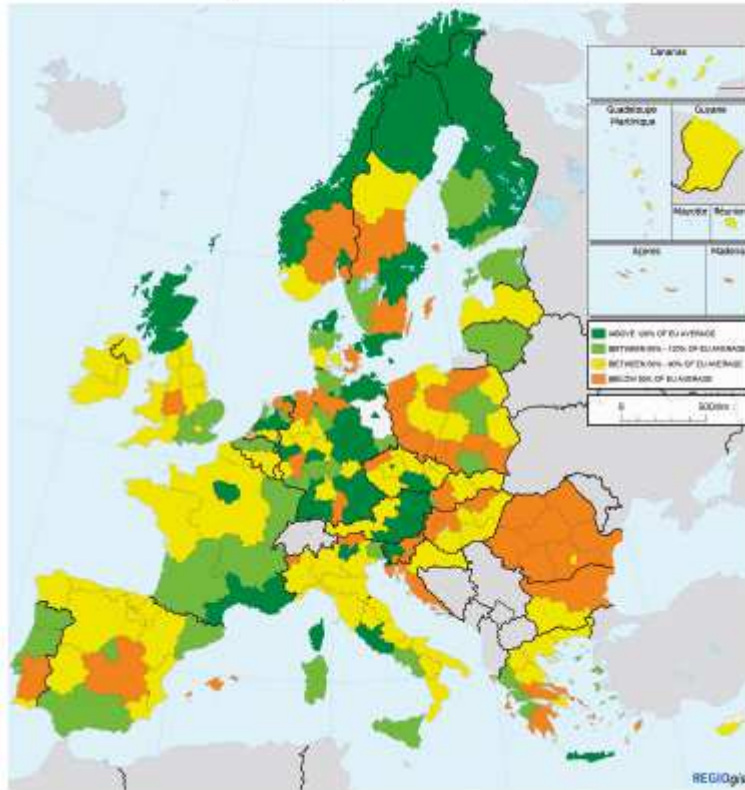
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KEY FACTORS:

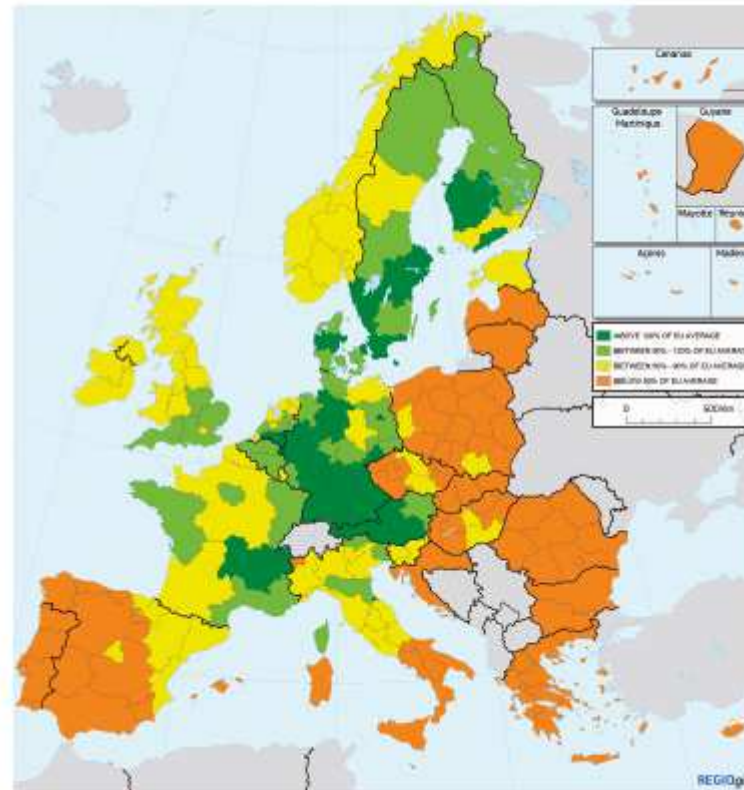
1. R&D expenditures in public sector
2. EPO patent applications



R&D expenditure in the public sector as percentage of GDP



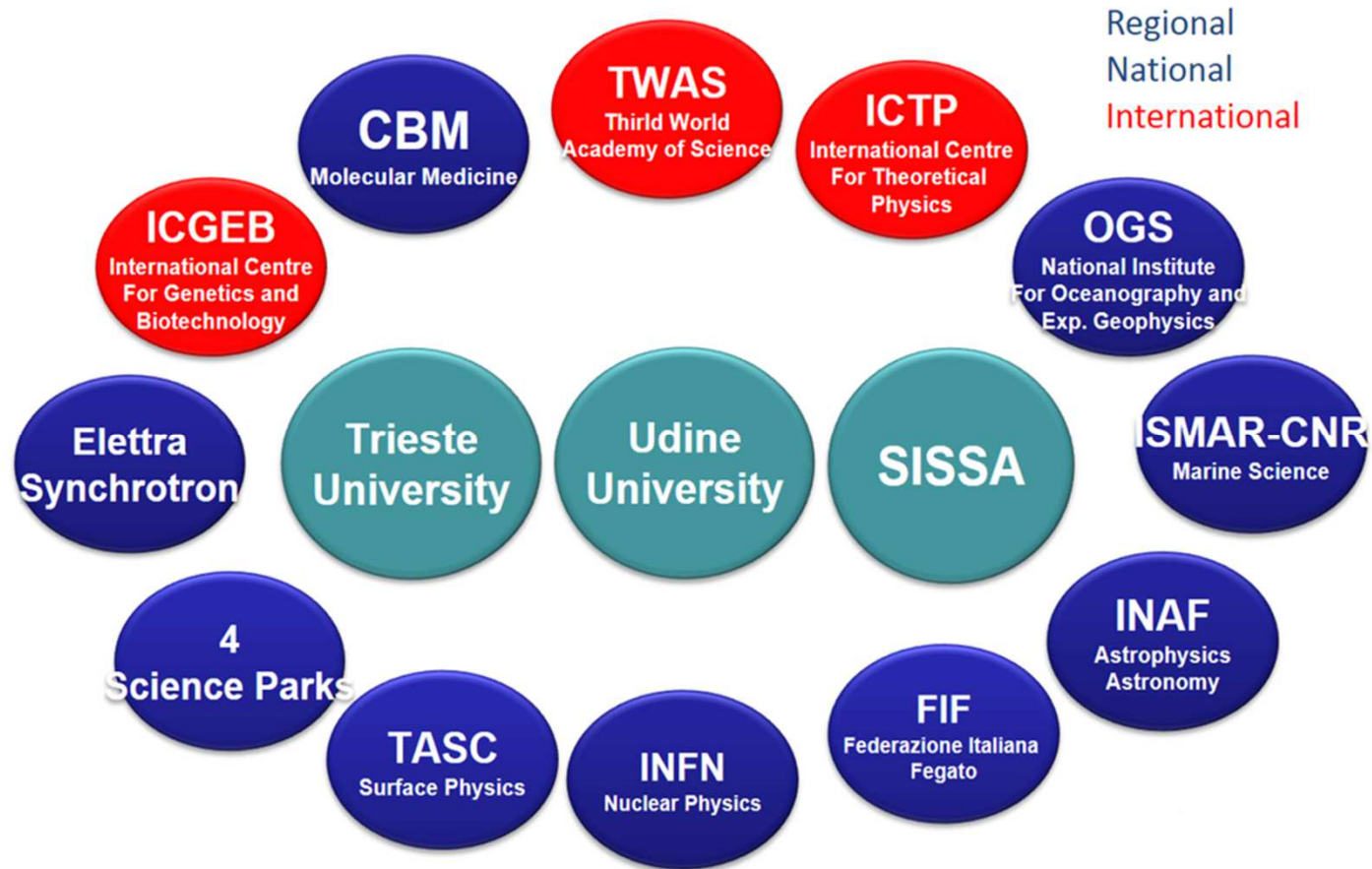
EPO patent applications per billion regional GDP (PP5€)





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FVG as a complete ecosystem of PROs with 3 Universities





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- ✓ **Sistemic Innovation** requires critical mass and dedicated structures shared among all innovation actors who only in this way can face the complexity of the strategies needed to compete internationally
- ✓ more and more innovation needs to be pursued at least at **regional level** as the European community demonstrates with the “Regional innovation scoreboard”
- ✓ The EU asked Regions to identify the S3 focus and FVG decided:
 - Maritime technologies (cluster MAREtc)
 - Smart health (cluster CBM)
 - Agrifood (Cluster Agroalimentare)
 - Domotics (cluster ARREDO anc cluster COMET)
 - Heritage, creativity, culture



Cluster FVG Region



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	Area Cluster (S3) LR FVG 3/2015 art. 15	Gestore Cluster Regionale	Contesto di riferimento
1	Agroalimentare	Cluster Agro-Food FVG Parco Agro-alimentare di S. Daniele Soc. Consortile a r.l. S. Daniele del F. (UD)	Armonia con ERSA - Agenzia per lo sviluppo rurale di cui alla legge regionale 24 marzo 2004, n. 8
2	Filiere produttive strategiche Sistema casa	Cluster Arredo e Sistema Casa Srl Consortile (S. Giovanni al N. (UD)	Mobile, arredo, sedia
3	Filiere produttive strategiche Metalmeccanica	COMET S.c.r.l. Pordenone (PN)	meccanica, termo elettromeccanica, componentistica, materie plastiche e produzione di metallo
4	Settore ICT e digitale	DITEDI Distretto Industriale delle Tecnologie Digitali S.C. a R.L. Feletto Umberto (UD)	manifattura regionale
5	Tecnologie marittime	Maritime Technology Cluster FVG S.c.ar.l. (MareTC FVG) Monfalcone (GO)	cantieristica navale e nautica, offshore, trasporti, logistica, servizi per la navigazione e diportismo nautico
6	Smart Health	Consorzio per il centro di biomedicina molecolare – CBM S.c.a.r.l Trieste (TS)	"Distretto dell'innovazione" art. 29 l.r. 26/2005. settori biomedicale, biotecnologie, bioinformatica



National Cluster IN



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	CTN per la ricerca industriale	Nome gestore CTN	Referente UniTS
1	Blue Growth	CTN BIG - Blue Italian Growth	Prof. Sulligoi
2	Energia	CTN Energia	Prof. Sulligoi
3	Beni Culturali	TICHE - Technological Innovation in Cultural Heritage	Prof. Pipan
4	Chimica verde	SPRING Sustainable Processes and Resources for Innovation and National Growth Cluster Tecnologico Nazionale della Chimica Verde	Prof. Gardossi
5	Mezzi e sistemi per la mobilità di superficie terrestre e marina	Trasporti2020	Prof. Sulligoi
6	Made in Italy (approvato, ma non ancora formalizzato)	Associazione Cluster Made in Italy	Prof. Fraziano



National Cluster to ENTER



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	CTN per la ricerca industriale	Nome gestore CTN	
1	Aerospazio	CTNA – Cluster Tecnologico Nazionale Aerospazio	
2	Agrifood	CL.A.N. CL.uster A.grifood N.azionale	
3	Fabbrica Intelligente	Associazione Cluster Fabbrica Intelligente	
4	Scienze della Vita	Cluster Tecnologico Nazionale Scienze della Vita ALISEI	
5	Tecnologie per gli ambienti di vita	Cluster Tecnologie per gli Ambienti di Vita Italian Cluster for Smart Living Technologies	
6	Tecnologie per le Smart Communities	Consorzio Cluster Tecnologico Nazionale sulle Tecnologie per le Smart Communities	





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At the University of Trieste departments are the units that promote, manage and carry out research. They are also in charge of organising doctoral research programmes (PhDs).

10 departments:

- **Chemical and Pharmaceutical Sciences**
- **Economic, Business, Mathematical and Statistical Sciences**
- **Engineering and Architecture**
- **Humanities**
- **Legal, Language, Interpreting and Translation Studies**
- **Life Sciences**
- **Mathematics and Geosciences**
- **Medicine, Surgery and Health Sciences**
- **Physics**
- **Political and Social Sciences**





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• **9 research centres:**

- **Centro Interdipartimentale Mente e Linguaggio,**
- **Centro Interdipartimentale di Gestione e Recupero Ambientale – CIGRA,**
- **Centro Interdipartimentale di Medicina Molecolare – CIMM,**
- **Centro Interdipartimentale di Ricerca sui Sistemi, Tecnologie e Servizi – RISTES,**
- **Centro Interdipartimentale di Studi Europei e Mediterranei – CISEM,**
- **Centro Interdipartimentale per la Ricerca Didattica – CIRD,**
- **Centro Interdipartimentale per le Neuroscienze – BRAIN,**
- **Centro Interdipartimentale per le Scienze Computazionali**
- **Centro Interdipartimentale su energia, ambiente, trasporti Giacomo Ciamician**

• **19 interuniversity research centres:**

- **http://www.units.it/c_interuni/index.php/from/ricerca_centri**





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Cooperation possibilities with University of Trieste

- Commissioning research (e.g., sub-contracting, third party research)
- Acquiring licenses/ transfer of patents
- Support of cooperation research (e.g. FPVII)
- Commissioning analyses/tests/trials
- Support by the creation of spin offs
- Launching of joint labs
- Financing of PhD programs/ research agreements





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Development stages of set up of INNOVATION OFFICE

The Innovation Office is the office that has the task to create, activate and manage the technology transfer.

March 2002

Filing of the first patent with the University as owner and start of technology transfer activities within the “Research Department”

December 2005

Set up of the division “Relationships with COMPANIES ”

July 2006

Start of the “NUOVO ILO” project (funded by MIUR ex art. 12 DM 262/04)

May 2008

Set up of Industrial Liaison Office as a staff branch of Administrative Direction

January 2018

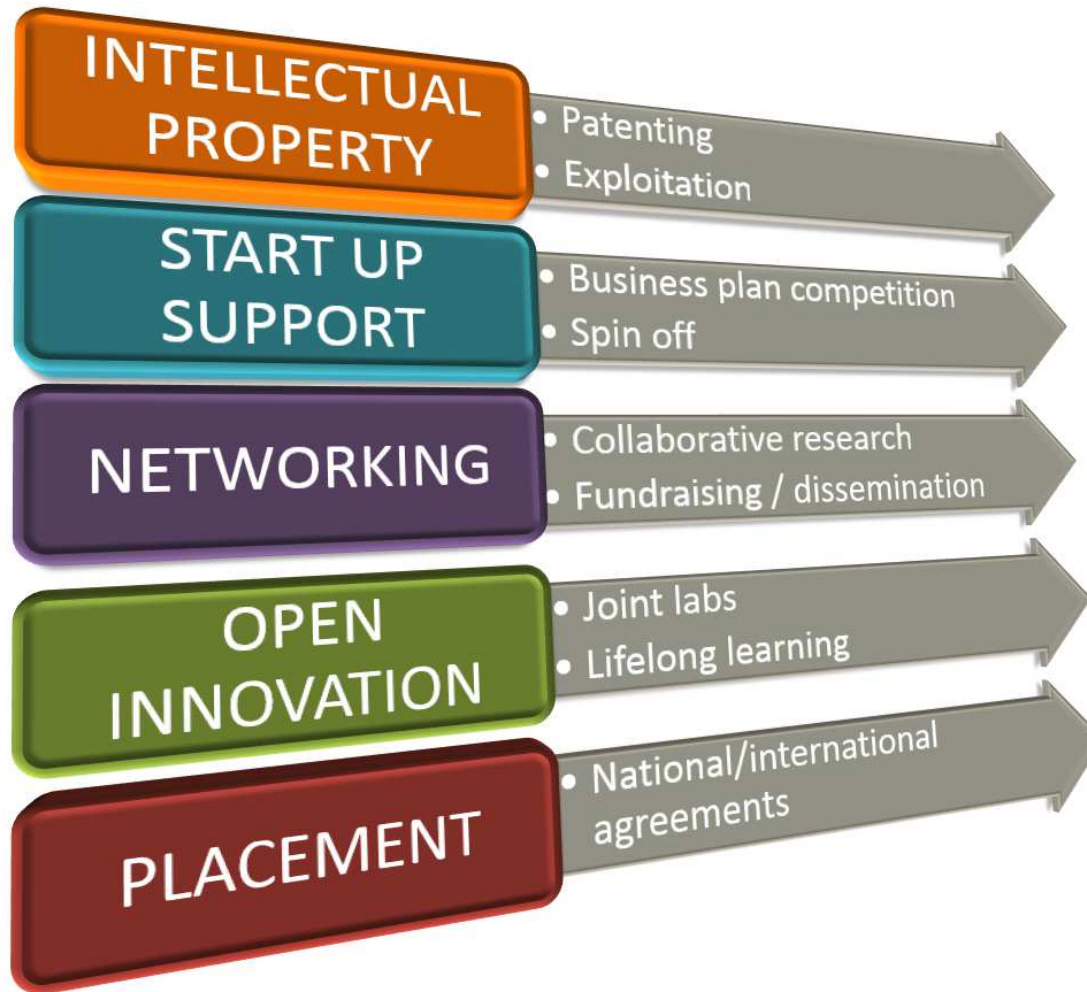
New activities (networking & open innovation) and new name: Innovation Office





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INNOVATION OFFICE business units

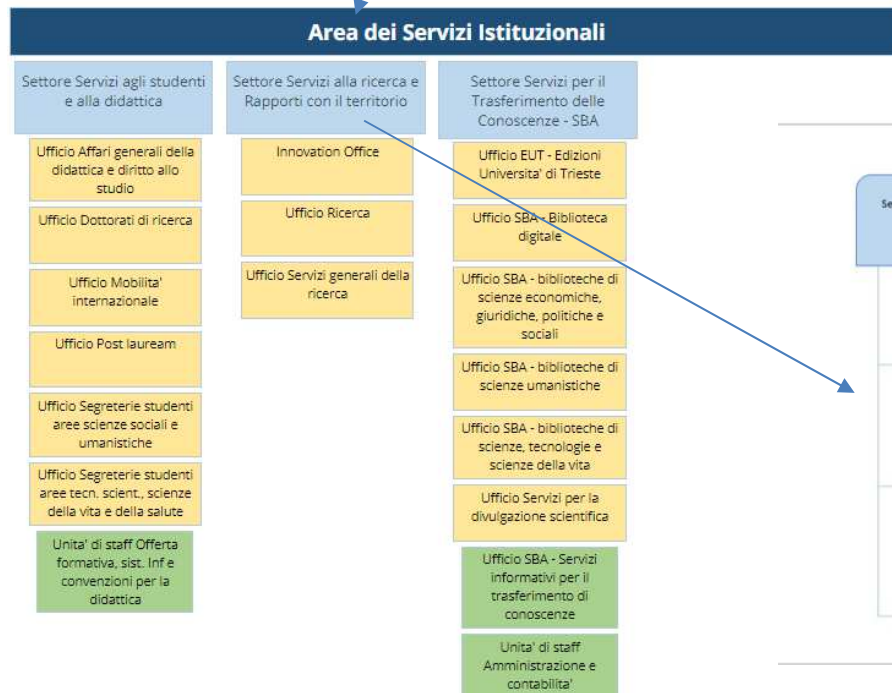




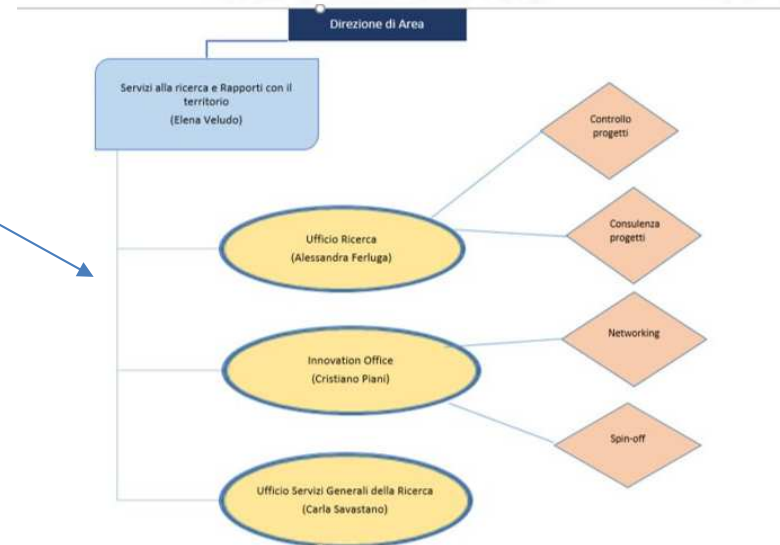
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AREE



In the big picture...





ILO activities outbound

- Promotion of patent portfolio (sell, licence, options, preemptions,...)
- Valorization of knowledge (collaborative and external research)
- Promotion of a culture of intellectual property (CCIAA project among companies)
- Support of the transfer of human capital (training, LLL)
- Promotion of Job Placement
- R & D forum, Job forum, participation at fairs, Venture Capital Days, communications in magazines etc.,
- Networking
- Internationalization (agreements es. with Appalachian State University)





ILO activities inbound

- Spreading the culture of intellectual property (among researchers and students)
- Support for ministerial projects or EU: fixo, INDUSTRY 2015, IRENE
- Manage own projects and collaborations across the countries: INTERREG ITA-SLO, LEGACOOOP, Innovation Committee ASSINDUSTRIA, TERRITORIAL MARKETING PROJECT CCIAA
- Offer strategic advice (patent strategies, spin-off contracts, contract research, transfer licences etc.)
- Promote Job placement and of lifelong learning (three-year degree courses in English Economics and Management of Innovation, Economics of Financial and Insurance Markets)
- Find Venture Capital (for spin off)
- Organize events like: R & D forum, Job forum, participation in fairs, Venture Capital Days, communication in magazines, network promotion etc.





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Best practice example : START CUP FVG

The UNITS-UNIUD-SISSA business plan competition that aims to promote the start up of innovative enterprises, through the use of results of scientific research

The initiative is aimed at individuals outside the university, or at the university population, as students, teachers, researchers, PhD students, technicians ...

In this second case, the aim of Start Cup is to encourage the creation of spin-offs, (initiatives to transform scientific knowledge into entrepreneurial assets)





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Best practice example: PACINNO



PACiNNO

Platform for
**trans-Academic
Cooperation
in Innovation**



Let's grow up together
Adriatic IPA
Cross Border Cooperation 2007-2013



Programme co-funded by the
EUROPEAN UNION

The goal of PACiNNO is to establish a platform for cooperation in research and innovation covering the whole Adriatic region. Targeting both research institutions, policy makers and business entities, the project will help develop new bridges between the research and scientific activities, carried out at academic institutions, and the economic system, with specific reference to the technological needs of SMEs. More generally, PACiNNO is aimed at overcoming the main obstacles and barriers to the economic development of the Adriatic countries, fostering the competitiveness of their minor firms (both in the high-tech fields and in the traditional industries), and promoting the creation of innovative start-ups.

To reach such ambitious goals, the project will capitalize on the several programs and initiatives already implemented in the Adriatic region by the EU, the national governments and the local stakeholders. PACiNNO will combine research activities with direct interventions in the local innovation systems.

The active involvement and participation to the project initiative of the key innovation stakeholders (research centres, territorial bodies, science and technology parks, business incubators, financial investors, business units, multinational companies based in the region) is meant to create a regional innovation system supported by a permanent platform of collaboration, where private and public institutions can interact and integrate their efforts and resources to favor innovation outcomes across the region, even after the end of PACiNNO.





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Best practice example: JOB@UNITS



- **2017:** 60 companies +1000 students or graduates
- Day of meetings between graduate students or undergraduates and companies to assess the opportunities for internships and employment
- Divided into two steps:
Morning: work tables on the themes of market work in specific areas of interest (economy and finance, government, life sciences, engineering and environment)
Afternoon: one-to-one meetings between companies and students





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Successful examples of common / third party research



Quark



- Development of new antimicrobial peptides
- Development of recombinant antibodies
- Development of new drugs
- Development of enzymes
- Development of new materials
- Operational vibration analysis and models
- Development of biosensors





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Examples of available patents

<u>3D matrices of human elastin like polypeptides and method of preparation thereof</u>
<u>Hydrogels of polysaccharides mixtures for tissue engineering and as carriers of active compounds</u>
<u>Peptides and aptamers thereof as specific modulators of mutant P53 function</u>
<u>Paint stripping composition and device for application thereof for paint stripping by peel-of</u>
<u>Carbon-Nanotube Modulation of Myocytes Cells</u>

List available at: <http://www2.units.it/brevetti/brevetti/> and examples:
<http://www.units.it/gallery/?a=paint-stripping>





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The new website: <http://www2.units.it/tto/>

VIDEO



Prof. Del Sal: peptides and aptamers thereof as specific modulators of mutant P53 function



Dott. Ivan Donati: hyaluronan-based polysaccharide mixtures for articular pathologies and ophthalmic surgery



Dott.ssa Eleonora Marsich: hydrogels of polysaccharides mixtures



Dott. Andrea Travan: antimicrobial and non-cytotoxic nanocomposites



Prof. Gianpiero Adami: paint-stripping method with non toxic solvents





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Patents and spin off (31/12/2018)

- ✓ First Patent: 2002
- ✓ Filed patent families: 67 (130 filings)
- ✓ Available patents: 95

- ✓ First spin off: 1999
- ✓ Spin off supported: 23
- ✓ Active spin off: 20





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Some Spin-offs



C-Energy srl

Tecnologie avanzate nell'ambito dei generatori a basso impatto ambientale basate su celle a combustibile
Contatti



Arco srl

Ambiente Ricerca COnsulenza e soluzioni sostenibili per la chimica
www.arcosolutions.eu



Dna Analytica srl

Prodotti e servizi per le analisi genetiche
www.dna-analytica.it



Bilimetrix

Creazione, sviluppo e validazione di un point of care per la determinazione della bilirubina nei neonati
Contatti



Iefluids

Ricerca in Fluidodinamica industriale e ambientale
www.ief fluids.com



Autologs

Soluzioni a problemi di ottimizzazione e gestione di risorse e di strumenti di supporto alle decisioni
www.autologs.eu



ES.TEC.O. srl

Software di simulazione e ottimizzazione
www.esteco.com



EU-RA spa

Europe-Rating; agenzia di credit rating
<http://www.eu-ra.com>



GENEFINITY srl

Prodotti per l'industria dei biosensori e applicazioni biomediche
www.genefinity.com



L.I.F.T. srl

Laboratorio di Ingegneria Ferroviaria e Traffico
www.liftlab.it



S.P.R.I.N. srl

Tecnologie per la chimica sostenibile
www.sprintechnologies.com



O3 Enterprise srl

Software e servizi per la sanità
www.o3enterprise.eu



NanoXer srl

Ricerca, sviluppo e produzione nel campo degli aereogel
Contatti



IFace srl

Ricerca e sviluppo nel campo della fusione sensoriale
Contatti



ModeFinance srl

Valutazione della qualità economico-finanziaria di società di capitale sia italiane che estere
www.modefinance.com



Esplora

Servizi e tecnologie per l'indagine non-invasiva del sottosuolo sia in campo terrestre che marino
www.esplorasrl.it



SPIN OFF UNIVERSITÀ DEGLI STUDI DI TRIESTE

Dyn@mika

Soluzioni gestionali per la finanza aziendale
Contatti



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STUD.ENT project (STUDent ENTrepreneurship)

STUD.ENT is the program aimed to promote the entrepreneurial skills in our students. It provides a full range of seminars, projects, challenges, events, career days, business plan competition where the main purpose is to bring students closer to the business world

**student
entrepreneurship**

uniTS





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contamination lab

units

Contamination Lab

The «Contamination Lab» is the UNITS HUB where 30 selected students can share a coworking space for 1 year assisted by mentors and colleagues, aimed to foster their entrepreneurial ideas. In this space they find qualified mentorship, a making corner with 3D printers, a complete range of seminar about soft skills and entrepreneurship, a comfortable coworking space.

WWW.UNITS.IT/CLAB





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HEAD project (High Education and Development)

HEAD is the program aimed to promote innovation among the companies through a strong link with the university research. UNITS (in the framework of an FSE project) funds a researcher for 1 year to perform 22 selected industrial research projects promoted by a company.



Unione europea
Fondo sociale europeo



REGIONE AUTONOMA
FRIULI VENEZIA GIULIA





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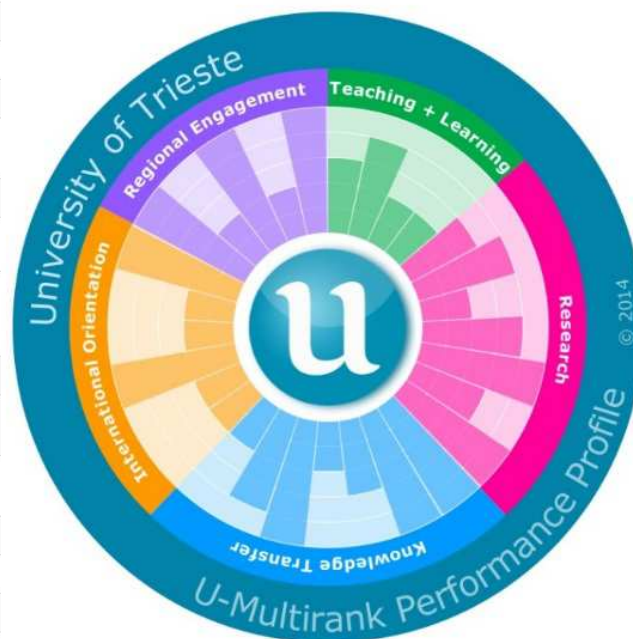
Ranking & Credits

ANNO 2018

Posizione	Target	Fonte
13	Italia	ARWU - Shanghai
6	Italia	U.S. News & World Report
222	Mondo	U.S. News & World Report
401	Mondo	ARWU - Shanghai
283	Mondo	RUR - Round World University Ranking 2017
87	Mondo	RUR - Round World University Ranking 2017 - Subject Ranking - Natural Sciences
201	Mondo	THE Times Higher Education - Subject Ranking
251	Mondo	THE Times Higher Education - Subject Ranking

ANNO 2017

Posizione	Target	Fonte
4	Italia - atenei medi fra 10000 e 20000 iscritti	Censis - La Repubblica 2017/2018
6	Italia	Censis - La Repubblica 2017/2018
5	Italia	U.S. News & World Report
12	Italia	CWUR University Ranking
29	Italia	Sole 24 Ore
75	Europa	U.S. News & World Report
186	Mondo	U.S. News & World Report
151	Mondo	QS World University Rankings
331	Mondo	CWUR University Ranking
351	Mondo	THE Times Higher Education
401	Mondo	ARWU - Shanghai



ITALIA

Italian Trade Commission

Italian University Ranking Public Universities

- 1 Politecnico di Milano
- 2 Università degli Studi di Modena e Reggio Emilia
- 3 Università degli Studi di Trieste
- 4 Politecnico di Torino
- 5 Università di Pavia
- 6 Università degli Studi di Ferrara
- 7 Università degli Studi di Trento
- 8 Università degli Studi del Piemonte Orientale
- 9 Università degli Studi di Padova
- 10 Università Politecnica delle Marche

Italian University Ranking Private Universities

- 1 Università Commerciale Luigi Bocconi- Milano
- 2 Università San Raffaele- Milano
- 3 Libera Università Internazionale degli Studi Sociali (LUISS)- Roma
- 4 Università Cattolica del Sacro Cuore (Milano)
- 5 Università Carlo Cattaneo (LIUC) (Castellanza -Varese)



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Social Networking – LinkedIn



Industrial Liaison Office - Università' degli Studi di Trieste

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The University of Trieste has been the first Italian university to join the iBridge Network. As of today, our university is the first one in the world displaying at the same time descriptions of technologies, explicative videos and evaluation reports. Our intention is to provide potential licensees and assignees with a set o documents that can convey useful information about our technologies, and make the technology transfer process way smoother. If you have any technology request or you are interested in our technologies, please join this group.

 Forward  Report as...





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www.units.it/tto

THANK YOU!

