China Intellectual Property Management Network

China Intellectual Property Management Network

GOOD PRACTICES GUIDE FOR TECHNOLOGY TRANSFER AND INTELLECTUAL PROPERTY MANAGEMENT IN HIGHER EDUCATION INSTITUTIONS

D1.2.3

Co-funded by the Erasmus+ Programme of the European Union

Authoring information	
Project	China Intellectual Property Management Network
Acronym	CIPnet
Grant Number	586103-EPP-1-2017-1-PL-EPPKA2-CBHE-JP
Document Authors	Ms. Noelia López, Senior Project Manager of the International Project Management Office, University of Alicante and Dr. Roberto Escarré, Director of the International Project Management Office, University of Alicante.

CIPnet Consortium

European Union

- Jagiellonian University (Poland) – Project Coordinator
- University of Alicante (Spain)
- Maastricht University (The Netherlands)

China

- Beijing Institute of Technology
- Renmin University of China
- Lingnan Normal University
- Nankai University
- Southwest University
- Chongqing Three Gorges University
- East China University of Political Science and Law

Contact information:
International Project Management Office (OGPI) – University of Alicante
Website: www.ogpi.ua.es
CIPnet: www.cipnet.eu

Acknowledgments

To the dedicated staff in the partner institutions who are truly invested in the success of this project and were responsible for conducting the interviews which provided the data for this guide; as well as to the European Commission for supporting and co-funding this project through the Erasmus+ Programme.

Co-funded by the
Erasmus+ Programme
of the European Union

Legal Notice

The present document was developed and edited by the partner institutions of the Erasmus+ project “China Intellectual Property Management Network” – CIPnet, under the coordination of the University of Alicante. The results, views and opinions expressed in this publication are those of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.

Edited by the University of Alicante, Spain

Please cite this publication as: Good practices Guide for Technology Transfer and Intellectual Property Management in Higher Education Institutions. López N. & Escarré R. eds. (2020). CIPnet project. Erasmus+ Programme of the European Union.

Co-funded by the
Erasmus+ Programme
of the European Union

The CIPnet Project is co-funded by the Erasmus+ Programme of the European Union, with Grant Agreement for an Action with multiple beneficiaries under project reference No. 586103-EPP-1-2017-1-PL-EPPKA2-CBHE-JP. The Erasmus+ Programme is implemented by Education, Audiovisual and Culture Executive Agency (EACEA).

Table of contents

Co-funded by the
Erasmus+ Programme
of the European Union

Co-funded by the
Erasmus+ Programme
of the European Union

LIST OF ACRONYMS

BTBU	Beijing Technology and Business University
BU	Baoshan University
CIPnet	China Intellectual Property Management Network
CUT	Chongqing University of Technology
EU	European Union
HEI	Higher Education Institution
IP	Intellectual Property
IPR	Intellectual Property Rights
JU	Jagiellonian University
MU	Maastricht University
MUMC	Maastricht University Medical Center
RUC	Renmin University of China
R&D	Research and Development
SUEP	Shanghai University of Electric Power
SMU	Southwest Medical University
SUPSL	Southwest University of Political Science and Law
THU	Tsinghua University
TT	Technology Transfer
TTO	Technology Transfer Office
UA	University of Alicante
USST	University of Shanghai for Science and Technology
WP	Work Package

Co-funded by the
Erasmus+ Programme
of the European Union

1. INTRODUCTION

1.1. CIPnet Project

The "China Intellectual Property Management Network" – CIPnet project is an Erasmus+ Capacity Building project, within KA2 – Cooperation for innovation and the exchange of good practices – Capacity Building in the field of Higher Education.

The project aims at promoting the modernisation and harmonisation of Intellectual Property Management practices in the higher education system, with a view to enhance university-industry collaborations and contribute to economic and social development in China.

The specific objective of the CIPnet project is to establish a **National Higher Education Intellectual Property Management Network** as a learning platform to foster the modernisation, harmonisation and strategic planning of IP Management practices and regional integration in Higher Education of China.

CIPnet operates targeting the Chinese Higher Education system, thanks to a complementary consortium involving seven of the most relevant Chinese Higher Education Institutions (HEIs) with geographical balance and three European HEIs with a long-standing experience in Technology Transfer (TT), Intellectual Property (IP) Management and international cooperation. The project is fully aligned with the Chinese Government TT and IP Policy and will be an excellent complementary bottom-up initiative to build the capacity of the Chinese Universities in TT and IP management.

The CIPnet project is implemented by the following consortium:

1. Jagiellonian University (Poland)
2. University of Alicante (Spain)
3. Maastricht University (The Netherlands)
4. Beijing Institute of Technology (China)
5. Renmin University of China (China)
6. Lingnan Normal University (China)
7. Nankai University (China)
8. Southwest University (China)
9. Chongqing Three Gorges University (China)
10. East China University of Political Science and Law (China)

Co-funded by the
Erasmus+ Programme
of the European Union

The CIPnet activities have been designed based on an analysis exercise that underlines a general lack of know-how for establishing and implementing clear-cut strategies for the protection and exploitation of research results. CIPnet will tackle the identified problems and carry out activities to improve the situation at different levels:

- **At Higher Education strategic level** there is a need for institutional change based on knowledge sharing and standard IP management strategies leading to standard procedures on the protection of IP results at institutional level. A networking approach fostering the enrolment of other HEIs in China out of the consortium is also needed. The involvement of governmental bodies as associate partners will also be promoted.
- **At operational level**, enhancement of staff from TT/IP Offices, university researchers and students and the guidance for setting up a National Higher Education Intellectual Property Network – CIPnet – is considered essential for promoting a change in this area.

The project has been grouped into six work packages. The main objective of *activity 1.2 – Benchmarking of TT&IP good practices* within *WP 1 - Benchmarking & Needs Analysis Activities* was to identify already existing TT&IP good practices that could be replicated by the members of the CIPnet network.

The guide was carried out jointly by all partners – this required the effort of EU partners for benchmarking methodology development and to collect data for preparing EU case studies as well as of Chinese partners to collect data and prepare national case studies. WP 1 was coordinated by UA, project partner, with the support of JU, project coordinator. This report is one of the main outputs of the CIPnet project, specifically deliverable D1.2.3 “Good practices Guide for TT&IP management in HEIs” and it will form the knowledge base for all further project activities, given their applicability to and potential for reinforcing the impact of all further actions.

1.2. Methodology

In order to prepare the guide, WP leader - UA developed the Benchmarking Methodology consisting of the Guidelines and Questionnaire for the face-to-face interviews and shared it with the consortium for feedback. This document includes the description and all relevant details of this activity, including tasks and responsibilities to be undertaken by each partner.

Chinese partners chose 14 Chinese HEIs for the national study visits and communicated their selection to WP leader to avoid overlapping among partners. From February to October 2019, Chinese partners conducted the face-to-face interviews, using the questionnaire provided,

and collected the relevant information. The information gathered during the interviews served for the preparation of the 14 National Case Studies that were prepared using the template provided to ensure comparability. On the other hand, EU partners submitted three case studies on TT & IP management from their universities as learning effect that could be replicated by the Chinese partners. WP leader collected and compiled all the case studies and prepared the Good practices Guide for TT&IP management in HEIs.

The Good practices Guide for TT&IP management in HEIs includes a series of good practices identified during the interviews conducted by Chinese partners and those detected at EU partners that could be implemented by Chinese HEIs.

The identified good practices have been presented in a reader-friendly format and using a transparent structure that includes a short description of the case study, an introduction of the HEI and information allowing to establish the context of the good practice (background), the main outcomes achieved as a result of the good practice (achievements), awards received and the positive impact on the target groups and final beneficiaries.

Co-funded by the
Erasmus+ Programme
of the European Union

2. EU CASE STUDIES

2.1. Jagiellonian University:

2.1.1. Proof of concept grants

Case Study name	Proof of concept grants as an example of good practice in TT and IP management at the Jagiellonian University
HEI name	Jagiellonian University
Case study author	Krystian Gurba, Deputy Director at CTT CITTRU; Olena Roguska, PhD Student
Country	Poland
Target Groups of this activity/ Project/service	Academics, researchers
Date	05/04/2019
PROFILE	
SHORT DESCRIPTION	Since 2015, Centre for Technology Transfer CITTRU has been awarding small grants (up to 25,000 EUR) for development of promising research results which are susceptible to industrial application. Research teams may apply for a grant to increase the technology readiness level, for example, through construction of a prototype or testing in semi-industrial environment. CTT CITTRU grants this type of funding within the framework of projects managed by it: "Innovation Incubator" (2014-2015), "Innovation Incubator+" (2017-2019) and "Innovation Incubator 2.0" (2019-2020), financed by the Ministry of Science and Higher Education. CTT CITTRU plans to extend this form of support and to make it a sustainable and permanent opportunity for research teams. The proof of concept grants enable to cover most of the research costs (personnel, use of infrastructure, materials) as well as costs of activities required to make a technology more mature and attractive for business, managed directly or indirectly by CTT CITTRU brokers (patent protection, promotion, assessment of technologies, external expertise and valuation).
BACKGROUND	The Jagiellonian University is the oldest Polish university. It comprises 16 faculties with over 5500 of academic teachers and researchers and almost 45000 students. The Jagiellonian University has top-notch research centres: Małopolska Centre of Biotechnology, SOLARIS Synchrotron, the Jagiellonian Centre for Experimental Therapeutics, OMICRON, CITTRU, Copernicus Center for Interdisciplinary Studies and Life Science Park. In 2017, the Jagiellonian

	University obtained patent protection for 55 inventions (28 in Poland and 27 abroad). Centre for Technology Transfer CITTRU was founded at the Jagiellonian University in 2002. Its main purpose is to support science development by strengthening cooperation and communication between academic institutions and potential partners and stakeholders. CTT CITTRU supports development of science through building portfolio of technologies, ideas and strong relationships with the business and bridging a gap between science and society.
KEY WORDS	Intellectual property management, technology transfer, technology transfer office, grant funding, proof of concept
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Since 2015, at least 22 proof of concept projects for development of technologies from the Jagiellonian University have been financed and concluded. Below are several examples of successful innovations developed with the support of CTT CITTRU and financed from proof of concept funds: - "Photocatalytic TiO2 coatings at the polymer surfaces" technology has been developed by researchers from the Faculty of Chemistry. This technology is being commercialized by the spin-out company established by the authors of invention. The company has an option for a license of this technology from the Jagiellonian University. - The invention „Pyrroloquinoline derivatives as 5 HT6 antagonists, preparation method and use thereof", a drug development project for treatment of CNS diseases such as Alzheimer disease, dementia and depression, has been licensed in 2015 to a company. The licensee in cooperation with inventors is now conducting further research towards the novel drug for central nervous system diseases. The project is the first drug development technology which was licensed from the Jagiellonian University. - The invention "Immunostimulating preparation for the fish" developed by the interdisciplinary team from the Faculty of Biology has been licensed to a Polish company. The product based on this invention is already available on the market.
AWARDS	In April 2018 Clarivate Analytics (formerly known as Thomson Reuters) included the Jagiellonian University for the third consecutive time in the TOP 100 Europe's Most Innovative Universities Ranking, as the only University from Central and East Europe, emphasizing the role of CTT CITTRU and its successful assistance for "more than 80 research teams at the university to

	provide services and license intellectual property to businesses, public institutions and other research centers". In 2017, the Aquasan Immuno – product based on the invention "Immunostimulating preparation for the fish" was awarded at the International Fair "PetFair".
KEY SUCCESS FACTORS	The main key success factor is the straightforward process of funding. Another advantage is the assistance of competent CTT CITTRU broker throughout the whole process of the research financed by proof of concept funds. The projects for proof of concept grants were selected by a special Investment Council, primarily consisting of business sector representatives, which resulted in selection of technologies that were most promising and susceptible of application, as well as in additional feedback for the researchers.
IMPACT	The establishment of proof of concept projects instrument by CTT CITTRU has a positive impact on key stakeholders of the innovation system on local, regional, national and international level. The number of new results submitted to CTT CITTRU has increased. Researchers are also more interested in applying for assistance of CTT CITTRU since they know they can get a complex and professional support. Already several of the technologies developed during proof of concept research have been commercialized, and more are in the process of negotiation with companies and VCs. The pilot actions of proof of concept funding have been a success, that is why the Ministry of Science and Higher Education increased the role of this component in financing programmes for technology transfer offices.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://www.sciencemarket.pl
CONTACT DETAILS	
Surname, Name	Gabriela Konopka-Cupiał
Role	Director
Institution	Centre for Technology Transfer CITTRU
Address	Ul. Bobrzyńskiego 14, 30-348 Kraków, Poland
Telephone	+48 12 664 42 00
E-mail	cittru@uj.edu.pl

2.1.2. Spin-out company AquaBeeTech. TRL (Technology Readiness Level)

Case Study name	**Spin-out company AquaBeeTech. TRL (Technology Readiness Level)**
HEI name	Cracow University of Technology
Case study author	Iryna Fesiuk
Country	Poland
Target Groups of this activity/Project/service	Academics, researchers, inventors
Date	18/03/2021
PROFILE	
SHORT DESCRIPTION	Since 2014 Technology Transfer Centre of the Cracow University of Technology (TTC CUT) has organized 4 editions (the 4th is pending) of the project *Inkubator Innowacyjności* (*Innovation Incubator*) co-financed by the Ministry of Science and Higher Education, aimed at commercialization of the results of scientific researches at CUT. Within the Project the innovators (students and researchers of the CUT) may apply for grants (up to 23,000 EUR net, which shall comprise no more than 90% of the overall qualified costs) for covering the costs of: - research, - activities necessary for improvement of TRL (Technology Readiness Level) of the innovation, - adjustment of the innovation to the market requirements, - organizational and institutional support in formalization the spin-off/spin-out companies, etc.
BACKGROUND	The Cracow University of Technology is one of the oldest Polish technical universities. It comprises 8 faculties with almost 300 academic teachers and researchers and over 14000 students. In its structure the CTU has also 14 other research and supporting academic units, among which the Entrepreneurship Incubator, Centre for Development and Competence "Industry 4.0", Technology Transfer Centre, FutureLab PK, Małopolska Centre of Energy Saving Construction, Intercollegiate Centre of New Medical Techniques and Technologies. TTC CUT started its activity in 1997 as Fellow Member to the IRC network partner. For years the institution was improved considering the challenges of the market and core aim of building the contact between the researchers and business. Within the mentioned Project of the *Innovation Incubator* TTC CUT performed: - 28 pre-implementation works for the amount of approx. 613 000 Euro, - established one spin off (Spektronik) and one spin out company (AquaBeeTech), - filed 57 patent applications (including 8 PCTs), - signed 70 agreements signed (NDA, cooperation and license ones).
KEY WORDS	*Intellectual property, Technology Readiness Level, knowledge transfer, technology transfer, cooperation, commercialization, spin out companies, grant funding.*
IMPACT|RESULTS|OUTCOMES	

Co-funded by the
Erasmus+ Programme
of the European Union

ACHIEVEMENTS	Within the Innovation Incubator 2.0 two researchers from CUT applied with their own technical solution – honey dehumidifier (the invention was not related to the researches performed within their works at the CUT). The entry requirements for the participation in the Innovation Incubator for the inventors were: (i) transfer of their IP rights to the solution to the CUT, and (ii) investment of their own share (10% of costs, i.e. approx. 2300 Euro) (payable by the University), and both requirements were fulfilled. The patent application for the applied innovation has been filed by the TTC CUT and is currently proceeded the Polish Patent Office. As a result of the support from TTC CUT in February 2020 there was founded a **spin-out LLC AquaBeeTech** with two shareholders (researchers) - dr. engineer Marcin Malec and dr. engineer Marcin Morawski. AquaBeeTech uses the invention on the base of the ***exclusive license agreement*** for the period of 10 years; the license payment is calculated as fixed percentage from income (received from the sale of the devices as well as for the services provided by means of the devises) or minimum fixed amount in case the income will not be generated; the provisions of the agreement also reserve for the company a prevailing right to buy all the exclusive rights for the innovation in future. The support of the TTC CUT and funds of the grant were used for: - increasing of the TRL of the innovation (up to TRL 9); - legal support of the process of company founding (provided by INTECH PK – the company founded solely by the CUT); - consulting, training of the staff and promotion.
AWARDS	The company AquaBeeTech took the first award in the Kraków StartUp Challenge organized by BLDG Venture Sp. z o.o. and the Kraków City of Start-ups foundation "Kraków – the city of Start-ups".
KEY SUCCESS FACTORS	The main key success factor of founding the spin-out company is the stimulation of the (i) "self-commercialization" of the innovation and (ii) innovators' business activity, which is ensured by provision of complex financial, legal, organizational and promotional support from TTC CUT. Additionally, the fact that the filed applications are assessed by the professional commission basing on their perspectivity (not depending on the technical readiness level (TRL)), it gives a chance to the researchers to get support and motivation for the improvement of their promising but not yet well prepared for the market innovations.
IMPACT	Stimulation of the researchers to found the spin-out companies has a positive impact on key stakeholders of the innovation system on local, regional, national and international level. In this case

Co-funded by the
Erasmus+ Programme
of the European Union

	(i) the innovators themselves are interested in improvement and marketing of the innovation, (ii) the CUT benefit financially from the license agreement, (ii) TTC and Innovation Incubator enjoy additional promotion. Success of this as well as parallel projects of the TTC (proof of concept, spin-off company) increases the interest of other researchers. While within the first three editions the TTC CUT got 85 application, for the fourth edition of the Innovation Incubator 35 applications were submitted.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	https://www.transfer.edu.pl/en/ http://aquabeetech.pl/
CONTACT DETAILS	
Surname, Name	M.Sc. Joanna Szypulka
Role	Head of the Commercialization Team
Institution	Technology Transfer Centre Cracow University of Technologies
Address	24 Warszawska str. 31-155 Kraków
Telephone	+48 12 628 26 81
E-mail	szypulka@transfer.edu.pl

Co-funded by the
Erasmus+ Programme
of the European Union

2.2. University of Alicante

2.2.1. ua:emprende

Case Study name	ua:emprende
HEI name	University of Alicante
Case study author	Loren Moreno; Noelia López
Country	Spain
Target Groups of this activity/ Project/service	Academics, researchers, students and graduates
Date	12/03/2019
PROFILE	

SHORT DESCRIPTION	**ua:emprende** is an institutional program that supports and encourages entrepreneurship at the University of Alicante, promoted by the Vice-rectorate of Research, Development and Innovation and by the Vice-rectorate for Students. The program concentrates and organizes all the activities for the promotion of entrepreneurial culture within the university campus. The objective of the programme is to raise awareness and increase the number of innovative spin-off companies (researchers) and start-up companies (students/graduates).
	The services provided are the following:
	- **Training**
	  ○ ua:emprende lab: a tool that provides skills to entrepreneurs to develop and accelerate their business ideas.
	  ○ Train the trainers: to promote entrepreneurship among students
	- **Coaching and Mentoring** to students/graduates and researchers by mentors from the Permanent University via the volunteer programme "Mentoring as an instrument of entrepreneurial improvement "
	- **Competitions**:
	  ○ IMPULSO (Business Plan competition for spin-off & start-ups), TRIATLON (social entrepreneurial ideas).
	- **Incubation**: Alicante Science Park

BACKGROUND	The University of Alicante, since its foundation in 1979, has been an observer and participant in the social and economic processes that have transformed Alicante society, providing it with knowledge, technology and science resources capable of making it more dynamic, open, modern and global. However, it is precisely at the moment, when social and economic changes and transformations are taking place that affect society as a whole, when the

	role of the University is reinforced by the need to provide solutions that contribute to catalyse the processes of adaptation and development of economic activities that enable the restoration of employment and well-being. The University, which has always constituted a reservoir of science and technology, must play a relevant role in the promotion of innovative and sustainable new companies. Entrepreneurship is nowadays, not only an option or alternative for the professional and personal development of our university community, but also an economic and social demand that our University wants to contribute to satisfy by promoting and engaging with entrepreneurs. Aware of this, in recent years the University of Alicante has focused on intensifying its actions in terms of entrepreneurship, assuming a new role as Entrepreneurial University, a role that is now intensified with the implementation of the ua:emprende program.
KEY WORDS	Entrepreneurship, spin-off, start-up, mentoring, incubation
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Number of entrepreneurs advised: 500 Number of entrepreneurs trained: 150 Number of companies incubated: 36 Number of spin-off companies created: 7 Number of spin-off companies from ua:emprende tenants at Alicante Science Park: 6 Number of companies created via the IMPULSO competition: 11
AWARDS	*Second prize (accesit) in the* 5th edition of the Awards to the best practice in Science and Technology Parks members of APTE (Association of Science and Technology Parks of Spain) 2018. Modality 1: Science and Technology Parks with 10 or less years since the inauguration of the Park.
KEY SUCCESS FACTORS	Some of the main contributors to success include: - ua:emprende is a project managed by the Vice-rectorate of Research, Development and Innovation and the Vice-rectorate for Students of the University of Alicante involving an important range of stakeholders such as Alicante Science Park, Permanent University of the University of Alicante, Local Development Agency, business professionals, private companies and financial institutions. - ua:emprende is a comprehensive program that includes awareness, training, mentoring and all the work of accompanying the entrepreneur, culminating in public recognition and the award of various prizes in cash and in kind.

Co-funded by the
Erasmus+ Programme
of the European Union

	- The IMPULSO prizes are awarded in an innovative ceremony that includes an attractive and useful presentation for innovative entrepreneurs by a key note speaker and a relaxed atmosphere in which all attendees can network. The event is attended by political authorities, Local and Regional Development Agencies, private companies, entrepreneurs and the university community (academics, researchers and students).
IMPACT	Awareness raised and positive attitudes towards entrepreneurship promoted within the university community (researchers and students) More spin-off and start-up companies coming out of the University of Alicante created. Employment created (approximately 90 jobs).
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	https://uaemprende.ua.es/
CONTACT DETAILS	
Surname, Name	Noelia López del Castillo
Role	Senior Project Manager
Institution	University of Alicante
Address	Carretera San Vicente s/n 03690 San Vicente del Raspeig Alicante (Spain)
Telephone	(+34) 965 90 97 18
E-mail	uaemprende@ua.es

Co-funded by the
Erasmus+ Programme
of the European Union

2.2.2. LEAN CT

Case Study name	LEAN CT
HEI name	University of Alicante
Case study author	Loren Moreno; Robert Pocklington; Noelia López
Country	Spain
Target Groups of this activity/Project/service	Researchers, students and graduates with a business idea with a scientific or technological base that have not yet started or are in the process of carrying out market or business model validation.
Date	25/02/2021
PROFILE	
SHORT DESCRIPTION	***Lean CT*** is an intensive market and business model validation program. Its objective is to help participants transform their research results or scientific or technological ideas into business models validated in the market. The methodology applied is *Lean Launchpad* which combines face-to-face sessions with work outside the classroom led by an expert instructor in the field. This format works well with a maximum of 8 projects. In 2020 (first edition), 8 projects were selected, out of which: 6 were researchers, and 2 were tudents.
BACKGROUND	The University of Alicante, since its foundation in 1979, has been an observer and participant in the social and economic processes that have transformed Alicante society, providing it with knowledge, technology and science resources capable of making it more dynamic, open, modern and global. However, it is precisely at the moment, when social and economic changes and transformations are taking place that affect society as a whole, when the role of the University is reinforced by the need to provide solutions that contribute to catalyse the processes of adaptation and development of economic activities that enable the restoration of employment and well-being. The University, which has always constituted a reservoir of science and technology, must play a relevant role in the promotion of innovative and sustainable new companies. Entrepreneurship is nowadays, not only an option or alternative for the professional and personal development of our university community, but also an economic and social demand that our University wants to contribute to satisfy by promoting and engaging with entrepreneurs. Aware of this, in recent years the University of Alicante has focused on intensifying its actions in terms of entrepreneurship, assuming a new role as Entrepreneurial University, a role that is now intensified with

	the implementation of the ua:emprende programme, a programme that boots entrepreneurship within the University of Alicante. The program LEAN CT is part of the ua:emprende programme, which fosters entrepreneurship, promoted by the Vice-Rector's Office for Transfer, Innovation and Scientific Dissemination and by the Vice President's Office for Students and Employability. LEAN CT combines face-to-face sessions with work outside the classroom (flipped classes) and personalized advice from mentors who provide sector or business knowledge.
KEY WORDS	*Spin-off, start-up, lean launchpad, lean startup, technology transfer, innovation, market, customer discovery*
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Out of the 8 projects that took part in the first edition of this programme: - 1 project entered the Open Future "el Ático", a space for incubation and acceleration of technological projects promoted by the University of Alicante and the company *Telefónica,* located in the center of Alicante, Spain. - 2 projects evolved a lot besides starting from a position very far from what the market needed. Thus, the market helped them to detect their shortcomings and to make the first contracts with companies. - 3 Technology-Based Companies were created - another project was an already established company that the program helped to rethink its business strategy. Furthermore, one of the created companies won *the Coca-Cola National Circular Seas award* and has entered *the business accelerator promoted by Mercadona's President, Juan Roig*. Another project has received an accessit in the Valencian Innovation Agency (*AVI) awards* for entrepreneurial doctoral thesis. These two projects have also been the winners of the last edition of the *IMPULSO awards*, that rewards the most innovative and sustainable entrepreneurial initiatives from the university community.
AWARDS	n/a
KEY SUCCESS FACTORS	LEAN CT' main contributors to success include: - Teaches each participant to validate their market and their business model - The program detects soon enough whether a company should start running or not.

Co-funded by the
Erasmus+ Programme
of the European Union

	- Contributes to face their business project to the market from the first minute. - Change the focus from "we can offer this solution" to "what my client needs is this other". Many initiatives are launched without prior validation, which causes that once they are established, they dedicate a lot of effort to find their business model or try to sell their solution directly. The problem is that previously entrepreneurs have not tested whether their solution interests someone or, in other words, whether there is a market. -The method helps them to polish their value proposition (their solutions, whether services or products), to define their target, their resources, and activities.
IMPACT	• Minimize market risk, one of the main reasons why these companies fail. • Increse the survival rate of the companies created within the programme • 3 Technology-based companies created • 5 Projects found relevant partners during, and due to, the process. • 5 commercial or development agreements were closed with third parties. • All of the projects (8) pivoted during the programme, saving time and money compared with doing it once the company is launched.
PHOTOGRAPH / DIAGRAM	 
INFORMATION SOURCES	
WEBSITE	https://uaemprende.ua.es/es/uaemprende-leanct-2020.html
CONTACT DETAILS	
Surname, Name	Noelia López del Castillo
Role	Senior Project Manager
Institution	University of Alicante
Address	Carretera San Vicente s/n 03690 San Vicente del Raspeig Alicante (Spain)
Telephone	(+34) 965 90 97 18
E-mail	uaemprende@ua.es

Co-funded by the
Erasmus+ Programme
of the European Union

2.3. Maastricht University

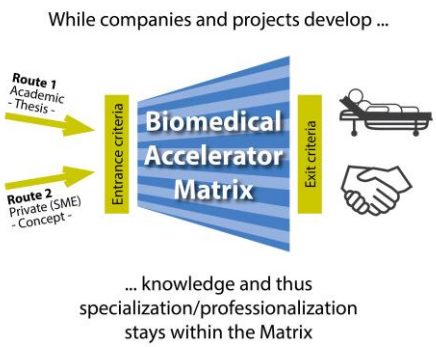
2.3.1. Chemelot InSciTe-Biomedical Accelerator Matrix

Case Study name	Chemelot InSciTe-Biomedical Accelerator Matrix
HEI name	Maastricht University
Case study author	Prof. Anselm Kamperman Sanders
Country	The Netherlands
Target Groups of this activity/ Project/service	**INNOVATORS** A. Universities & Academic Medical Centers • Maastricht University • Clinical Trial Center Maastricht [Maastricht University Medical Center] • Technische Universiteit Eindhoven B. Industrial and Technological Organisations DSM Innovation Center B.V., Chemelot Scientific Participations B.V., CiMaas, TRIPLEMED, neuroplast, VACIS, ETB-BISLIFE, Eyegle bv, InnFocus (A Santen Company), MATERIOMIX, REGMED XB, SupraPolix and Xilloc Categories of innovators: Project leaders, participant representatives, Clinician-Researchers/Practitioners, Senior researchers (post-doctoral candidates), PhDs, Post graduate Researchers and Technicians. **REGULATORS:** A. Government (The Provincie Limburg) B. Health Technology Regulatory Bodies (safety and efficacy) C. Policy makers **CONSUMERS:** Patient groups and target group among university (staff and/or students); target groups among businesses; other stakeholders **OTHERS:** NGOs and payers
Date	15/03/2019
PROFILE	
SHORT DESCRIPTION	A. A common IP guidelines framework driving re-engineered (university, industry and government) collaborations in the Limburg Province. B. Clear definitions and rules for background IP, foreground IP, ownership, access rights, value disbursements and disseminations. C. Guidelines seem to cover broad technology transfer themes including knowledge exchanges, IP for further development or commercialization, technology & material movements, learning &

Co-funded by the
Erasmus+ Programme
of the European Union

	social interactions to accommodate features of the Triple, Quadruple and Quintuple Helix Innovation themes. D. Guidelines direct technology validation and valorization as simultaneous processes along a 'social impact value cycle'.
BACKGROUND	Maastricht university and Maastricht University Medical Center (UM/MUMC) are among the founding fathers of the InSciTe framework. As participants in the Biomedical research themes of the InSciTe framework including SEAMS, EYESCITE, BEAM-NL, OCDC, POSTURE, SYCAP and XS-GRAFT, UM/MUMC function in accordance with InSciTe stipulated project and IP guidelines and thus can establish the context of good IP practice.
KEY WORDS	Re-engineered University-Industry collaborations, Technology validation, Technology valorization, Technology transfer, Intellectual property and social innovation.
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	A young health technology validation unit (3 years of age) with 8 ongoing university-industry-government collaborative research programs in the fields of ophthalmology, cardiovascular disease and orthopaedics. A validated, well governed social innovation model for Translational research in biomedical sciences.
AWARDS	The Chemelot Institute for Science & Technology (InSciTe) received an EU OPZuid grant of €1.6 million to further the development and validation of the (Bio)medical Accelerator Matrix in 2017. The Provincie Limburg added to this with an additional funding of €157,000.
KEY SUCCESS FACTORS	• Excellent framework and governance structure for the submission and evaluation of project proposals • Trustworthy/dispute free collaborative environment • Cross-sectoral and cross-cultural approaches to bring knowledge and know-how together • Lower costs and lesser risks in technology translation • Clear road map (projection of results) for technology translation • State-of-the art facilities, experience & expertise and quality control • Responsible research and innovation with focus on expertise, experimentation, education and Entrepreneurship • Patent to Patient & Markets with the core focus on the "Innovation Valley of Death" is the guiding philosophy
IMPACT	Governmental authorities and policy makers acknowledge the efficacy of the Biomedical Accelerator Matrix model https://www.chemelot-inscite.com/en/news/minister-ingrid-van-engelshoven-visited-biomedical-facility-inscite

Co-funded by the
Erasmus+ Programme
of the European Union

PHOTOGRAPH / DIAGRAM	

INFORMATION SOURCES	
WEBSITE	https://www.chemelot-inscite.com/en/who-are-we
CONTACT DETAILS	
Surname, Name	Dr. Emiel Staring
Role	CEO
Institution	Chemelot InSciTe
Address	Urmonderbaan 20F 6167 RD Sittard-Geleen, The Netherlands
Telephone	+31 46 702 28 00
E-mail	info@chemelot-inscite.com

2.3.2. Chemelot InSciTe-Biomedical Accelerator Matrix (update)

Case Study name	Chemelot InSciTe-Biomedical Accelerator Matrix
HEI name	Maastricht University
Case study author	Prof. Anselm Kamperman Sanders

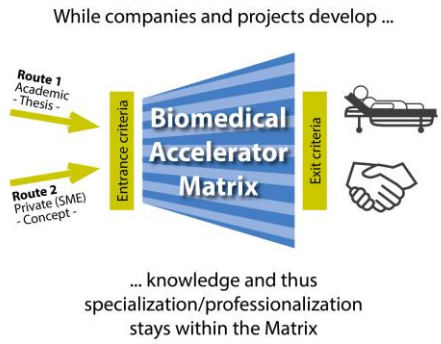
Co-funded by the
Erasmus+ Programme
of the European Union

Country	The Netherlands
Target Groups of this activity/Project/service	***INNOVATORS*** A. Universities & Academic Medical Centers • Maastricht University • Clinical Trial Center Maastricht [Maastricht University Medical Center] • Technische Universiteit Eindhoven B. Industrial and Technological Organisations DSM Innovation Center B.V., Chemelot Scientific Participations B.V., CiMaas, TRIPLEMED, neuroplast, VACIS, ETB-BISLIFE, Eyegle bv, InnFocus (A Santen Company), MATERIOMIX, REGMED XB, SupraPolix and Xilloc Categories of innovators: Project leaders, participant representatives, Clinician-Researchers/Practitioners, Senior researchers (post-doctoral candidates), PhDs, Post graduate Researchers and Technicians. ***REGULATORS:*** A. Government (The Provincie Limburg) B. Health Technology Regulatory Bodies (safety and efficacy) C. Policy makers ***CONSUMERS:*** Patient groups and target group among university (staff and/or students); target groups among businesses; other stakeholders ***OTHERS:*** NGOs and payers
Date	
PROFILE	
SHORT DESCRIPTION	A. A common IP guidelines framework driving reengineered (university, industry and government) collaborations in the Limburg Province. B. Clear definitions and rules for background IP, foreground IP, ownership, access rights, value disbursements and disseminations. C. Guidelines seem to cover broad technology transfer themes including knowledge exchanges, IP for further development or commercialization, technology & material movements, learning & social interactions to accommodate

Co-funded by the Erasmus+ Programme of the European Union

	features of the Triple, Quadruple and Quintuple Helix Innovation themes. D. Guidelines direct technology validation and valorization as simultaneous processes along a 'social impact value cycle'. Knowledge impact is a core objective.
BACKGROUND	Maastricht university and Maastricht University Medical Center (UM/MUMC) are among the founding fathers of the InSciTe framework. As participants in the Biomedical research themes of the InSciTe framework including WISE, ISEA, SEAMS, EYESCITE, BEAM-NL, OCDC, POSTURE, SYCAP and XS-GRAFT, UM/MUMC function in accordance with InScite stipulated project and IP guidelines and thus can establish the context of good IP practice.
KEY WORDS	Re-engineered University-Industry collaborations, Technology validation, Technology valorization, Technology transfer, Intellectual property, and social innovation.
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	A young health technology validation unit (5 years of age) with 9 ongoing university-industry-government collaborative research programs in the fields of ophthalmology, cardiovascular disease and orthopaedics. A validated, well-governed social innovation model for Translational research in biomedical sciences. Patent to Patient; Reduced time to the market.
AWARDS	The Chemelot Institute for Science & Technology (InSciTe) received an EU OPZuid grant of €1.6 million to further the development and validation of the (Bio)medical Accelerator Matrix in 2017. The Provincie Limburg added to this with an additional funding of €157,000. The biomedical accelerator support and service matrix has been EN ISO 13485:2016 accredited marking the highest European quality standard in medical devices. The Interreg europe project Medtech4 Europe validates the biomedical shared service model of the Chemelot Institute for Science and Technology (InSciTe) to accelerate medical innovations as best practice on how to make Europe more innovative and attractive in health research and development.
KEY SUCCESS FACTORS	• Excellent framework and governance structure for the submission and evaluation of project proposals

Co-funded by the
Erasmus+ Programme
of the European Union

	• Trustworthy/dispute free collaborative environment • Cross-sectoral and cross-cultural approaches to bring knowledge and know-how together • Lower costs and lesser risks in technology translation • Clear road map (projection of results) for technology translation • State-of-the art facilities, experience & expertise, and quality control • Responsible research and innovation with focus on expertise, experimentation, education, and Entrepreneurship • Patent to Patient & Markets with the core focus on the "Innovation Valley of Death" is the guiding philosophy
IMPACT	- Governmental authorities and policy makers acknowledge the efficacy of the Biomedical Accelerator Matrix model. - The biomedical accelator matrix model will be a model for the development of medical innovations in European countries, within the framework of the Interreg project Medtech4 Europe from 2021. - Education and training to maximize knowledge and enterprise with an entrepreneurial mindset. (e.g.:https://www.chemelot-inscite.com/index.php/en/news/registration-education-training-2020-now-open) - Driving force for start-ups. (https://www.chemelot-inscite.com/index.php/en/news/driving-force-behind-starting-entrepreneurs)
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	https://www.chemelot-inscite.com/en/who-are-we
CONTACT DETAILS	

Co-funded by the Erasmus+ Programme of the European Union

Surname, Name	Dr. Emiel Staring
Role	CEO
Institution	Chemelot InSciTe
Address	Urmonderbaan 20F 6167 RD Sittard-Geleen, The Netherlands
Telephone	+31 46 702 28 00
E-mail	info@chemelot-inscite.com

Co-funded by the
Erasmus+ Programme
of the European Union

3. CHINESE CASE STUDIES

3.1. Beijing Institute of Technology

3.1.1 Establishing Office of Industry, Education and Research Cooperation, and Local Research Institutes with local governments and industries in TT

Case Study name	Establishing Office of Industry, Education and Research Cooperation, and Local Research Institutes with local governments and industries in TT
HEI name	Peking University (PKU)
Case study author	Baiqiang Chen
Country	China
Target Groups of this activity/ Project/service	Staff in charge of TT & IP management of PKU
Date	12/03/2019
PROFILE	
SHORT DESCRIPTION	Peking University is one of the two top universities in China. Peking University is mainly based on literature and medicine, and only after 2000 to resume engineering. The university's intellectual property management and technology transfer, as well as research and development cooperation work, are mainly the responsibility of Department of Science and Technology Development. The Department of Science and Technology Development has established a team of more than 20 people, dedicated to technology transfer. Peking University is one of the colleges and universities in China that have done a better job in the construction of specialized institutions. The university has three points to impress us: first, the university attaches great importance to intellectual property publicity and education, around the intellectual property layout, operation and other aspects. PKU organizes regular training for the whole university. The second is that PKU has explored a number of new practices in the area of industry-university-research cooperation, particularly at the local Research Institute, with the headquarter in Beijing, landing local research Institute to do the testing and verification, and cooperated with Fund and enterprises to form an industrialisation chain. The practice of Local Research Institute has made great achievements. The third is that the university has rarely been in the way of intellectual property pricing to convert scientific and technological achievements, but the use of cash to take shares in the way. We understand that after following the model of Beijing Institute of Technology, PKU is systematically revising the practices,

	the next step will be creating spin-off or cooperating with enterprises by holding shares with Intellectual Assets, to promote the transfer and commercialisation of scientific and technological achievements.
BACKGROUND	Peking University is a comprehensive and national key university. The campus, known as "Yan Yuan" (the garden of Yan), is situated at Haidian District in the western suburb of Beijing, with a total area of 2,743,532 square metres (or 274 hectares). It stands near to the Yuanmingyuan Garden and the Summer Palace. Peking University is proud of its outstanding faculty, including 53 members of the Chinese Academy of Sciences (CAS), 7 members of the Chinese Academy of Engineering (CAE), and 14 members of the Third World Academy of Sciences (TWAS). The university has effectively combined research on important scientific subjects with the training of personnel with a high level of specialized knowledge and professional skill as demanded by the country's socialist modernization. It strives not only for improvements in teaching and research work, but also for the promotion of interaction and mutual promotion among various disciplines. Thus, Peking University has become a centre for teaching and research and a university of a new type, embracing diverse branches of learning such as basic and applied sciences, social sciences and the humanities, and sciences of medicine, management, and education. Its aim is to rank among the world's best universities in the future.
KEY WORDS	Intellectual property, technology transfer
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Impressive methods of best practice include: First, the Department of Science and Technology development of Peking University is responsible for scientific research staff in Peking University, holding regular patent lecture halls, inviting experts in the field of intellectual property and technology transfer experts, focusing on patent layout, patent operation and technology transfer knowledge. With the expertise and medicine of Peking University and the long cycle of transformation of scientific and technological achievements, it is of more significance to strengthen the training of knowledge of intellectual property rights for the subsequent transformation and industrialization of the scientific and technological achievements of the school. It is reported that in recent years, the school has a number of high-quality patents in the field of biomedicine, to more than 10 million of the transaction prices, transferred to the relevant pharmaceutical enterprises.

Co-funded by the
Erasmus+ Programme
of the European Union

	Second, because Peking University's scientific research results are more forward-looking, the conversion cycle is longer. PKU attaches great importance to the use of local government funds to incubate scientific and technological achievements. PKU cooperated with Jiangsu, Guangdong and other places to build research institutes, which is designed as a better mode of cooperation. Funds are sponsored by the local government, of which, part of the funds directly are allocated to Peking University, for the original innovation stage of scientific research, part of the funds are allocated to the establishment of local research institutes, which are mainly used to carry out pilot amplification, and other fund is used as a guide capital, driving enterprises to invest together. A fund is set up an industrial fund for the final industrialization of the results hatched by the institute. The idea of this model is clear and has a good reference for the transformation of scientific and technological achievements in colleges and universities. Peking University on Intellectual property education and training, has achieved more obvious results, university teachers' intellectual property layout, protection and transformation of the application of a stronger awareness, is conducive to creating a good climate for the transformation of scientific and technological achievements. And there are already multiple cases, thanks to the organization of the series of events, which can be said to have been proven in practice. Peking University on the Local Research institute model, is currently in the exploration stage, there are already some projects into the incubation and cultivation stage, but there is no formal entry into the industrialization stage of the case. The future is worth looking forward to.
AWARDS	n/a
KEY SUCCESS FACTORS	The training activities on intellectual property in Peking University have grasped the weak point of scientific researchers in Chinese universities, which is lacking of awareness of intellectual property protection and management. Through training activities, knowledge of intellectual property rights can be popularized, and teachers can be well motivated to engage in the transformation of scientific and technological achievements. The model of the Local Research institute captures the intrinsic principle of the intellectual property rights and technology transfer, opening the channel from scientific research, technology transfer to industrialization, and is able to protect the interests and benefits of all parties.

Co-funded by the
Erasmus+ Programme
of the European Union

IMPACT	There is no doubt about these positive effects. Especially for researchers, because according to China's policy, more than half of the benefits of the transfer of scientific and technological achievements are rewarded to individuals, and once the results are translated successfully, researchers will be the direct beneficiaries. And university can also get the corresponding benefits, while at the same time, improve the school's social reputation.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	
CONTACT DETAILS	
Surname, Name	Weihao Yao
Role	Director of TT & IP Office of PKU
Institution	Peking University (PKU)
Address	Floor 14, Wang Kezhen Building, 52 Haidian Road, Peking University, Beijing
Telephone	0086 6275 1370
E-mail	whyao@pku.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.1.2 A "Five-One" working system for technology transfer and intellectual property management

Case Study name	A "Five-One" working system for technology transfer and intellectual property management
HEI name	Tshinghua University
Case study author	Xu Zhang
Country	China
Target Groups of this activity/ Project/service	Staff
Date	07/07/2019
PROFILE	
SHORT DESCRIPTION	Tsinghua University has some good practices in the field of technology transfer and intellectual property management, such as IP management policy, which can optimize the efficiency of intellectual assets created by teachers and students in universities, evaluation methods of research results, utilization and commercialization of results, cooperation between university and enterprises, and the establishment of innovative enterprises. Tsinghua University actively implements the national policy and law, and, while continuously improving the level of scientific and technological innovation, vigorously carries out the transformation and transfer of scientific and technological achievements, innovates and reforms the transferring work system and mechanism of technology transfer, and continuously promotes the transformation of scientific and technological innovation achievements into real productivity. In the process of exploring the transformation of scientific and technological achievements and the reform of intellectual property management mechanism, Tsinghua University has gradually formed a "five-one" working system for technology transfer and intellectual property management, namely: a system of policy and regulations, a set of working system, a set of decision-making mechanism, a professional team, a reporting system. **A set of policy and regulations** Since 2015, Tsinghua University has formulated or revised “Management Measures for the Evaluation and Disposition of Scientific and Technological Achievements and Distribution of Benefits in Tsinghua University”, “Regulations on intellectual property management in Tsinghua University”, “Regulations for part-time activities of faculty and staff of Tsinghua University outside the university”.

Co-funded by the
Erasmus+ Programme
of the European Union

A set of working system

The transformation of scientific and technological achievements is a continuous and closely related process. The invention of a technology, from the discovery in a laboratory to the production with profits, requires multi-party collaboration, layer-by-layer propulsion, often takes months or more.

In this process, the office of technical achievements and intellectual property management of Tshinghua University, in collaboration with the research institute, technology transfer institute, Tsinghua Holdings and other relevant departments, intervene from the beginning of disclosure, through technical screening, technology assessment, intellectual property protection planning, marketing promotion, business negotiations, university approval, contracting, process supervision and implementation, and finally help the team of inventors to achieve the transformation of scientific and technological achievements.

A set of decision-making mechanism

Tsinghua University has formed a complete set of decision-making mechanism for intellectual property management and technology transfer.

The university's intellectual property management leadership committee conducts the leadership and coordination of decision-making process.

The Office of technology achievements and Intellectual Property Management is the main body of implementation.

The decision-making process includes the following steps: discussion and determination of the technology transfer plan, the approval by the authority of university, publicity, objection processing, and asset filing.

A reporting system

In accordance with the National Science and Technology Achievement Transformation Law, our university has established an annual reporting system for technology transfer.

Each technology transfer project is archived with detailed project schedule. The technology transfer office closely track the project progress, assist to solve problems encountered in project implementation, supervise contract execution and payment.

On the basis of individual project management, we compile statistics on the transformation of scientific and technological achievements on an annual basis, and draw relevant data such as total disposal amount, amount of intellectual property rights, technology flow, remittance amount, reward amount, etc.

Co-funded by the
Erasmus+ Programme
of the European Union

	A professional team The Office of technology achievements and Intellectual Property consists of a team of professional talents, which is operating by reference to the market-oriented mechanism of technology transfer. The office is working full-time to carry out the technology transfer. All staff in the office are paid and evaluated referring to the market-oriented standards. There are constantly trainings to strengthen and continuously improve the level of their professional services in technology transfer.
BACKGROUND	The campus of Tsinghua University is situated in northwest Beijing on the site of the former imperial gardens of the Qing Dynasty, and surrounded by a number of historical sites. Tsinghua University was established in 1911, originally under the name “Tsinghua Xuetang”. The school was renamed “Tsinghua School” in 1912. The university section was founded in 1925. The name “National Tsinghua University” was adopted in 1928. The faculty greatly valued the interaction between Chinese and Western cultures, the sciences and humanities, the ancient and modern. Tsinghua scholars Wang Guowei, Liang Qichao, Chen Yinque and Zhao Yuanren, renowned as the "Four Tutors" in the Institute of Chinese Classics, advocated this belief and had a profound impact on Tsinghua's later development. Tsinghua University was forced to move to Kunming and join with Peking University and Nankai University to form the Southwest Associated University due to the Resistance War against the Japanese Invasion in 1937. In 1946 The University was moved back to its original location in Beijing after the war. After the founding of the People's Republic of China, the University was molded into a polytechnic institute focusing on engineering in the nationwide restructuring of universities and colleges undertaken in 1952. In November 1952, Mr. Jiang Nanxiang became the President of the University. He made significant contributions in leading Tsinghua to become the national center for training engineers and scientists with both professional proficiency and personal integrity. Since China opened up to the world in 1978, Tsinghua University has developed at a breathtaking pace into a comprehensive research university. At present, the university has 20 schools and 58 departments with faculties in science, engineering, humanities, law, medicine, history, philosophy, economics, management, education and art. With the motto of “Self-Discipline and Social Commitment” and the spirit of “Actions Speak Louder than Words”, Tsinghua University is dedicated to the

	well-being of Chinese society and to world development. As one of China's most prestigious and influential universities, Tsinghua is committed to cultivating global citizens who will thrive in today's world and become tomorrow's leaders. Through the pursuit of education and research at the highest level of excellence, Tsinghua is developing innovative solutions that will help solve pressing problems in China and the world. Tsinghua University's Leading Committee on Intellectual Property Management coordinates and manages the transfer of intellectual property rights and technology in Tshinghua. The Office of technology achievements and Intellectual Property is the operating organisation under the administration of the Leading Committee, responsible for the day-to-day management of technology achievements and intellectual property. The functions of the Office include: intellectual property management, award application management, and technology transfer.
KEY WORDS	Intellectual Property, Patent, Software Copyright, Technology Transfer, Technology Licensing, Technology equity Investment
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	In 2018, Tsinghua University completed 122 scientific and technological achievements through technology licensing, technology transfer and technology equity, an increase of 54% YoY, with a total disposal amount of RMB70,144.6 million, up 53% YoY, involving 769 intellectual property rights. Of these, 505 intellectual property rights were disposed of by way of reserved rights, and 333 people were awarded, of whom 148 were shareholders and 50 spin-off enterprises were established. The amount of technical contract transaction selling amount of licensed and transferred is RMB211.775 million. Common technology quickly gained industry recognition; a number of enterprises came to seek technology licensing; Some of the investment projects to achieve the withdrawal, the formation of a positive circle of scientific research and innovation, has a positive impact to the innovation and entrepreneurship culture in university.
AWARDS	The quality of scientific and technological achievements is closely related to the quality of university research staff, the number of faculties that can award doctorates in science and technology, the funds of government grants and the funds of industry. Our university has 1 Nobel Prize winner, 1 Turing Prize winner, 50 academicians of the Chinese Academy of Sciences, 16 national teaching award winners, 71 persons of the national "thousand- talent plan". In the 2018 USNEWS Global University Rankings in Engineering, our university surpassed MIT and ranked first. In 2018 QS World University Rankings, our

	university ranked 25th, the only Chinese university in the top 30. Tshinghua University is a comprehensive research-oriented university, with 20 colleges, 58 departments, the number of the first-level disciplines of the national key disciplines ranked first in the country.
KEY SUCCESS FACTORS	The main influencing factors of the success of scientific and technological achievements include the quality of scientific and technological achievements, policies and regulations (at the national level, school level), the system of transfer and transformation of scientific and technological achievements, the external environment (government cooperation, innovation atmosphere, investment funds). The ratio of government funding to industry funding remains at about 6:4. U.S. patent licensing remains in the world's top 5 or so. The output of high-quality scientific and technological achievements is an important factor in the success of the transformation of scientific and technological achievements. In addition, our university actively implements national policies and regulations, actively formulate or revise the university-level policies and regulations, providing institutional policy support to promote the transfer of scientific and technological achievements. Tsinghua University has formed an integrated mechanism and management system of transfer and transformation of scientific and technological achievements, which consists of the Office of technology achievements and IP management, the technology transfer research institute, the research institute, Local Management Office of Tsinghua, the Tsinghua Holdings, the local institutes. Office of technology achievements and IP management as the executive office under the administration of University IP management leading Committee, coordinates and manages the technology transfer, IP management, and scientific and technological achievements disposal work.
IMPACT	According to the National Law on Promoting the Transformation of Scientific and Technological Achievements in China, Management Measures for the Evaluation and Disposition of Scientific and Technological Achievements and Distribution of Benefits in Tsinghua University, the cash incomes gained from technology transfer, technology licensing, or equity obtained through technology investment, are distributed among university (15%), institute of employee (15%), and researchers (70%). Through the transformation of scientific and technological achievements, the technologies developed for many years in research laboratory can be commercialised into products and services. Researchers can get better benefits, which is a positive incentive for science and technology personnel. In 2018, our university awarded 333 teachers.

Co-funded by the
Erasmus+ Programme
of the European Union

	Through the transformation of scientific and technological achievements, scientific research achievements are verified in the market, which helps to improve the school's academic influence and social reputation. Through the transformation of scientific and technological achievements, we have further established a good relationship between university and enterprises.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	
CONTACT DETAILS	
Surname, Name	Yousheng Zhang
Role	Director of TT Institute, Tshinghua University
Institution	Tshinghua University
Address	Room No. 2206, Huaye Building, Tsinghua University, 100084, Beijing, China
Telephone	+861062792574
E-mail	techtransfer@mail.tsinghua.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.1.3 Combining Industry, Education Institution, researcher and Application, Building multi-dimensional, multi-level Technology transformation platform for Chinese medicine (TCM) and Chinese Materia Medica

Case Study name	Combining Industry, Education Institution, researcher and Application, Building multi-dimensional, multi-level Technology transformation platform for Chinese medicine (TCM) and Chinese Materia Medica
HEI name	Beijing University of Chinese Medicine (BUCM)
Case study author	Zhang Xu
Country	China
Target Groups of this activity/Project/service	Staff / TTO
Date	March 26, 2021
PROFILE	
SHORT DESCRIPTION	Beijing University of Chinese Medicine (BUCM) is a national key university with Chinese medicine (TCM) and Chinese Materia Medica as the main disciplines. BUCM has more than 50 research bases at or above the provincial and ministerial levels. The university's technical achievements include clinical Chinese Materia Medica, Traditional Chinese herb, as well as Chinese medicine medical equipment, clinical diagnostic technology, health food, and so on. In order to promote the transformation of technology in the field of Traditional Chinese medicine, the school adopted a combination of Industry, Education Institutions, and research centers to create a multi-dimensional, multi-level technology transformation platform. **1. Clinical technology transformation base** The university has 8 affiliated hospitals and one Chinese medicine outpatient department. The hospitals have got the national qualification of clinical testing of drug and medical device, so they can undertake several BE trials and Phase II, Phase III, Phase IV clinical trials. Together with affiliated hospitals and universities, a system of drug research and discovery, testing, and industrialization has been formed for Traditional Chinese medicine. **2. In cooperation with provincial and regional Chinese herbal medicine planting bases, establishing the Chinese herbal medicine technology transfer base** Based on the "Engineering Research Center on Standardized Production of Chinese Herbal Medicine Affiliated with Chinese MOE", BUCM works with other Chinese herbal medicine plants in Yunnan and Shaanxi

Co-funded by the
Erasmus+ Programme
of the European Union

	Province to promote the transformation of planting, testing, and customization techniques of Chinese herbal medicine. **3. University and Industry Cooperated research institute, University and Regional cooperation transformation platform** BUCM has outstanding advantages in medical devices, medical information systems, health food, rehabilitation and health care industry. The university has jointly established research institutes and research centers with various enterprises and institutions to promote the transformation and implementation of technology. Mainly includes medical and engineering integration transformation platform, biomedical innovation center, information imaging technology platform, health food technology transformation platform. Through cooperation with enterprises, the establishment of research institutes, research centers, professional laboratories, etc., has promoted the transformation of technological achievements. **4. Service Platform of Technology Transfer** BUCM joined the "Beijing University Technology Transfer Alliance" in 2018, BUCM also owns two science and technology parks in Beijing. BUCM has signed a strategic cooperation agreement with Beijing Fangshan District, The Fangshan Chinese Medicine Science and Technology Industrial Park is under construction, and will provide industrialization services for the new-starter incubation, research achievement landing and operation.
BACKGROUND	Beijing University of Chinese Medicine (BUCM), founded in 1956, a prestigious university in China, has been well-known for its leading subjects traditional Chinese medicine (TCM) and Chinese Materia Medica. The university now has three campuses in Beijing. BUCM has become an education base for the high-level TCM professionals, a research base for the innovation in TCM knowledge and technology, a healthcare base for the prevention and management of critical conditions and rare cases. It has become a world-renowned TCM university integrating teaching, research and medical care. It has set up 11 teaching schools and departments. BUCM has 4 school-level research institutions. It also has 8 affiliated hospitals for clinical teaching. So far BUCM has 5,233 employees, including 1,478 full-time teachers and 346 doctoral tutors. BUCM has 32,325 registered students, including 12602 full-time students, specifically 7,536 undergraduates and junior college students, 4,504 master's degree candidates, and 562 international students.
KEY WORDS	Technology Transfer, University and Industry Cooperation, TT service

Co-funded by the
Erasmus+ Programme
of the European Union

	platform, Science and Technology Park
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	**1. In-hospital Traditional Chinese medicine preparations** After a long period, and a large number of clinical treatments, affiliated hospitals have a large number of in-hospital traditional Chinese medicine (TCM) preparations. The clinical efficacy of these traditional Chinese medicine preparations is accurate and the effect is significant. It is not currently available on the market. These preparations cover a wide range of disease areas, including dermatology, gynecology, digestive, cardiovascular disease, cancer, intestine, bone injury and other advantages of 22 disease areas. The formulations are flexible in their dosage forms and are directly converted and applied clinically. **2. Chinese Materia Medica (Chinese Herbal medicine)** BUCM has sent more than 20 experts to serve in Shaanxi, Yunnan and other provinces and counties. They've formulated several industrial planning, made more than 80 special reports, trained more than 16,000 people, combined with local characteristics, empowered regional scientific research and technology implementation. **3. Cooperated research institute and Innovation Center** BUCM has cooperated with industries and enterprises to establish cooperated research institutes and innovation centers, such as "BUCM WeiGao Research Institute" with WeiGao Group., "BUCM Shenzheng Research Institute with local government of Shenzheng City in Guangdong Province, "Center for Chinese Medicine Imaging Research".
AWARDS	The research and technology innovation in BUCM is highly recognized in the field of Traditional Chinese Medicine.
KEY SUCCESS FACTORS	- The technology transfer of innovation achievements in BUCM has changed from the spontaneous "scatter soldiers" in the past to the organized "regular army" of today. Its experience is to use the professional technology transfer agency to effectively carry out the transformation of technology achievements. Using this method, in the process of technology transfer, we can play the role of system and professional management team, establish a standardized management system; - Technology transfer starts with key disciplines and key teams. Through the provision of intellectual property experts, researchers start to establish a transfer-oriented concept in research and development projects.

Co-funded by the
Erasmus+ Programme
of the European Union

	- University organization technology transfer service company, part-time technical broker team for the transformation of results to provide professional technical transfer services, unity of all forces, and work together to achieve results transformation. - The University Technology Transfer Office also organizes technology transfer service companies, full-time and part-time technical experts to provide professional technology transfer services, using all forces to achieve industrialization of technology development.
IMPACT	In order to promote the high-quality development of Chinese medicine and industry, BUCM gives full play to the unique advantages and role of Chinese medicine in preventing and treating diseases, and accelerates the development of Chinese medicine towards modernization and industrialization. Relying upon 8 affiliated hospitals in Beijing, Shandong, Fujian, Shaanxi and other places, BUCM established the clinical requirement guided, technology transfer-oriented research strategy, and continuously promotes the licensing and industrialization of innovative technology achievements. In 2020, the total technology transfer fee of BUCM reached 26 million yuan, and the amount received in one year exceeded the sum of nearly 10 years.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://english.bucm.edu.cn/index.htm
CONTACT DETAILS	
Surname, Name	Liu, Wei
Role	Director, Technology Transfer Center, BUCM
Institution	Beijing University of Chinese Medicine (BUCM)
Address	No. 11, Bei San Huan Dong Lu, Chaoyang District, Beijing100029
Telephone	13681241660
E-mail	

3.2. Renmin University of China

3.2.1 Beijing Technology and Business University: The technology transfer case study of BTBU

Case Study name	The technology transfer case study of BTBU

Co-funded by the
Erasmus+ Programme
of the European Union

HEI name	Beijing Technology and Business University
Case study author	Zhang, Jiyu
Country	China
Target Groups of this activity/ Project/service	Researchers
Date	18/08/2019
PROFILE	
SHORT DESCRIPTION	A research group from School of Food and Chemical Engineering of Beijing Technology and Business University has successfully developed a variety of food additive production technologies, and has signed a technology development contract with a food company in Beijing. At present, the company has established a food additive production line and put it into production. The research group has been awarded two patents.
BACKGROUND	The Science and Technology Office of Beijing Technology and Business University comprises Intellectual Property Office and Office of Transformation of Technical Achievements, which is responsible for the management of scientific research, intellectual property and the transformation of technological achievements, such as making policies and rules of scientific research and intellectual property rights, or signing contracts about intellectual property rights and transformation of technological achievements.
KEY WORDS	intellectual property, technology transfer, commercialization
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	One of the two patented technology has been transferred to a food company, which brings tens of millions of dollars a year to the company. Another patented technology has been licensed to a health food company, which produces good economic and social benefits. The company pays one million yuan of research funding to the school for subsequent research and development each year.
AWARDS	The new technology is widely used in the food industry, overcoming the problem of unstable quality of similar products in the past, and has been widely praised by the industry.
KEY SUCCESS FACTORS	• The research group has mastered the domestic leading and unique technology, and pays attention to technology transformation. • The research group and the company have established a good relationship and always maintain effective communication. In the process of development, the group always tracks the feedback of the

Co-funded by the
Erasmus+ Programme
of the European Union

	products in the market in a timely manner, and makes corresponding improvements to the products. • The group has repeatedly discussed issues with the company on cooperation and has kept in touch with the marketing team, enabling the company to rely on the university research team. Both parties could timely solve problems in the process of product industrialization and provide good industrial support for follow-up research and development.
IMPACT	Through cooperation with enterprises, school has increased its visibility in field of food research, and also enhanced researcher's willingness of technology transfer. At the same time, the company has achieved good economic and social benefits. School has obtained continuous research funding and this funding can be used to support further research. Students could get the opportunity to exercise, while deepening the understanding of products and technology. As an intellectual property manager, it is necessary to provide a more convenient and extensive platform for university professors, and encourage researchers to transform their scientific research results.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://www.btbu.edu.cn/pub/bjgsdx/index.htm
CONTACT DETAILS	
Surname, Name	Liu, Junjun
Role	Professor
Institution	Beijing Technology and Business University
Address	Beijing Technology and Business University, No.11 Fucheng Road, Haidian District, Beijing
Telephone	13501020331
E-mail	ljj4500@163.com

3.2.2 Renmin University of China: The technology transfer case study of RUC

Case Study name	The technology transfer case study of RUC
HEI name	Renmin University of China
Case study author	Zhang, Jiyu
Country	China
Target Groups of	Researchers

Co-funded by the
Erasmus+ Programme
of the European Union

this activity/ Project/service	
Date	04/04/2019
PROFILE	
SHORT DESCRIPTION	To motivate researchers to apply for patents, the IP office in Renmin University of China adopts following strategies: the cost of the first two patents applied by each researcher per year is funded by the school, and the maintenance fee for the first three years is also funded. Applications other than two patents are eligible for a half-funded grant, and all granted patents are eligible for a corresponding incentive fee. Renmin University of China also has corresponding indicators to measure its activities in research, innovation and knowledge exchange, such as research evaluation indicators for personnel evaluation, mainly covering projects, papers, etc.
BACKGROUND	Renmin University of China is the first new formal university founded by the Communist Party of China. It is a comprehensive national research-oriented university directly under the Ministry of Education. It is jointly established by the Ministry of Education and Beijing. There are many science and technology academies in Renmin University of China, such as School of Environment & Natural Resources, School of Information, and School of Natural Sciences/Department of Physics. Renmin University of China has an intellectual property management office, which is mainly responsible for the management of patents and software copyrights of our school. A large number of scientific research results are produced and transformed each year.
KEY WORDS	intellectual property policy, technology transfer, incentive strategy
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	A set of complete and comprehensive patent management methods for colleges and universities have been formed. The procedures have been simplified and the enthusiasm of scientific researchers has been stimulated. From the practical effect, researchers have more motivation for technology transfer, and schools are able to implement more patented technologies.
AWARDS	The implementation of the patents of RUC has been approved by the higher authorities and has been demonstrated and promoted within the scope of Beijing.
KEY SUCCESS FACTORS	Adhering to the principle of "streamlining administration, combining decentralization with management, optimizing service", the IP office in Renmin University of China is trying hard to simplify the procedure as much as possible to facilitate the researcher for better transformation of scientific research results, and improve incentives measure to increase researchers' enthusiasm.

Co-funded by the
Erasmus+ Programme
of the European Union

IMPACT	For researchers, it is more convenient to realize the industrialization of scientific results, which would greatly improve their enthusiasm and efficiency on scientific research work, and they could also obtain economic benefits; with the effective transformation of scientific research results, the scientific centers are able to get more funds and carry out more extensive and in-depth scientific research; for schools, more scientific research output and economic benefits are obtained.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://se-office.ruc.edu.cn/displaynews.php?id=710
CONTACT DETAILS	
Surname, Name	Shen, Jian
Role	Deputy Director of the Department of Science and Technology Construction; Director of IP Office
Institution	Renmin University of China
Address	No.59, Zhongguancun Street, Haidian District, Beijing
Telephone	+86 18610270288
E-mail	ligongchu@ruc.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.2.3 Tsinghua University: The technology transfer case study of THU

Case Study name	The technology transfer case study of THU
HEI name	Tsinghua University
Case study author	Guo, He
Country	China
Target Groups of this activity/ Project/service	Researchers
Date	04/04/2019
PROFILE	
SHORT DESCRIPTION	A professor in Tsinghua University has developed a radiation wastewater treatment technology and has established a company with the patent as a shareholding. The achievement transformation fund set by Tsinghua Holdings Co., Ltd. injected capital to the company to provide funds for the company's development and formed a management team. The professor has licensed other intellectual properties of the radiation wastewater treatment technology to the company so that he would receive a sales commission every year. In this way, in addition to equity gains, schools and professors can get cash benefits in a timely manner.
BACKGROUND	Tsinghua University is a famous institution of higher learning and important base for high-level personnel training and scientific and technological research in China. Technology transfer office is the only intellectual property management department in Tsinghua University, which conducts statistics on the number of patent applications, the number of technology transfers, and the amount of money. And the technology transfer office is responsible for publicly bidding for outstanding agencies, funding excellent technology for PCT applications, and guiding the IP layout of key projects.
KEY WORDS	intellectual property, technology transfer, commercialization
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Through commercial operation, the technology has successfully entered the highly closed nuclear industry system and has been recognized by academia and industry. The company has already received orders of 10 million yuan and launched the next round of financing, which is recognized by the capital market.
AWARDS	The company won the first prize of Science and Technology of China Nuclear Energy Industry Association and obtained the qualification of China's nuclear industry system.

Co-funded by the
Erasmus+ Programme
of the European Union

KEY SUCCESS FACTORS	The main factors for the success of this technology transfer are as follows: • Tsinghua University has provided an excellent research environment, and related technologies are very advanced and unique in this field. • Tsinghua University has improved the salaries of the management team and increased the dividend ratio of the research team. Help them establish a good and harmonious relationship. • Tsinghua University has mobilized alumni and other network resources to help find better application scenarios for this technology. The company's shareholders also brought the strategic resources.
IMPACT	The laboratory technology of the research team has been verified by engineering and has enhanced academic influence. Through the commercial operation of the technology, the research team and the school have achieved considerable income. In addition, the company's successful operations provide internships and jobs for researchers in the field.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://www.cleannus.com/
CONTACT DETAILS	
Surname, Name	Liu, Zilong
Role	Senior Manager of Technology Transfer Office
Institution	Tsinghua Holdings Co., Ltd.
Address	Block A, Science and Technology Building, Qinghua Science and Technology Park, Haidian District, Beijing
Telephone	+86 13611059232
E-mail	zilong@tsinghua.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.2.4 Peking University: The technology transfer case study of Peking University

Case Study name	The technology transfer case study of Peking University
HEI name	Peking University
Case study author	Zhang, Jiyu
Country	China
Target Groups of this activity/Project/service	Researchers
Date	10/03/2021
PROFILE	
SHORT DESCRIPTION	Peking University is a well-known comprehensive university in China. Its management work in technology transfer is also in a relatively leading position in China. It eventually established a large-scale university-run enterprise, the Founder group, which plays an important role in its technology transfer. Peking University has also been committed to building a platform to promote technical cooperation and technology transfer between schools and enterprises.
BACKGROUND	Peking University is the technical transfer base of the Ministry of education in China, the Vice-President unit of China University Technology Transfer Alliance, and the International Strategic Technology Alliance (ISTA) Council member. Beijing University has set up a leading group for technical transfer, and the specific work is organized and carried out by the office of science and technology development. The team plays a leading role in overall planning, carries out top-level design on the policy of scientific and technological achievements transformation of the whole school, reviews and makes decisions on major achievements transformation, and effectively ensures the legal and compliance of the achievement transformation. The science and technology development department is responsible for the cooperation of science and technology between the school and the enterprise, and the management of the joint research and development platform of the school and enterprise.
KEY WORDS	intellectual property, technology transfer, cooperation, commercialization
IMPACT|RESULTS|OUTCOMES	

Co-funded by the
Erasmus+ Programme
of the European Union

ACHIEVEMENTS	Founder group of Peking University is the direct transformation result of scientific research achievements of Peking University. It was founded in 1980s, with Peking University's technology: the Chinese Character Information Processing and Laser Phototypesetting System. That technology was a key success in this field in the market. It has been eventually built into a large-scale group company covering computer technology, health, finance and innovation incubation. The total assets of Founder group of Peking University have reached 5 billion yuan, and its sales scale exceeded 10 billion yuan as early as 2000. Each year, the amount of scientific and technological transfer achievements from the school of EECS and the engineering college and other units is more than 50 million yuan. As an example, in the past five years, the 3rd Affiliated Hospital of Peking University has successfully transferred 43 patents, and the total amount of equity transferred has exceeded 80 million yuan.
AWARDS	The technology transfer of Peking University has played a greater role in promoting the discipline construction of Peking University, which is mainly reflected in: promoting the reform of the school system; the industrial enterprises from the University have paid hundreds of millions of yuan for the University. It also promoted the industrial application of Laser Phototypesetting, stem cell, semiconductor lighting and other technologies, and ensuring that the core technology is in the leading position in the world. There is a good interaction between the technology transfer and the discipline construction of the University.
KEY SUCCESS FACTORS	Relying on the national key research projects, Peking University has produced a number of scientific and technological achievements suitable for industrial cooperation, forming a scientific and technological achievements project resource with Peking University's characteristics, covering electronic and information technology, industrial manufacturing, energy and environmental protection technology, bioengineering technology and medicine. Through technology development, technology service, technology transfer, technology consultation, joint laboratories, joint industrial companies and other forms, Peking University have jointly built a platform for

Co-funded by the
Erasmus+ Programme
of the European Union

	scientific and technological cooperation and business incubation with enterprises and institutions. Peking University has more than 500 scientific and technological cooperations each year, forming a great number of achievements with independent intellectual properties which may greatly promote the development of the industry. Based on the original technology of Peking University, it has incubated a number of high-tech enterprises. In recent years, Peking University has gradually established and improved the technology transfer system and relevant rules, done a good job in risk control, and paid great efforts to the construction of professionality of intellectual property office. Peking University has built the high-quality joint R & D platform of the enterprise and the university, professional high-value patent cultivation and operation platform, innovative S&T finance integration platform for Technology Transfer Fund. A series of important innovation achievements and disruptive technology transformation constantly emerge, and the number and amount of technology contracts steadily increase. Peking University has also formulated the "Administrative Measures for Cash Rewards for Transformation of Scientific and Technical Achievements of Peking University", to further encourages the researchers.
IMPACT	- Peking University has a very supportive technology and intellectual property transfer policy and has built a supporting platform for the cooperation between researchers, companies and investors. - Peking University has more than 500 scientific and technological cooperations each year, which can help to promote the technology transfer from the very beginning. It has also carefully implemented the administrative measures for cash rewards for the transformation of scientific and technological achievements. - In 2018, 18 teachers received the first batch of cash rewards for the conversion of job-related scientific and technological achievements that enjoyed tax reduction and exemption policies, and the total amount of tax reduction and exemption benefits exceeded 3.5 million RMB.

	- Peking University has signed agreements to jointly build joint R&D platforms with more than 80 large companies, including foreign companies such as Germany's Bayer company (Bayer), Germany's Boehringer Ingelheim company (BI), etc.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://kjkfb.pku.edu.cn/index.htm
CONTACT DETAILS	
Surname, Name	Weihao Yao
Role	Director of the Science and Technology Development Department
Institution	Peking University
Address	Floor 14, Wang Kezhen Building, 52 Haidian Road, Peking University, Beijing
Telephone	+86-10-62751370
E-mail	whyao@pku.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.3. Lingnan Normal University

3.3.1 Hebei University: Hebei University Science Park

Case Study name	Hebei University Science Park
HEI name	Hebei University
Case study author	Shujie QU
Country	China
Target Groups of this activity/ Project/service	Academics, researchers, students and graduates
Date	2019
PROFILE	
SHORT DESCRIPTION	The University Science Park of Hebei University was established in May, 2011, with a focus on the promotion of entrepreneurial culture within the university campus. The objective of the Science Park is to facilitate technological innovation, cultural creativity, creation of spin-off companies, and students' entrepreneurship. It provides the following services: 1. Screening and supporting research results on campus suitable for start-up in the park, and providing help in business incubation. 2. Organizing Entrepreneurship Training Camp for students. 2. Providing professional services for enterprises in the park, including data statistics of enterprises in the park, research project funds application, connection between enterprises and various resources in the park, financial and legal services, property management and other related services. 3. Coaching and mentoring researchers and students to start up companies. 4. Building an entrepreneurship demonstration base for college students.
BACKGROUND	As a key comprehensive university, Hebei University (HBU) is co-constructed by Ministry of Education, the People's Government of Hebei Province and State Administration of Science, Technology and Industry for National Defense of PRC. It is also one of the first-level universities participating in China's construction plan of national first-class university and world-class disciplines, with strong support from the Hebei Provincial Government. Hebei University has created a multitude of original and cutting-edge achievements in scientific and technological filed, and it attaches an importance to IP management and technology transfer. It set up the Technology Transfer Center in 2015, and the vice president in charge of research is concurrently the director of the Center. The scope of work of the Technology Transfer Center mainly includes technology integration and

	management, technology brokerage, information services, technical consultation, technology assessment, training, and business incubation. The Science Park is its subordinate unit.
KEY WORDS	Entrepreneurship, start-up, mentoring, incubation
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Number of Entrepreneurship Training Camp: 6 Number of companies in the Science Park: 14 Number of companies received services: 18 Number of companies incubated: 20
AWARDS	- The Provincial Science and Technology Enterprise Incubator, 2012 (Science and Technology Department of Hebei Province) - Excellent Service Platform of Baoding National High-tech Zone, 2012 - Hebei International Joint Incubator, 2015 (Science and Technology Department of Hebei Province) - Hebei Province SME Entrepreneurship and Training Base.2015, (Industry and Information Technology Department of Hebei Province)
KEY SUCCESS FACTORS	- The importance attached by university leaders to IP management and Technology transfer. The vice president is also the director of the Technology Transfer Center. - Involvement of many stakeholders such as local government, researchers and students, companies in technology transfer.
IMPACT	- More and more researchers and students learn about IP and acquire the skills of transferring technology and start up companies. - Bring benefits to the community social and economic development.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://www.hbusp.com/index.html
CONTACT DETAILS	
Surname, Name	YAN Yi
Role	Vice-director of the Technology Transfer Center
Institution	Hebei University
Address	No.5699, North Erhuan Road, Building 7A, University Science Park, High-Tech District, Baoding, Hebei Province. 071000
Telephone	0312-3376005
E-mail	hbdxkjy@126.com

3.3.2 Shanghai Polytechnic University: Shanghai Collaborative Innovation Center for WEEE Recycling

Case Study name	Shanghai Collaborative Innovation Center for WEEE Recycling
HEI name	Shanghai Polytechnic University
Case study author	Shujie QU
Country	China
Target Groups of this activity/ Project/service	Academics, researchers, students and graduates
Date	2019
PROFILE	
SHORT DESCRIPTION	WEEE Center is constructed by Shanghai Polytechnic University (SSPU) and funded by Shanghai Municipal Education Committee in 2012. SSPU is one of pioneers which offers WEEE (Waste Electrical and Electronic Equipment) Recycling as specialty to bachelor students since 2004, and qualified to enroll graduate students since 2011. SCICWR (Shanghai Collaborative Innovation Center for WEEE Recycling) equipped with specialized instruments and equipment valued over ¥50 million that ensure hardware condition for R&D. So far, WEEE Center consists of 16 full-time staff members, including 3 professors and 3 associate researchers, 70% of them have a doctorate degree. Besides, more than 20 distinguished domestic and abroad researchers are appointed to the Committee of Experts. Moreover, WEEE Center collaborates closely with government policy-making departments, industrial dismantling plants, universities and research institutions in the country and aboard like UNU StEP, TechProtect Gmbh, ATMI, GEM, Tsinghua University, Chinese Academy of Sciences. It provides the following services: 1. Conducting policy research and industrial dynamics research to provide decision-making services to relevant government authorities. 2. Providing bachelor and master degrees in the field of E-waste resources; 3. Doing research on new technologies and new processes to meet the talent and technology needs of industrial technology advancement and structural optimization; 4. Helping to improve the teachers' innovative competence; 5. Coordinating exchanges and cooperation in talent cultivation and technology innovation at home and abroad; 6. Organizing local enterprises to form a joint effort to carry out collaborative innovation; 7. Building an entrepreneurship demonstration base for college students.
BACKGROUND	Shanghai Polytechnic University (ShanghaiPoly. or SSPU), founded in 1960, is a municipal public university boasting strengths in Engineering and well-coordinated development of multi-disciplines including Management, Economics, Literature, Science and Arts.

Co-funded by the
Erasmus+ Programme
of the European Union

	SSPU adheres to its orientation of Profession-Oriented Higher Education and its basic task of talent cultivation, and focuses on combining education with economy and society, and combining education with production activities. The university has achieved remarkable education and social benefits, being honored as Model of China's Vocational Education and Cradle of Model Workers. The university emphasizes research-driven teaching and applied research and development. The scientific research is oriented not only by demands of economic and social development, but also by the structure and direction of the university's disciplines and programs. In the long-term practice, a strong research force has been formed, which has undertaken over 100 national and provincial projects, including National Natural Science Foundation, the 863 Program and others, producing about 100 science and technology achievements. Research funds increase significantly. And the patents keep growing both in number and quality. The university set up the Technology Transfer Center to promote transformation of science and technology achievements of the whole university. The university established Shanghai Collaborative Innovation Centre for WEEE Recycling and 73 Science Park themed by science and technology, cultural creativity and intelligent manufacturing. Technology transfer working stations or industry-university-research working stations have been set up in Yangtze River Delta, developing extensive cooperative relationship with industries and enterprises, and providing professional technology service in the fields of Electronic and Automatic Control, Electromechanical Integration Technology, Computer and Information Technology, Environmental Engineering and New Materials, etc.
KEY WORDS	Entrepreneurship, cooperation, training
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	- The Centre has established 5 institutes which are Institute of Policy and Regulation, Life Cycle Management, WEEE Recycling Technology, Process Equipment Design, and Green Design & Remanufacturing. - the Strategic Alliance for Technological Innovation of the Electronic Waste Recovery and Treatment Industry was established in Shanghai in 2014. - The Center has carried out dozens of research projects. - The Center has worked with Solid Waste and Chemicals Management Center under Ministry of Ecology and Environment, and other units to undertake the training course of dismantling and treatment technology of waste electrical and electronic equipment. Up to now, more than 100

	management personnel and technical staff from 72 processing enterprises of waste electrical and electronic equipment have participated in the training. - The Center held the Fifth E-waste Academy – Scientists Edition, EWAS 2014, attracting 32 young scholars from 14 countries all over the world. - Since 2013, the Center has received four to six foreign students regularly each year for a three-month academic visit to the Center. So far, the Center has received more than ten foreign students from the University of Tuebingen in Germany, Hochschule für Technik Stuttgart in Germany, and University of Angers in France, and other universities.
AWARDS	n/a
KEY SUCCESS FACTORS	- The university attaches importance to IP management and Technology transfer. The university has office of IP management and Technology transfer. - WEEE Centre collaborates closely with government authorities, core industrial enterprises, universities and research institutions, which are world-class ones. - Distinguished research teams.
IMPACT	- The researches on policies and standards making by the Centre help the local and national governments to make informed policies on Environmental Protection. - The researches on technology and equipment development, training of professional talents, investigation and consultation service, industry-university collaboration and other work under WEEE legislation and recycling management promote the development of waste electrical and electronic equipment (WEEE/e-waste) discipline, environmental management, and industry upgrade in China.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://weee.sspu.edu.cn/
CONTACT DETAILS	
Surname, Name	YANG, Jinghui
Role	Director of the Department of Industrial Engineering, College of Engineering
Institution	Shanghai Polytechnic University
Address	2360 Jin Hai Road, Pudong District, Shanghai, China, 201209
Telephone	021-50214150
E-mail	jhyang@sspu.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.3.3 Dongguan University of Technology (DGUT): Research Center for Eco-Environmental Engineering (RCEEE)

Case Study name	Research Center for Eco-Environmental Engineering (RCEEE)
HEI name	Dongguan University of Technology (DGUT)
Case study author	Shujie QU
Country	China
Target Groups of this activity/Project/service	Academics, researchers, students and graduates
Date	04/02/2021
PROFILE	
SHORT DESCRIPTION	Research Center for Eco-Environmental Engineering (hereinafter referred to as the Center) of Dongguan University of Technology was established at the end of 2016. At present, it has gathered 2 academicians of the Chinese Academy of Engineering, 4 Yangtze River scholars and National Distinguished Young Scholars, 4 Pearl River scholars, 9 professors, and 37 researchers and teachers. With urban ecological planning, advanced treatment of industrial wastewater, prevention and control of air pollution, solid waste recycling, and soil remediation as the main R&D direction, the Center closely combines with the major needs of environmental protection at home and abroad, and takes training master's and doctoral students and outstanding young talents as its mission, aiming at the international development frontier of environmental protection research, especially the ecological environment of Guangdong Province and the Guangdong-Hong Kong-Macao Greater Bay Area. It has 6000 square meters of experimental and office space and is equipped with more than 40 sets of advanced instruments with a total value of 50 million yuan. It can carry out the analysis and testing of conventional pollution index analysis and environmental pollution quality detection, qualitative and quantitative analysis of trace organic pollutants, preparation and performance characterization of environmental functional materials, and environmental toxicology analysis and detection. The Environmental Engineering of the Center is the dominant key discipline in Guangdong Province. The environmental engineering specialty is the first-class undergraduate degree

Co-funded by the
Erasmus+ Programme
of the European Union

	program in Guangdong Province and the first professional master's degree program in DGUT. The center has signed strategic cooperation agreements or carried out scientific research cooperation with dozens of enterprises such as China Oilfield Services Limited, Lingnan Ecological Culture and Tourism Co., Ltd., Yongqing Environmental Protection Co., Ltd., etc. It also established Guangdong Xinfengda Environmental Protection Technology Co., Ltd., a high-tech enterprise of ecological environmental protection.
BACKGROUND	Dongguan University of Technology (DGUT) is a very young city university of Dongguan, Guangdong province, and Dongguan is at the forefront when China's reform and opening-up policies were launched. It has been the 12th of “China’s Top 100 cities in comprehensive strength” and the first in Prefecture-level city for many years by its economic strength. Dongguan University of Technology (DGUT) was initially bred in 1990 and coming into birth in April 1992. Under the authorization of the Ministry of Education, DGUT embraced her first undergraduates in March 2002 and awarded her first bachelor’s degrees four years later in May 2006. Meanwhile, it was approved as the newly conferred Master-degree units in Guangdong’s project in August 2010. There are two campuses nowadays: Guancheng Campus (Downtown) and Songshan Lake Campus (in the national High-tech Park of Songshan Lake). The university has 18 colleges and 55 undergraduate majors. There are more than 1600 teachers and staff, 20000 full-time students, and 22000 non-full-time students. As a technology university that focuses on engineering, it also provides courses in management, literature, science, economics, law, and teacher education. It has established 17 experimental teaching centers, 10 of which are provincial experimental teaching demonstration centers. In 2010, it was approved as the first batch of universities to implement “The Plan for Educating and Training Outstanding Engineers (PETOE)" of the Ministry of Education. In 2012, it was approved as the "International Science and Technology Cooperation Base of Guangdong Province". In 2015, it was identified as the Construction Unit of High-level Science and Engineering University supported by Guangdong Province. In 2018, its Science and Technology Park was selected as the "Cultivation Unit of National University Science and

Co-funded by the
Erasmus+ Programme
of the European Union

	Technology Park". In 2019, the University became the only provincial and municipal model institution to build a new high-level university of science and technology.
KEY WORDS	innovation, cooperation, training
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	● It has undertaken 20 national-level projects, 16 provincial and ministerial level projects, and 13 research projects consigned by enterprises and institutions. It has obtained more than 100 million yuan of national, provincial, municipal, and university research funds ● 7 awards at provincial and national level ● 23 postdocs, 4 doctors, and 38 masters in training ● More than 130 SCI papers have been published in authoritative journals, including more than 120 high-level SCI papers; more than 50 national invention patents, including 10 granted patents
AWARDS	● Second prize of the National Technological Invention Award ("Green Low Carbon Healthy Ecological Plant Construction Technology System and Application", 2019, the first national award of DGUT) ● First prize of the Technological Invention Award, Ministry of Education of PRC ● 3x Second prizes of the environmental protection science and technology award, Ministry of Ecology and Environment of PRC ● First prize of the China Industry-University-Research Cooperation Innovation Achievement Award, Ministry of Science and Technology of PRC ● Guangdong Patent Gold Award (2020)
KEY SUCCESS FACTORS	● *As a city university, DGUT receives strong support from Dongguan municipal government in all aspects.* ● *Known as the "world factory", Dongguan's fast-growing economy provides a good environment for the Center's scientific research and talent training.* ● *The university attaches importance to scientific and technological innovation and the transformation of scientific research achievements.*

Co-funded by the
Erasmus+ Programme
of the European Union

	• *The Center has leading scientists such as academicians* of the *Chinese Academy of Engineering who are very few in general higher institutions.* • *RCEEE collaborates with universities at home and abroad (such as Xi'an Jiaotong University, University of Nottingham) to train doctors and masters* • *RCEEE collaborates closely with Dongguan city government and core industrial enterprises and carries out research and development to meet the needs of local society and enterprises.*
IMPACT	• Based on the achievement of RCEE, the ranking of Earth and Environmental Sciences of DGUT in Nature Index 2019 annual tables is 685, which makes DGUT a top 100 institution on earth and in environmental sciences in China. The ranking and other awards won by the Center greatly enhance the influence and reputation of DGUT. At present, it enrolls students from 28 provinces in China, which other city universities cannot do. • The postdocs, doctors, and masters trained in the Center become research backbones for other higher education institutions and companies. • The research on environmental protection of the Center has promoted the development of the discipline, and the cooperative research with the government and enterprises has promoted the improvement of the environment of Dongguan City and brought economic benefits to enterprises.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://rceee.dgut.edu.cn/
CONTACT DETAILS	
Surname, Name	YANG Yanfeng
Role	Associate professor, School of Literature and Media
Institution	Dongguan University of Technology
Address	No. 1 Songshan Lake University Road, Dongguan, Guangdong Province, China, PC: 523808
Telephone	86-13430357003
E-mail	71295753@qq.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.4. Nankai University

3.4.1 Baoding University: Knowledge transfer in the field of electronic commerce

Case Study name	Knowledge transfer in the field of electronic commerce
HEI name	Baoding University
Case study author	Yang Sun, Xiaojing Song
Country	China
Target Groups of this activity/ Project/service	Target in university: Professional teachers, Students Target in enterprise: Enterprise technology staffs, Enterprise sales staffs
Date	12/04/2019
PROFILE	
SHORT DESCRIPTION	Professional teachers cooperate with enterprises, completed software copyright belongs to the university, and enterprises in electronic commerce field use it for free. In the process of technology development, students can participate in project activities and have the right to to be indicated as authors. In subsequent cooperation, teachers and students jointly complete the training of relevant personnel at the enterprise. The college supervises the progress of projects, the protection of intellectual property rights, and the use of technical achievements. In addition, students' participation in project development and training activities is conducive to employment of students.
BACKGROUND	The department of mathematics and computer science is the largest one in Baoding University, including software technology major, computer information management major, e-commerce major, and specializing in the field of e-commerce software development and e-commerce technology application research. Baoding University is trying to diversify its own function, not only focusing education, but expending its service to society through technology application in industry. Department of mathematics and computer science have a good academic and technical accumulation in software technology and e-commerce. Therefore, they established this technology service platform specifically for e-commerce together with cooperated enterprises.
KEY WORDS	intellectual property, knowledge transfer, education, technology transfer
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Relying on the school's teaching system, we have established a technical service platform for e-commerce. At present, it has established long-term relations with many enterprises located in Beijing, Tianjin and Hebei, in which

	students can do their internship, has undertaken many industry-university projects. Students who start their own businesses on campus or after graduation can also get the technical support of this platform for free. This platform has completed website development projects and special software development projects for many e-commerce enterprises.
AWARDS	The platform developed a material flow management software, obtained some support funds, and applied the software to two enterprises in Hebei. A student team participated in "Hebei province entrepreneurship competition" and won the first prize.
KEY SUCCESS FACTORS	• The university has the required intellectual resources and the ability to integrate them with industries. Local industry demands are coherent with the subject setting of the university. • The platform has targeted cooperating objectives, mainly for e-commerce enterprises, also provides technical support for traditional enterprises. • The university has established multi-level and long-term cooperative relationship with enterprises, including but not limited to industry-university cooperation and student internship.
IMPACT	The local government and the university set up a student entrepreneurship center. Cooperation with an existing partner in a new field – Big data processing - is now under discussion.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://www.bdu.edu.cn/
CONTACT DETAILS	
Surname, Name	Qiang Zhao
Role	Researcher
Institution	Baoding University
Address	No. 3027, Qiyi East Road, Baoding City, Hebei Province
Telephone	
E-mail	zhaoqiang99a@163.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.4.2 Nantong University: Technology transfer system with three departments cooperation

Case Study name	Technology transfer system with three departments cooperation
HEI name	Nantong University
Case study author	Yang Sun, Xiaojing Song
Country	China
Target Groups of this activity/ Project/service	**INNOVATORS:** Target Groups of this service Professional teachers Students
Date	20/4/2019
PROFILE	
SHORT DESCRIPTION	Technology transfer is very important for the development of Nantong University. Nantong University formed a leading group for technology transfer, and innovatively established a technology transfer service system that serves the local service offices, technology transfer center and university science and technology park. The local service offices offer technical services to local enterprises. TTO is responsible for patent transfer and licensing. Science and technology park is responsible for business incubation. These departments combined together to build a collaborative innovation and technology transfer incubation carrier. This system forms a service chain, professional R&D Center -- Innovation and Entrepreneurship Team -- Incubation Enterprise -- Professional Testing Service Platform -- Transfer Center -- Talent Cultivation -- Entrepreneurship Service.
BACKGROUND	The subject arrangement and department layout of Nantong University are in good concert with its textile industry in Nantong. For R&D abilities, Nantong University has key laboratories of state level, Ministry of Education level and province level. In order to better serve local industry and economy, Nantong University redesigned its technology transfer service system. This system integrates local service offices, TTO and science park. Now, the science and technology department and the IP office are focusing on policy formulation and IP management instead of all related issues.
KEY WORDS	Technology transfer system, departments cooperation, intellectual property management
IMPACT|RESULTS|OUTCOMES	

Co-funded by the
Erasmus+ Programme
of the European Union

ACHIEVEMENTS	A comprehensive cooperation agreement was signed between the University, research institutes and local industries, and a "face-to-face" technology transfer service platform was set up between the University and local governments. TTO workstations (sub-office) have been established with more than 30 counties. Relying on innovation carrier and existing resource advantages, Nantong University has established a group of interdisciplinary research institutions, industry-oriented research institute and regional-economy-oriented research institute, developed a batch of technologies, helped local enterprises in technology upgrade and industry innovation and at the same time, effectively facilitated the technology transfer and promoted R&D enthusiasm of researchers in Nantong University.
AWARDS	State-level "Entrepreneurship Park" (2016), Jiangsu Province-level "Internet Entrepreneurship Park" (2016), Jiangsu Province-level "First Batch of University Students Entrepreneurship Base" (2012), Jiangsu Province-level "First Batch of Industrial Education Base" (2014), Jiangsu Province-level "Overseas Students Entrepreneurship Park" (2014), Jiangsu Province-level "Entrepreneurship Incubator Base" (2014)
KEY SUCCESS FACTORS	1. Perfect technology transfer mechanism Three departments cooperate to complete the transformation of technology 2. Service platform integration Integrate all related resources and form a service chain.
IMPACT	Nantong University science and technology park takes TTO as the leading point, associates 9 colleges and universities in Nantong area to set up Nantong Technology Transfer Center, integrates the science and technology and talent resources of various universities in Nantong, and promotes the circulation and connection of knowledge within colleges and universities, as well as between colleges and enterprises.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://www.ntu.edu.cn/

Co-funded by the
Erasmus+ Programme
of the European Union

CONTACT DETAILS	
Surname, Name	Yao, Juan
Role	
Institution	Nantong University
Address	No. 9 se yuan road, Nantong city, Jiangsu province
Telephone	
E-mail	yao.juan@ntu.edu.cn

Co-funded by the
Erasmus+ Programme
of the European Union

3.4.3 Hebei University of Technology: Technology Transfer Center

Case Study name	Technology Transfer Center
HEI name	Hebei University of Technology
Case study author	Yang Sun, Xiaojing Song
Country	China
Target Groups of this activity/Project/service	**INNOVATORS:** Academics Professional researchers Students Enterprise executives
Date	16/4/2021
PROFILE	
SHORT DESCRIPTION	The Technology Transfer Center of Hebei University of Technology was established on December 10, 2007. It is a service institution specializing in industrial technology research and development and technology transfer. It was identified as a Demonstration institution in the Technology Transfer of Hebei Province in 2010 by the Department of Science and Technology of Heibei and the fourth batch of National Demonstration institutions in Technology Transfer in 2012 by the Ministry of Science and Technology of PRC. At present, the Center is a directly affiliated institution of Hebei University of Technology, which consists of General Office, Intellectual Property Operation Department, Integration Department of Industry-University-Research Cooperation, Technology Research and Technology Transfer Department, Technical Services and Consulting Department, and International Technology Transfer Department and so on. The center aims to integrate the scientific and technological resources such as patents, research teams of Hebei University of Technology and other institutions basing on economical and market requirements to facilitate industry-university-research cooperation, promote technology transfer of HEI and improve the capability of independent innovation of enterprises, which finally provides strong technical support for the coordinated development of Beijing, Tianjin and Hebei. After these years of development, our technology transfer center has made great progress. There are 105 off-campus industry-university-research bases, and 182 comprehensive cooperation agreements with local governments at all levels and large businesses. It has played a

Co-funded by the
Erasmus+ Programme
of the European Union

	positive role in the development of the regional economy and society and set an example in technology transfer. Some technologies like semiconductor materials, marine chemical industry, chemical separation technology, advanced manufacturing technology and equipment, have become the main technical support for relevant industries and enterprises in Hebei, Tianjin and other regions. The center has been awarded the Golden Bridge Award of China Technology Market Association, the Excellent Member Unit of North Technology Market, the Innovation Award of China Industry Fair and the Top Ten Excellent Inventions and Creations Unit of Hebei Province. The center is now the vice-chairman unit of Hebei Technology Transfer Alliance, the director unit of Beijing-Tianjin-Hebei Technology Transfer Collaborative Innovation Alliance, and the member unit of China Universities Technology Transfer Alliance. In June 2016, the branch center of Technology Transfer of Hebei University of Technology was established in Bohai New District.
BACKGROUND	Hebei University of Technology (HET) is one of the national "Project 211" universities focusing on engineering with coordinated development of multi-disciplines. It was co-sponsored by the government of Hebei Province, the government of Tianjin and the Ministry of Education. In 2016, HET was selected as one of the first-class universities in Hebei Province. The predecessor of HET is Beiyang Technology School founded in 1903, one of the earliest institutions of higher education for industrial technical personnel in China. In 1995, it was renamed Hebei University of Technology. Since its establishment, HET has always been adhering to the school motto of diligence, prudence, equity and loyalty, upholding characteristics of "industry and study develop simultaneously", and has formed a "diligence, preciseness, realistic, aggressive" school spirit. HET has now more than 210,000 graduates, making important contribution to the national economic construction.
KEY WORDS	Knowledge Transfer, Technology Transfer, Cooperation, Commercialization, Industrial Technology Research Institutes
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS (max. 1.000 characters)	1. Established a promotion platform for the transaction of R&D achievements and the hierarchical transfer of mature technologies; realized the application and promotion of scientific research achievements, new technologies, new methods and patented technologies, and achieved the hierarchical transfer of mature

	technologies, applicable technologies, equipments and production processes. 2. Adhering to the service principle of "going-out", we actively seek and set up branch centers in various places to explore new models of technology transfer through cooperation with the science and technology management departments in Beijing, Tianjin and Hebei, Bohai Rim and high-tech zones. 3. Established an industry-university-research cooperation mode combining "platform + project + talent", which is based on the platform, linked by projects and centered on talents, to share resources, complement advantages, collaborate cooperation, combine knowledge capital and industrial capital and combine talents and projects, with enterprises, universities and research institutes, and finally to produce sustainable development system with accumulation effects. 4. Pay attention to training teachers and students' innovation and entrepreneurial awareness and ability, to cultivate innovative achievements and entrepreneurial teams, entrepreneurs and future entrepreneurs, and to explore an effective model for training innovative talents. We support innovation and entrepreneurship with transfer platforms and promote innovation and entrepreneurship with abundant resources.
AWARDS	Demonstration institution in Technology Transfer of Hebei Province in 2010 by Department of Science and Technology of Heibei; The fourth batch of National Demonstration institution in Technology Transfer in 2012 by the Ministry of Science and Technology of PRC; The first batch of technology transfer center of Tianjin in 2013; Tianjin international technology transfer center in 2015; Demonstration institution in technology transfer of Tianjin in 2017; National international technology transfer center by the Ministry of Science and Technology of PRC and China's technology market golden bridge awards in 2018; Technology Transfer base of HEIs by Ministry of Education of PRC in 2019. We have set up local research institutes and technology transfer centers in many places to serve the local economy.
KEY SUCCESS FACTORS	1. Established technology transfer platform relying on the University Science Park. 2. Established a complete set of rules and policies to promote technology transfer. 3. Set up a professional institution for technology transfer.

Co-funded by the
Erasmus+ Programme
of the European Union

	4. Established Industrial Technology Research Institute of Hebei University of Technology.
IMPACT	After these years of development, our technology transfer center has made great progress. There are 105 off-campus industry-university-research bases, and 182 comprehensive cooperation agreements with local governments at all levels and large businesses. It has played a positive role in the development of the regional economy and society and set an example in technology transfer. Some technologies like semiconductor materials, marine chemical industry, chemical separation technology, advanced manufacturing technology and equipment, have become the main technical support for relevant industries and enterprises in Hebei, Tianjin and other regions.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://www.hebut.edu.cn
CONTACT DETAILS	
Surname, Name	
Role	
Institution	Technology Transfer Center
Address	5340 Xiping Road, Beichen District, Tianjin, China
Telephone	
E-mail	

3.5. Southwest University

3.5.1 Baoshan University: Good Practice of Research and Innovation & Technology Transfer at Baoshan University

Case Study name	Good Practice of Research and Innovation & Technology Transfer at Baoshan University
HEI name	Baoshan University
Case study author	Qinyi Tan
Country	China
Target Groups of this activity/ Project/service	University staff and students
Date	15/04/2020
PROFILE	
SHORT DESCRIPTION	The case study is Baoshan University (BU), which is a comprehensive higher education institution in Yunnan province. BU has some good practice on TT & IP management. BU owns an office for IP management, and the positive policy also encouraged people to protect intellectual property, for example, copyright, patent, and trademark. BU has a series of explicit strategies for supporting research, innovation and knowledge exchange among staff, such as research grants, commercialization, university-enterprise engagement, spin-off creation, entrepreneurship, start-up investment, intellectual property, internships, international cooperation. With regards to cooperation with other institutions, BU has entered into strategic cooperation agreements with some enterprises and higher education institutions at national and international levels. It provides technical support for enterprises, which promote technology transfer. Additionally, communications with international universities promote innovation and increase experiences of IP development and management. Based on what has been mentioned above, BU got some achievements in this field.
BACKGROUND	Founded in 1978, Baoshan University is a higher education institution located in the large city of Baoshan (population range of 1,000,000-5,000,000 inhabitants), Yunnan. Officially accredited and/or recognized by the Department of Education, Yunnan Province. Baoshan University offers courses and programs leading to officially recognized Bachelor degree in multiple areas of study.
KEY WORDS	Intellectual property, knowledge transfer, cooperation
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	The university has carried out more than 200 research projects. The university has always adhered to the major needs of the social field and natural sciences and has made great progress in technological innovation.

Co-funded by the
Erasmus+ Programme
of the European Union

	The university's scientific and technological work closely focuses on the school's development strategy, with the goal of building a high-level comprehensive university with distinctive characteristics, taking the construction of key disciplines as the leader, the construction of the teaching staff as the foundation, vigorously developing scientific research, improving the overall education level of the university and cultivating innovative talents.
AWARDS	None
KEY SUCCESS FACTORS	BU attaches importance to IP management and Technology transfer. The university has office of IP management and Technology transfer. BU has scientific and comprehensive IP management policy.
IMPACT	The researches on technology and equipment development, training of professional talents, investigation and consultation service, industry-university collaboration and other work promote the development of economy and society. The researches on policies and standards making by the university help the local and national governments to make informed policies on technology transfer.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://www.bsnc.cn
CONTACT DETAILS	
Surname, Name	Li, Wenyu
Role	Staff of IP Management
Institution	Baoshan University
Address	Yuanzheng Rd, Longyang, Baoshan, Yunnan, China
Telephone	
E-mail	18921687@qq.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.5.2 Southwest Medical University: Good Practice of Research and Innovation & Technology Transfer at Southwest Medical University

Case Study name	Good Practice of Research and Innovation & Technology Transfer at Southwest Medical University
HEI name	Southwest Medical University
Case study author	Qinyi Tan
Country	China
Target Groups of this activity/ Project/service	University staff and students
Date	08/04/2019
PROFILE	
SHORT DESCRIPTION	The case study is Southwest Medical University (SMU), which is a higher education institution focused on medical sciences. SMU has some good practice on TT & IP management. SMU has an office for IP management, and the positive policy also encouraged people to protect intellectual property, for example, copyright, patent, and trademark. In SMU, it is encouraged to apply for patents, for instance, patents about Chinese traditional medicine. The strategies for supporting research, innovation and knowledge exchange among staff include research grants, commercialization, university-enterprise engagement, spin-off creation, entrepreneurship, start-up investment, intellectual property, internships, international cooperation. However, there is are strategies to protect copyright and trademark. SMU has been working on strengthening the comprehensive ability of higher education institution, improving research capacity of researchers and academics, improving quality of training students, enriching knowledge of TT & IP managers, research centres and policy makers, and improving significant profits and competence for enterprises and other sectors and STI.
BACKGROUND	Southwest Medical University (formerly Luzhou Medical College), is a medical university in Luzhou, Sichuan, China. The university has two campuses: Zhongshan and Chengbei, covering 1,004,700 square meters in total. The Zhongshan Campus is on Mount Zhongshan and is surrounded by the Yangtze River and the Tuo River. The area has a multitude of green camphor trees and local flowers. Patent protection is quite significant in the surroundings. The approximate 17,000 students who typically occupy the college at any one time are from a wide variety of Chinese provinces, autonomous regions and municipalities, and many come from other

Co-funded by the
Erasmus+ Programme
of the European Union

	countries. The staff number at around 2,560, with 520 of them being onsite professors or associate professors whose focus includes Western medicine, traditional Chinese medicine, and a hybrid combination of the two. Facility wise, the college has five non-subordinating hospitals and 39 teaching hospitals with a total of 15,500 patient beds.
KEY WORDS	Intellectual property, knowledge transfer, technology transfer
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	The university's scientific and technological work closely focuses on the school's development strategy, with the goal of building a high-level medical university with distinctive characteristics, taking the construction of key disciplines as the leader, the construction of the teaching staff as the foundation, vigorously developing scientific research, improving the overall education level of the university and cultivating innovative talents. After years of construction, the school's development focus has become more prominent, the research characteristics of the disciplines have become more prominent, the scientific research conditions have been significantly improved, and technological innovation can be greatly improved. Promoting transfer and transformation of scientific and technological achievements serves the development of regional economy. The university has always adhered to the major needs of the medical field and has made great progress in technological innovation. In the past five years, it has undertaken 146 national-level scientific research projects, more than 470 provincial-level projects, and received more than 500 million yuan in research funding. It has won 29 provincial and ministerial-level scientific and technological achievements awards, and achieved a breakthrough in the National Science and Technology Achievement Award. SCI has more than 1,700 papers. More importantly, there are more than 300 existing patents. The university has always attached importance to the experimental platform's support for scientific and technological innovation. There are 59 scientific research platforms at various levels, including one key laboratory of the Ministry of Education, one national post-doctoral research station, and two national drug clinical trial institutions. There are 2 key laboratories, 1 Sichuan International Cooperation Base and 1 Engineering Laboratory, 1 Sichuan Collaborative Innovation Center, 3 academicians (experts) workstations, and 6 academicians and their teams.
AWARDS	In order to improve the ability of scientific and technological achievements transformation and technology transfer, the university has intensified the reform of the system and mechanism of scientific and technological innovation platform, scientific research management mode and academic

	organization structure, changed the traditional scientific research organization mode and resource allocation mode, and fully tapped the complementary advantages of collaborative innovation. The University is the lead unit of the "Sichuan 2011 Collaborative Innovation Center – Collaborative Innovation Center for Cardiovascular Disease Prevention and Control". The Southwest Medical University Park is the second provincial-level university science park in Sichuan Province. It is a university science park featuring the development of traditional Chinese medicine, biomedicine, medical equipment and medical consumables, and the development of the old-age health service industry.
KEY SUCCESS FACTORS	Raising awareness of taking action to promote technology transfer and IP management; industrial orientation and fruitful university-enterprise cooperation; SMU has scientific and comprehensive IP management policy.
IMPACT	Through a series of explorations on technology transfer and relatively complete management system, it helps to form the current model. Good practices will have an important impact on the development of school and research center. A series of explicit strategies for supporting research, innovation and knowledge exchange among staff have been built up, which means not only the TT & IP managers but also the researchers and students are the final beneficiaries. Based on the data collection through a focus group in the university, for academics, students and other researchers, a mature TT & IP management institution can not only guarantee their employment and remuneration, but also is able to inspire their innovation enthusiasm.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	

Co-funded by the
Erasmus+ Programme
of the European Union

WEBSITE	http://www.swmu.edu.cn http://www.buerip.com/index.php?a=shows&catid=6&id=781 http://yxx.swmu.edu.cn/info/1085/1103.htm
CONTACT DETAILS	
Surname, Name	Kang, Muyun
Role	Staff of IP Management
Institution	Southwest Medical University
Address	319 Zhongshan Rd 3rd Section, Jiangyang, Luzhou, Sichuan, China
Telephone	
E-mail	rosine.yanyan@outlook.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.5.3 Southwest Medical University: Missing Case Study 3

Case Study name	Good Practice of Research and Innovation & Technology Transfer at Chongqing Medical University
HEI name	Chongqing Medical University
Case study author	Qinyi Tan
Country	China
Target Groups of this activity/ Project/service	University staff and students
Date	08/04/2019
PROFILE	
SHORT DESCRIPTION	The case study is Chongqing Medical University (CQMU), which is a medical higher education institution in Chongqing. CQMU has some good practice on TT & IP management. CQMU owns an office for IP management, and the positive policy also encouraged people to protect intellectual property, for example, copyright, patent, and trademark. CQMU has a series of explicit strategies for supporting research, innovation, and knowledge exchange among staff, such as research grants, commercialization, university-enterprise engagement, spin-off creation, entrepreneurship, start-up investment, intellectual property, internships, and international cooperation. Since 2011, CQMU has won national and municipal awards over 60 times in science and technology. The High-intensity Focused Ultrasonic Therapy System (HIFU), which was initiated by CQMU, is the first large-scale medical equipment with completely independent intellectual property rights in China. It has been put into use in over 1000 major hospitals in China and exported to over 10 countries and regions, such as UK, Japan, South Korea, and Singapore, etc. With regards to cooperation with other institutions, CQMU has entered into strategic cooperation agreements with some enterprises and higher education institutions at national and international levels. It provides technical support for enterprises, which promote technology transfer. Additionally, communications with international universities promote innovation and increase experiences of IP development and management.
BACKGROUND	CQMU is a state key university under the administration of the Chongqing Municipal Government with an integrated educational system of baccalaureate, masters, doctoral, and postdoctoral programs in medicine as well as other health-related fields.

Co-funded by the
Erasmus+ Programme
of the European Union

	It is one of approximately 30 medical universities in China that are approved by the Chinese Ministry of Education to enroll foreign students into the English-medium MBBS (Bachelor of Medicine and Bachelor of Surgery) program. It is recognized by the World Health Organization (WHO) and the ECFMG (Educational Committee for Foreign Medical Graduates) in the United States. CQMU offers five postdoctoral programs, 26 doctoral programs, 53 master's programs, and 46 specialties for undergraduates.It has four state key disciplines and 43 municipal key disciplines. CQMU has accomplished several large-scale research projects including some state-level projects supported by the National Key Technology Research and Development Program in the 6th to 9th Five-year Plan for National Economic and Social Development, Key Program of National Natural Science Foundation, National Basic Research Program (known as '973 Program'), and the National Hi-Tech Research and Development Program (known as '863 Program'). The High-intensity Focused Ultrasonic Therapy System (HIFU), which was initiated by CQMU, is the first large-scale medical equipment system with completely independent intellectual property rights in China. It has been put into use in over 30 major hospitals in China and exported to about ten foreign countries, such as the EU, Russia, Japan, Korea, and Singapore. The university publishes eight academic journals with international distribution. Since 2008, CQMU has twice won the National Prize for Progress in Science and Technology, once won the National Award for Technological Invention once, and won over 80 municipal awards.
KEY WORDS	Intellectual property, knowledge transfer, technology transfer
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Capacity building in teachers and students' innovation and entrepreneurial awareness and ability, to cultivate innovative achievements and entrepreneurial teams, entrepreneurs and future entrepreneurs, and to explore an effective model for training innovative talents. In CQMU, the High-intensity Focused Ultrasonic Therapy System (HIFU), which was initiated by CQMU, is the first large-scale medical equipment

	system with completely independent intellectual property rights in China.[citation needed] It has been put into use in over 30 major hospitals in China and exported to about ten foreign countries, such as the EU, Russia, Japan, Korea, and Singapore.
AWARDS	CQMU has three state key laboratories under the Ministry of Education, one state key laboratory under the Ministry of Science & Technology, one national engineering research center, 18 municipal key laboratories, 11 research institutes, six research centers, and 22 research laboratories. Since 2008, CQMU has twice won the National Prize for Progress in Science and Technology, once won the National Award for Technological Invention once, and won over 80 municipal awards. There are many international students from India, Indonesia, Republic of the Congo, Mauritius, Vietnam, Pakistan, Nepal, Bangladesh, etc.
KEY SUCCESS FACTORS	Capacity building in teachers and students' innovation and entrepreneurial awareness and ability CQMU has scientific and comprehensive IP management policy.
IMPACT	Awareness raised and positive attitudes towards entrepreneurship promoted within the university community and also improving Intellectual Property awareness (researchers and students). Based on the data collected through a focus group in the university, for academics, students and other researchers, a mature TT & IP management institution can not only guarantee their employment and remuneration but also is able to inspire their innovation enthusiasm.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	https://www.cqmu.edu.cn
CONTACT DETAILS	
Surname, Name	Zeng, Liang
Role	Staff of IP Management
Institution	Chongqing Medical University
Address	#1 Yixueyuan Road, Yuzhong District,. Chongqing, China 400016
Telephone	
E-mail	237830903@qq.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.6. Chongqing Three Gorges University

3.6.1 Chongqing University of Technology: A Case Study of IP Training Base in CUT

Co-funded by the
Erasmus+ Programme
of the European Union

Case Study name	A Case Study of IP Training Base in CUT
HEI name	Chongqing University of Technology
Case study author	Ling Huang
Country	China
Target Groups of this activity/ Project/service	Staff of Chongqing Intellectual Property School of Chongqing University of Technology
Date	13/05/2019
PROFILE	
SHORT DESCRIPTION	In accordance with the guidance of cooperation between the HEI and the enterprises and the coordination between the IP training and IP research, the IP training base was established to follow the trend. The training base has always been committed to cultivating intellectual property practitioners with distinctive features. A series of training courses featuring five major areas are formed. At present, IP training courses for developing countries, intellectual property training courses for China's auto industry (new energy vehicles), pre-examination training courses for Chinese patent attorneys, intellectual property training courses for foreign trade enterprises, training courses for intellectual property school-enterprise cooperation projects, etc. have been formed. The outcome of this practice is to let more people know about IP protection and equip more personnel with IP expertise, thus getting talents from various sectors involved.
BACKGROUND (max. 1.000 characters)	On November 7, 2010, with the approval of the State Intellectual Property Office, the National Intellectual Property Training (Chongqing) Base was established. The supporting unit is Chongqing Intellectual Property College of Chongqing University of Technology and the base is affiliated to the State Intellectual Property Office. Huang Qifan, former mayor of Chongqing Municipal People's Government, and Tian Lipu, the director of the State Intellectual Property Office, personally awarded the license. The base is one of the third bases set up by the State Intellectual Property Office throughout the country and is the first base established in western China.
KEY WORDS	IP training courses; IP training base; Chongqing Intellectual Property School; CUT
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	In the past several years since the establishment of the base, it has cooperated with the State Intellectual Property Office, the State Trademark Office, the National Copyright Administration and other central government agencies, as well as the Chongqing Municipal Intellectual Property Office, the Chongqing Copyright Bureau, the Chongqing Municipal Economic and

Co-funded by the
Erasmus+ Programme
of the European Union

	Information Technology Commission, and the Chongqing Municipal Defense Science and Technology Industrial Office. And it has established a very good relationship of cooperation with other local government agencies, as well as the Beijing Intellectual Property Court, the Chongqing Higher People's Court, the Chongqing No. 1 Intermediate People's Court, the Chongqing Fifth Intermediate People's Court, and the counterfeit and shoddy goods crime investigation corps (Municipal Criminal Protection Center for Intellectual Property) of Chongqing Municipal Public Security Bureau. The base has more than 20 full-time teachers and has hired the former Deputy Director of the State Intellectual Property Office. Li Yuguang, the State Council Counselor, He Jianming, Vice Chairman of the Chinese Writers Association, and Yuan Jie, Director of the Chongqing Intellectual Property Office are visiting professors. The base also hired intellectual property directors of well-known Chinese companies such as ZTE, Tencent, Haier, Hisense, Alibaba, Baidu, China Mobile, and Midea as part-time professors.
AWARDS	The IP training base has become a model base for other institutions. The Sichuan Provincial Intellectual Property Office, Nanjing University of Science and Technology, Beijing Second Foreign Languages College, Wuhan University of Technology, Harbin University of Science and Technology and other units have successively gone to the training base to study and exchange ideas on IP training. Therefore, the IP training base has received a wider recognition. The base has organized more than 40 international and domestic training courses and trained more than 1,000 intellectual property personnel. In 2012, 2014 and 2015, the base all received “Excellent Base Award” assessed by the State Intellectual Property Office, and they also presented their experiences at the National Training Base Seminar as outstanding base representatives. Base teachers Zhu Xincai and Hu Hairong received “Advanced Individuals” for the national IPR training work awarded by the State Intellectual Property Office.
KEY SUCCESS FACTORS	IP protection and disclosure are more encouraged by real and practical “pilot tests” through the publicity activities. Most IP evaluation are conducted by professional teams in labs but this kind of feedback from the potential customers are more targeted. This kind of activity is more conducive to the cooperation between the research group and the companies which usually serve as the funding partners. In a word, the cooperation between the HEIs and the enterprises is the key factor accounting for the success of the activity.
IMPACT	The enterprises are the shining points of the practice. Although these tutors and mentors of the IP training base are mainly hired by the school to teach certain classes, but the voices from the real frontier can really bring new ideas

Co-funded by the
Erasmus+ Programme
of the European Union

	and trends of the industry so that it will be conducive to the understanding of the real TT process. From these voices, researchers can adapt their research to the real needs of the market, so that the IP research will be more targeted and effective.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	https://ipschool.cqut.edu.cn
CONTACT DETAILS	
Surname, Name	Heng Zhang
Role	Staff
Institution	Chongqing Intellectual Property School of Chongqing University of Technology
Address	Huaxi Campus of CUT, No. 69 Hongguang Avenue, Banan District, Chongqing Municipality, China
Telephone	
E-mail	Feiwang07@foxmail.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.6.2 Southwest University of Political Science and Law: A Case Study on SUPSL's IP Practice Forum

Case Study name	A Case Study on SUPSL's IP Practice Forum
HEI name	Southwest University of Political Science and Law (SUPSL)
Case study author	Ling Huang
Country	China
Target Groups of this activity/ Project/service	IP Experts, Staff of SUPSL
Date	25/03/2019
PROFILE	
SHORT DESCRIPTION	Chongqing Intellectual Property Protection Collaborative Innovation Center (hereinafter referred to as the "Center") is led by Southwest University of Political Science and Law. It is based on the core synergy units such as: Chongqing Intellectual Property Office and Chongqing Liangjiang New District Intellectual Property Tribunal, with Tencent Technology Co., Ltd. and other units as the co-founders. As the main co-construction unit, it is committed to the intellectual property system construction and environmental optimization. The center was officially approved by the Chongqing Municipal Education Commission in July 2017 as the Chongqing 2011 Collaborative Innovation Center. Through the platform of the Center, the SUPSL launched a very successful forum on IP practice. It has invited IP experts and researchers to give series of lectures on the topics in terms of Trade Mark Protection, Patent infringement lawsuit, etc.
BACKGROUND	Southwest University of Political Science and Law is the earliest established institution of higher political and legal science in New China. After the reform and opening up, it belongs to the country's first batch of key universities, the country's first batch of excellent legal talent education training bases. It is jointly established by the Ministry of Education, P.R. China and the People's Government of Chongqing Municipality. This forum is jointly sponsored by Southwest University of Political Science and Law and China Intellectual Property Law Research Association. It is jointly organized by Chongqing Intellectual Property Protection Collaborative Innovation Center and Chongqing Intellectual Property Research Association. It is co-organized by Shenzhen Dajiang Innovation Technology Co., Ltd. Experts invited would share their experience and wisdom on the hot and difficult issues in intellectual property practice, to promote the construction of intellectual property community.

Co-funded by the
Erasmus+ Programme
of the European Union

KEY WORDS	IP; SUPSL; Chongqing Intellectual Property Protection Collaborative Innovation Center; IP Practice Forum
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	The forum has attracted and invited many famous enterprises to participate in the lectures and research concerned. The most obvious outcome is the establishment of the so-called “Qiaodan Sports Intellectual Property Special Fund”. It strengthened the cooperation and exchanges with the SUPSL through the establishment of a special fund to establish a strategic cooperative relationship, relying on the advantages of SUPSL’s disciplines and talents to further integrate resources and promote IP knowledge. The development of education and scientific research in the field of property rights will achieve mutual benefit and win-win outcome. It is reported that Qiaodan Sports Co., Ltd. donated RMB 2 million to the Education Foundation of Southwest University of Political Science and Law in Chongqing to support education and research projects in the field of intellectual property in China. The funds will be donated in six years, and the “Disciplinary Development Contribution Award”, the “Social Service Contribution Award”, the “Qiaodan Sports Excellent Student Scholarship”, the “Qiaodan Sports Collaborative Innovation Construction Fund” are the four-categories of this project which are dedicated to funding and rewarding the teaching and research and intellectual property contributions of outstanding students and teachers in the intellectual property disciplines of Southwest University of Political Science and Law.
AWARDS	The forum is a great link between SUPSL and Chongqing Intellectual Property Protection Collaborative Innovation Center. And the lectures and studies during different sessions of the forum have enlightened and supported the IP research concerned. Therefore, in 2018, the IP research program named “*Research on Intellectual Property Talent Support in Emerging Industries of Chongqing's Development Strategy —Taking the Innovation of University Intellectual Property Talents Training Model and Mechanism Linkage as the Center Focus*” was awarded as the Third Prize of *The 6th Chongqing Outstanding Achievements on Development Research (*"Chongqing Development Research Award"*).* The "Chongqing Development Research Award" was established by the Chongqing Municipal People's Government to reward units and individuals who have made important contributions to promote the economic and social development of the country and Chongqing, and promote the prosperity and development of philosophy and social sciences. It belongs to the highest reward within the social science field in Chongqing. The award is not only an

Co-funded by the
Erasmus+ Programme
of the European Union

	important reflection of the scientific research strength and level of social sciences in colleges and universities, but also provides a useful reference for the scientific decision-making of the party committee and government, providing theoretical guidance for the healthy development of the city's economy and society, giving strong support for the prosperity and development of philosophy and social sciences.
KEY SUCCESS FACTORS	The most important factor for the success of this IP practice forum can be attributed to the joint efforts of both the HEIs and the enterprises. The IP experts and practitioners from the enterprises of various sectors provided the practical experiences of IP in real IP and TT contexts, thus making the researches which are based on the forum more practical and targeted. In a word, the IP practitioners know the real demand of the market!
IMPACT	The forum has covered and impacted many IP institutions and enterprises in China as follows: China Trademark Association Beijing Junce Intellectual Property Development Center Jiulongpo District Court Commission, Criminal Court Intellectual Property Office of Liangjiang New District, Chongqing China Air Conditioning Industry Intellectual Property Alliance Shenzhen Dajiang Technology Innovation Co., Ltd. Therefore, the impact on IP practice and IP research in southwest China is profound.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://news.swupl.edu.cn
CONTACT DETAILS	
Surname, Name	Peng Zhou
Role	Staff
Institution	Chongqing Intellectual Property Protection Collaborative Innovation Center of SUPSL
Address	Yubei Campus of SUPSL, No.301, Baosheng Avenue, Yubei District, Chongqing Municipality, China
Telephone	
E-mail	anhuizhc@163.com

Co-funded by the
Erasmus+ Programme
of the European Union

3.6.3 Chongqing University of Posts and Telecommunications: Collaborative IP R&D Base in CQUPT

Case Study name	Collaborative IP R&D Base in CQUPT
HEI name	Chongqing University of Posts and Telecommunications
Case study author	HUANG Ling
Country	P.R. China
Target Groups of this activity/Project/service	Staff at the **IP Management Office** of **Chongqing University of Posts and Telecommunications**
Date	19/03/2021
PROFILE	
SHORT DESCRIPTION (max. 750 characters)	As the key priority of the tripartite cooperation agreement among **CQUPT**, **the Research Institute of Telecommunications of the Ministry of Industry and Information Technology** and **Chongqing Chongyou Xinke Communication Technology Co., Ltd.**, the **Intellectual Property (Chongqing) Training Base in the Field of ICT Communication** has participated in the **National Science and Technology Major Project**-"**New Generation Broadband Wireless Mobile Communication Network**" entrusted by the **Ministry of Industry and Information Technology**，which is an exemplification of the cooperation concerned.
BACKGROUND (max. 1.000 characters)	In recent years, relying on the advantages of information disciplines, **CQUPT** has strengthened the cultivation of talents in the **IP** industry. At the outset of the IP construction, its undergraduate major of **intellectual property law** was successfully approved and **CQUPT** has been actively participating in the construction of the "**National'Cloud Computing' Intellectual Property (Chongqing) Experimental Zone**". Against the backdrop, in 2012, the **Intellectual Property (Chongqing) Training Base in the Field of ICT Communication** was inaugurated and established. Since then, **CUPT** has built a new platform to cultivate intellectual property talents in the information and communication field. It is believed that with the joint efforts of the three parties, the project cooperation will surely achieve larger success, bear more fruit, and truly achieve mutual benefit and win-win results.
KEY WORDS	Collaborative IP training courses; IP training base; **CQUPT**
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS (max. 1.000 characters)	In recent years, the **base** has continued to develop innovative research in the communication field and has overcome the problem of long-distance signal transmission in wireless sensor networks in response to the needs of **the Internet of Things** and mobile Internet

Co-funded by the Erasmus+ Programme of the European Union

	markets. It has also established a set of internationally advanced communication module development systems, featuring low power consumption, ultra-high sensitivity, strong anti-jamming sensor, and has formed intellectual property protection. As the pivotal IP R&D project of the **base**, the "**Cellular Mobile Communication Patent LTE Sub-bank Construction**" project integrates the communication patent technology information platforms and provides relevant professional teachers and students with the latest patent technology R&D momentum or practical knowledge training in the information and communication field. As a good exemplification of the collaboration between university and business, **Chongqing Chongyou Xinke Communication Technology Co., Ltd.** has been providing both academic support and technical guidance in this collaborative project.
AWARDS (max. 1.000 characters)	The **base** has become a model base for other institutions. Due to this collaboration: • the **Chongqing Chongyou Xinke Communication Technology Co., Ltd.** won the **second prize** of the **National Science and Technology Progress Award for** "**Key Technologies and Applications of Communication Network Testing and Optimization Platforms**"; • its "**Research and Application of Key Technologies for Signaling Monitoring and Optimization of Mobile Communication Networks and Their Applications**" won the **first prize** of **Chongqing Science and Technology Progress Award**; • its "**Development and Application of Modern Communication Network Testing Technology and Test Instruments**" won the **second prize** of **Chongqing Science and Technology Progress Award**.
KEY SUCCESS FACTORS (max. 1.000 characters)	**Chongqing Chongyou Xinke Communication Technology Co., Ltd.** independently researches and develops products with independent intellectual property rights covering the main communication fields such as access network, transmission network, switching network, mobile communication, data communication, intelligent network, optical communication, signaling network 7 and cable television network. But the above-mentioned independent R&D results cannot be achieved without the collaboration between the HEIs and the business. And **CQUPT** is a university with distinctive information characteristics that insist on independent innovation. Therefore, guided by **the Research Institute of Telecommunications of the Ministry of Industry and Information Technology**, the university-enterprise cooperation fully embodies the combination of industry, university, and research, which will definitely contribute to the

	cultivation of high-end information and communication fields. And it is no doubt that the **IP talents** fostered by the **base** play a positive role in promoting the IP R&D progress.
IMPACT (max. 1.000 characters)	The establishment of industrialization bases of scientific and technological enterprises will inspire more relevant researchers, scholars, and students to invest in scientific research and develop more results with core competitiveness; at the same time, it will allow university talents to connect with enterprises and provide enterprises with a steady stream of power. Under the structure of the bases, **IP protection** is becoming optimized. Correctly using laws and policies is conducive to regulating the interesting relationship between schools, school-affiliated units, and individuals, realizing the capitalization of knowledge, and reflecting the economic value of **IP** in technological innovation and market competition.
PHOTOGRAPH / DIAGRAM	
INFORMATION SOURCES	
WEBSITE	http://cxy.cqupt.edu.cn/
CONTACT DETAILS	
Surname, Name	Dongdong Huang
Role	Staff of IP Office
Institution	**Chongqing University of Posts and Telecommunications**
Address	No. 2, Chongwen Road, Nan'an District, Chongqing,PRC.
Telephone	
E-mail	2995099140@qq.com

3.7. East China University of Political Science and Law

Co-funded by the
Erasmus+ Programme
of the European Union

3.7.1 University of Electric Power: Good Practice of Research and Innovation & Technology Transfer in SUEP

Case Study name	Good Practice of Research and Innovation & Technology Transfer in SUEP
HEI name	East China University of Political Science and Law
Case study author	Xiaoping LIN, Yujia LUO
Country	China
Target Groups of this activity/ Project/service	Target group among university staff and/or researchers; target groups among businesses.
Date	27/10/2019
PROFILE	
SHORT DESCRIPTION	The object of this case study is Shanghai University of Electric Power (SUEP), which is a higher education institution with a focus on science and engineering. SUEP emphasizes on promoting research and innovation and technology transfer and conducts many good practices on these. In terms of system construction, SUEP established a scientific and comprehensive TT & IP management system. The institution has a series of explicit strategies for supporting research, innovation and knowledge exchange among staff. Also, SUEP set up a specialized Technology Transfer Center which is the part of Research Department, for promoting intellectual property management. For further supporting entrepreneurship, scientific research and technology transfer, SUEP National University Science Park was built in 2006, which is committed to the incubation and cultivation of science and technology SMEs in the field of electricity. In terms of cooperation with other institutions, SUEP has entered into strategic cooperation agreements with many enterprises and foreign higher education institutions. It can promote the innovation and enhance the experience of IP development and management for ownself.
BACKGROUND	Shanghai Electric Power University is a full-time ordinary higher education institution, jointly established by the central government and Shanghai government, and mainly managed by Shanghai government. The university was founded in 1951. Later in January 1985, it was renamed Shanghai Electric Power College. In December 2018, it was renamed Shanghai Electric Power University by the Ministry of Education. Currently, SUEP has established a complete degree authorization system for bachelors, masters and doctors. Currently, SUEP has 13 departments and 32 undergraduate majors. Regarding the faculty resources, SUEP currently has more than 1,100 staffs, and 51.26% of full-time teachers have doctoral degree and many teachers won national or provincial awards.

Co-funded by the
Erasmus+ Programme
of the European Union

	SUEP devotes itself to continuously improving the research capabilities and building a good technology transformation and intellectual property management environment. There is a department for IPR management in SUEP, named Research Department, which serves to ensure an innovation environment surrounding at the university. Also, there is a Technology Transfer Office (TTO) in school called SUEP National University Science Park which was established in 2006.
KEY WORDS	Intellectual Property Management; Technology Transfer; Commercialization; Entrepreneurship; Internship.
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	As the result of the good practice and conditions mentioned above, SUEP gained lots of achievements, mainly reflecting in the following aspect. **Research and Innovation** SUEP has established an institution named "Three Center and One Think Tank", which is applied to serve the local and industry developments in an all-round way. SUEP has hosted and participated in nearly 1,000 research projects. Among these projects, more than 500 projects have been selected into national or local high-level scientific research programs and talent training programs. **SUEP National University Science Park** Firstly, SUEP National University Science Park has gathered a number of enterprises and research institutions in the fields of new energy, smart grid and other related fields, and has carried out fruitful university-enterprise cooperation. Secondly, the park has established Shanghai Diankeyuan Park Technology Transfer Co., Ltd. The company is dedicated to providing services in order to accelerate the industrialization of technology transfer. Finally, SUEP Sub-Fund of the Shanghai University Science and Technology Entrepreneurship Fund provides adequate financial support for university enterprises in the park. **International Cooperation** SUEP signed a cooperation agreement with the Asian Development Bank to promote the development of smart grids in the Asian region. In addition, SUEP initiated the establishment of the "ADEPT International Electric Power University Alliance" jointly with 10 foreign famous universities, and was elected as the permanent director unit. In October 2018, SUEP established "the Belt and Road Initiative Electric Power University Alliance" and "the Belt and Road Initiative Electric Power University-Enterprise Cooperation Alliance", and signed a memorandum of exchange and cooperation with more than 20 foreign universities and companies.

Co-funded by the
Erasmus+ Programme
of the European Union

	In terms of cooperation between industry and university, SUEP established a "the Belt and Road Initiative" energy and electric power international talent training base and a "the Belt and Road Initiative" energy and electric power overseas training base.
AWARDS	**In terms of research and innovation:** In the past three years, more than 20 projects won technology award in Shanghai, Zhejiang, Henan and so on. January 18th, 2019, the engineering discipline of SUEP was ranked as the first 1% subject in ESI (Essential Science Indicators). **In terms of the construction of SUEP National University Science Park:** In February 2009, the Park was jointly awarded by the Ministry of Science and Technology and the Ministry of Education "Shanghai University of Electric Power National University Science and Technology Park". In October 2010, the Park was awarded by the Ministry of Science and Technology and the Ministry of Education the first batch of "University Science and Technology Entrepreneurship Base". In October 2012, the Park won the title of "Park Service Station" of Shanghai R&D Public Service Platform.
KEY SUCCESS FACTORS	SUEP has made every effort in promoting innovation and IP development and utilization over the years and gained many remarkable achievements. Its success was due to the following points. First of all, we should make it clear that there is a close relationship among research innovation and technology transfer and IP management. SUEP always emphasizes on intellectual property management and technology transfer as well as technology and innovation, letting them promote each other. Secondly, industrial orientation and fruitful university-enterprise cooperation are another key factor in SUEP's success. The research and innovation activities in SUEP are linked with the related markets and industries strongly. SUEP has its own technology transfer center, and it will introduce some mature research projects to enterprises regularly and broaden the promotion ways of technological achievements of SUEP. Thirdly, SUEP has a scientific and comprehensive IP management system. From the application of research projects, incubation of projects to the cooperation planning and management of projects, SUEP has developed management norms and regulations for all stages of project development. Finally, international cooperation is also of great importance for SUEP in promoting research innovation and intellectual property management. The alliances that SUEP set up or join in for academic exchanging or industry cooperation.

Co-funded by the
Erasmus+ Programme
of the European Union

IMPACT	Firstly, SUEP have established a scientific and comprehensive TT&IP management system, which helps to form the current specialization model. Secondly, the series of explicit strategies for supporting research, innovation and knowledge exchange among staff set up by SUEP, as well as the training about IP management, has raised the awareness of R&D persons on the importance of intellectual property and enhanced the ability to conduct technology transfer. Finally, the regulations set up for IP management and the institution and department established for technology transfer create the environment for normalized operation and promote the sustainable development of research and innovation capabilities. All the positive impacts above help to enhance the SUEP's IP management capabilities and strengthen the innovation capabilities.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://xxgk.shiep.edu.cn/464/list.htm http://kyc.shiep.edu.cn/ http://www.sepsp.com/ser_show.php?id=27&lm=20 http://www.shiep.edu.cn/ http://jszyzx.shiep.edu.cn/
CONTACT DETAILS	
Surname, Name	WU Liang
Role	Former Deputy Director of Research Department of SUEP
Institution	SUEP
Address	
Telephone	13371896168
E-mail	

Co-funded by the
Erasmus+ Programme
of the European Union

3.7.2 University of Shanghai for Science and Technology: Strategic Cooperation of TT & IP Management

Case Study name	Strategic Cooperation of TT & IP Management
HEI name	University of Shanghai for Science and Technology (USST)
Case study author	Li JU, Yujia LUO
Country	China
Target Groups of this activity/ Project/service	Target group among university (staff); Target groups among businesses
Date	27/10/2019
PROFILE	
SHORT DESCRIPTION	The object of this case study is University of Shanghai for Science and Technology (USST). Because of the scientific and comprehensive TT & IP management system which USST has established. USST has the following good practices. **1. IP Management Strategies** IP management has changed from a legal matter to a strategic issue. As a Chinese HEI, strategies are initial and essential factors for USST to build up TT & IP management system. USST has a series of strategies, including supporting research, innovation and knowledge exchange among staff. **2. Internal IP Organization and External IP Exploitation** With regard to internal IP organization, USST has established 6 professional technical service platforms. Besides innovation, USST has been strengthening the protection and management of intellectual property rights in university and affiliated units. In terms of external IP exploitation, USST has changed the output of one-way scientific research into a model that is oriented to the needs of enterprises, connects with the scientific research capabilities of schools, and operates with market-based mechanisms. **3. Cooperation with others** USST cooperates with research institutions and business subjects and also shares a close cooperation with same type institutions in order to make the most advantages of their leading role, and to find the best way to prompt TT & IP management.
BACKGROUND	**1. Introduction of USST** University of Shanghai for Science and Technology (USST) is an ordinary institution (level 1) and an applied research university, jointly built by State Administration of Science, Technology and Industry for National Defence and

Co-funded by the Erasmus+ Programme of the European Union

	Shanghai Municipal People's Government. USST is a national demonstration base for the cultivation of innovative talents. Also, it is the first batch of scientific and technological achievements transformation and technology transfer bases for HEIs. It is also one of model HEIs to deepen the reform of Innovation and Entrepreneurship both at the national and local levels. **2. Introduction of Two Institutions** The first institution set up by USST is Technology Transfer Center of USST, which is responsible for school IP management and protection. Technology Transfer Center of USST is good to create an innovation environment surrounding the university. USST has another specific institution, which we called it USST Science National Science Park. It represents a popular policy intervention to promote the clustering of high-tech industries and USST's strengths.
KEY WORDS	Intellectual Property Management; Technology Transfer; Strategic; Knowledge and Technology Creation; Implementation; Commercialization; Cooperation
IMPACT|RESULTS|OUTCOMES	
ACHIEVEMENTS	Since established in 2007, the Technology Transfer Center of USST focuses on building a technology transfer innovation system, emphasizing on the implementation of projects and strategies. It makes the best use of the superior resources of the six discipline groups and participate in the regional economy and the industrial economy to achieve strategic cooperation. USST has already launched more than 800 technology development and transfer projects, with nearly 500 enterprises. The cooperation areas cover 20 provinces and cities in the country and the contracts value is nearly 300 million RMB. USST obtained more than 269 national scientific research projects and was authorized more than 902 patents by National Intellectual Property Administration, PRC. The National University Science and Technology Park ranks 6th throughout China, and the Technology Transfer Center ranks 7th in China. Research funding and invention patents have been long-term ranking among the top 50 universities in China.
AWARDS	**In the terms of research and innovation:** During recent 4 years, USST has been honored with the National Scientific and Technological Progress Award (Second Prize) twice, and 57 provincial and ministerial science and technology awards, and once Army Science and Technology Progress Award as well. **In the terms of the construction of Technology Transfer:** In 2009, Technology Transfer Center of USST was recognized as the National Technology Transfer Demonstration Center by Ministry of Science.

Co-funded by the
Erasmus+ Programme
of the European Union

	In 2011 and 2012, Technology Transfer Center was awarded the Excellent Collective of the Golden Bridge Award of the National Technology Market by the China Technology Market Association. In 2013, Technology Transfer Center was awarded Shanghai SME Technology Innovation and Quality Service Organization by Shanghai Economic and Information Technology Commission. In 2016, the Technology Transfer Center of USST won the "College Model Award for Transformation of Technology" at the 2016 International Innovation and Entrepreneurship Expo.
KEY SUCCESS FACTORS	The key factors for the success of USST are following: Firstly, making full use of the talents and science research advantages of the school is a key success factor. Secondly, there are several incentives at USST to encourage the technology transfer. For example, USST has published norms and regulations in order to stipulate the distribution of incomes from innovation activities during the transfer process. Next is the close cooperation with exotic environment, not only with companies and start-ups, but also with other research institutions, technology transfer offices. Finally, a series of explicit strategies for supporting research, innovation and knowledge exchange among staff can serve as a bridge between school, researcher and research center, which can promote intellectual property management from patent application to technology transfer.
IMPACT	From the aspect of qualitative indicators, good practices, conducted by USST, the Technology Transfer Center of USST and USST National Science Park, really have great positive impact on our target groups and final beneficiaries. First of all, the great impacts to university itself and its TT & IP management institution can be easily proved by information and statistics which is listed in Chacter Background, Achievement and Awards. Secondly, when it comes to impact on IP managers. During the practice or training at the Technology Transfer Center of USST, IP manager will be someone the market extremly need. And this impact is more important than any other economic interest. Finally, Enterprises and start-ups are influenced by IP strategies of USST from several aspects. One is the Sound infrastructure in Technology Transfer Center of USST and USST National Science Park. Then the cooperation between research institution and enterprises is mainly based on financial motives by benefiting from the open source community and gain network effects. Moreover, in the cost oreovercutter category, firms in USST National Science

Co-funded by the
Erasmus+ Programme
of the European Union

	Park is regulated and overseen by unified university institution, and the basic daily cost is remarkably reduced.
PHOTOGRAPH / DIAGRAM	n/a
INFORMATION SOURCES	
WEBSITE	http://jszy.usst.edu.cn/ http://kjc.usst.edu.cn/
CONTACT DETAILS	
Surname, Name	Huajie Huang
Role	Section Chief
Institution	Planning and Management Section, Science and Technology Service Technology Transfer Center of USST
Address	#516, Road Jungong, Shanghai
Telephone	
E-mail	

Co-funded by the
Erasmus+ Programme
of the European Union

CIPnet

China Intellectual Property Management Network

China Intellectual Property Management Network

Co-funded by the Erasmus+ Programme of the European Union