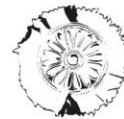


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HELLAS



## 6. RESEARCH MARKETING AND TECHNOLOGY TRANSFER

P4 "Dunărea de Jos" University of Galați, Romania

sstanciu@ugal.ro

cvlad@ugal.ro



# Sections

1. Research Marketing and Technology Transfer
2. Market Research, Specific Methods and Technology Transfer
3. Research Marketing and Technology Transfer
4. Case Studies and Good Practices for Technological Transfer



# Fundamental Concepts

## Marketing, Marketing Research, and Technology Transfer

### Linear models of Technology Transfer

2. Scientist discloses invention to Technology Transfer Office.
3. TTO evaluates invention, decides whether to patent.
4. TTO makes the patent applications.
5. TTO markets technology to firms/entrepreneurs.
6. TTO negotiate licensing agreements/royalties/equity stake etc.
7. Technology license.
8. Existing firms adapt and use technology.
- Spinoffs & Startup companies are created.

# 9

Steps

for

Universi  
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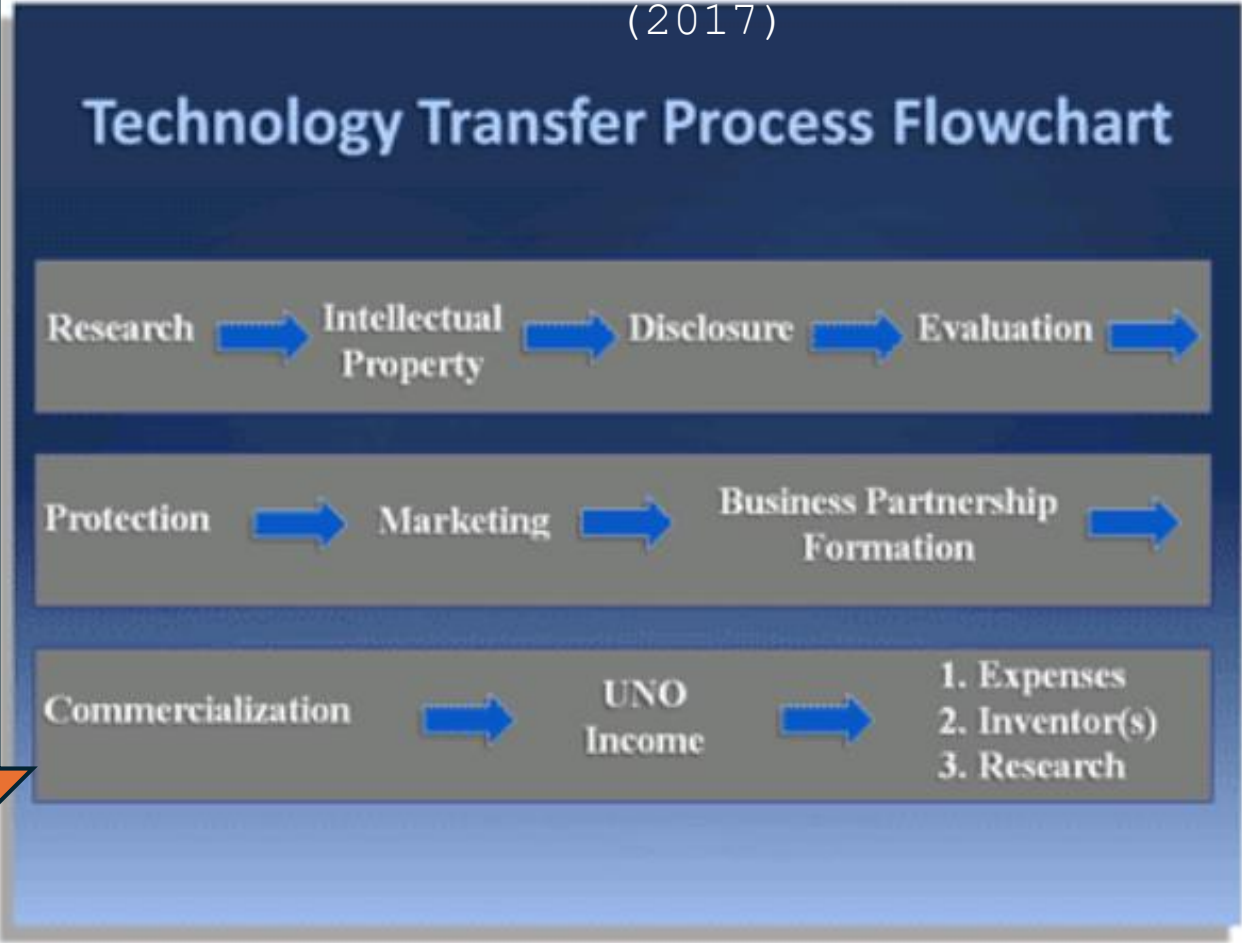
Technolo  
gy

Transfer



linear model  
 Source: Hilkevics & Hilkevics

(2017)



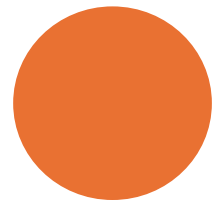
Technology transfer process  
 Source: KU (2025)



- **Disclosure** – Identification & reporting of the innovation to the technology transfer office or a similar entity.
- **Assessment** – Analysis of the technical, economic, and commercial feasibility of the developed technology.
- **Protection** – Safeguarding intellectual property through patents, copyrights, or other legal methods.
- **Marketing (Initial Commercialization)** – Promoting the technology to potential industrial partners or investors.
- **Partnership** – Establishing collaborations with companies or entities that can commercialize the technology.
- **Licensing** – Negotiating and granting usage rights of the technology to third parties.
- **Full Commercialization** – Implementing the technology on the market through production and distribution.
- **Final Impact** – Measuring the economic and social outcomes of the technology transfer.

# Non-linear parallel- sequential

• Toledo University Model



- The simplified linear model is direct and sequential, ideal for quickly explaining the process without extensive details about the economic impact.
- The generic cyclical model is simple and clear, suitable for explaining the process in general terms. It focuses on the repetitive flow of innovation and commercialization.
- The Marquette Model (economic impact) is the most comprehensive, as it includes not only technology transfer but also financial and social impact, being focused on economic outcomes and reinvestment.

• The Marquette Model



## Comparative Aspects of T, M& KU Models

Stage	Toledo Model	Marquette Model (Economic Impact)	KU Model
<b>Research &amp; Discovery</b>	Innovation - Development of an idea or technology	Research & Discovery - Scientific exploration of a new innovation	Research - Generation of new scientific discoveries
<b>Disclosure</b>	Disclosure - Reporting the invention	Invent & Disclose - Identification and protection of the innovation	Disclosure - Communicating the discovery for evaluation
<b>Evaluation</b>	Evaluation - Analysis of technological and commercial feasibility	Evaluate (Patent Review Committee) - Patent committee assessment of the invention	Assessment - Determination of technological value
<b>Intellectual Property Protection</b>	Protection - Patenting or legal protection	Protect Intellectual Property - Specific process of patenting and IP protection	Protection - Ensuring legal protection
<b>Marketing</b>	Marketing - Promotion of the technology to potential users	Market IP - Promotion of patents and licenses for technology transfer	Marketing - Creating value through research and technology transfer
<b>Licensing &amp; Partnerships</b>	License to spin-off or industry - Transfer of usage rights to companies	Select a Partner, Negotiate & License - Identifying partners and negotiating transfer conditions	Partner - Establishing industrial collaborations
<b>Development &amp; Commercialization</b>	Product development & commercialization - Market deployment of the technology	Commercialize Products & Services - Effective launch of the product on the market	Commercialization - Introduction of the product into the industry
<b>Impact &amp; Benefits</b>	(Not distinctly highlighted)	Benefit to Society & Revenue - Measurement of economic and social impact	Impact - Final results of technology transfer

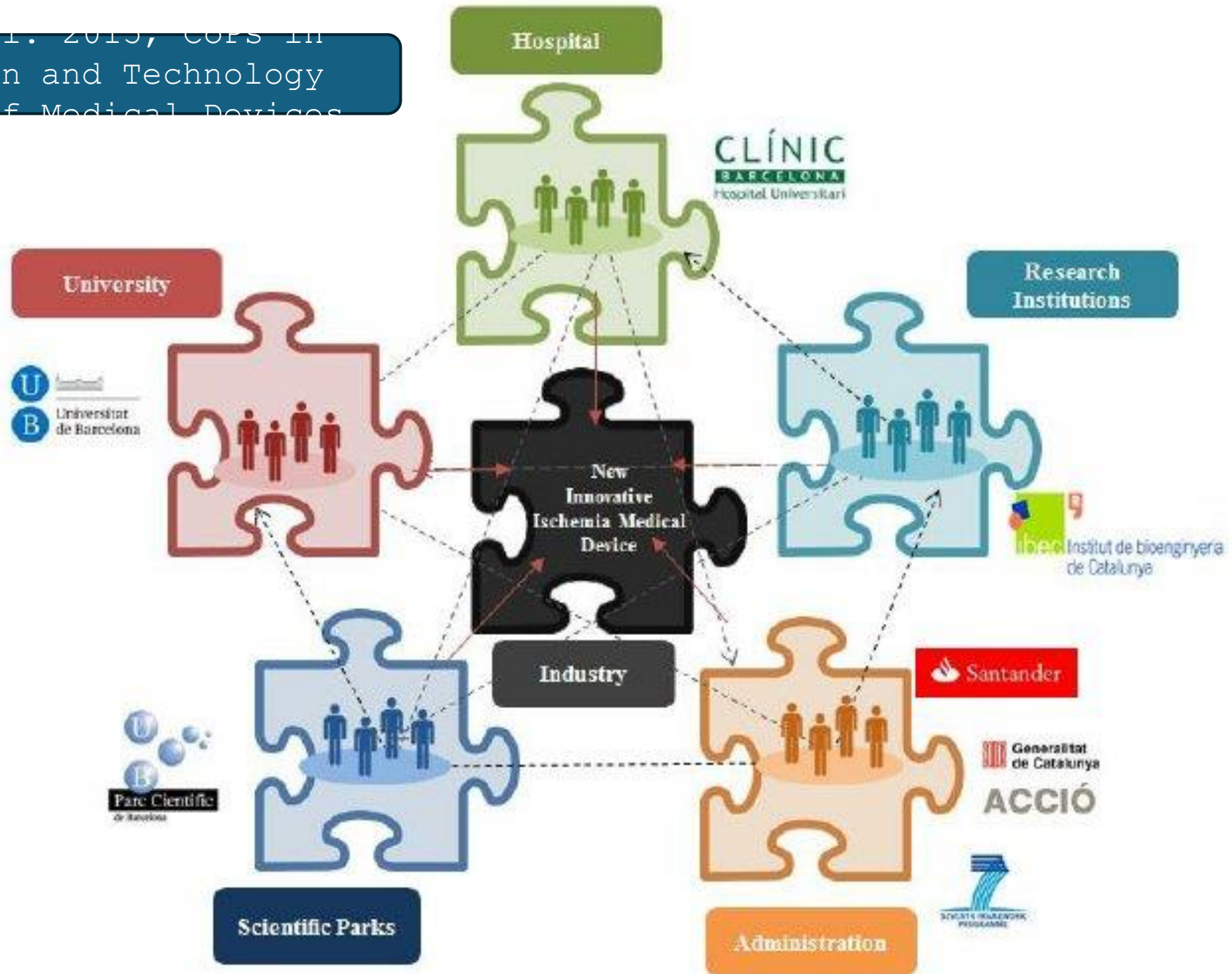
# Stakeholders in Technology Transfer

## Stakeholders involved

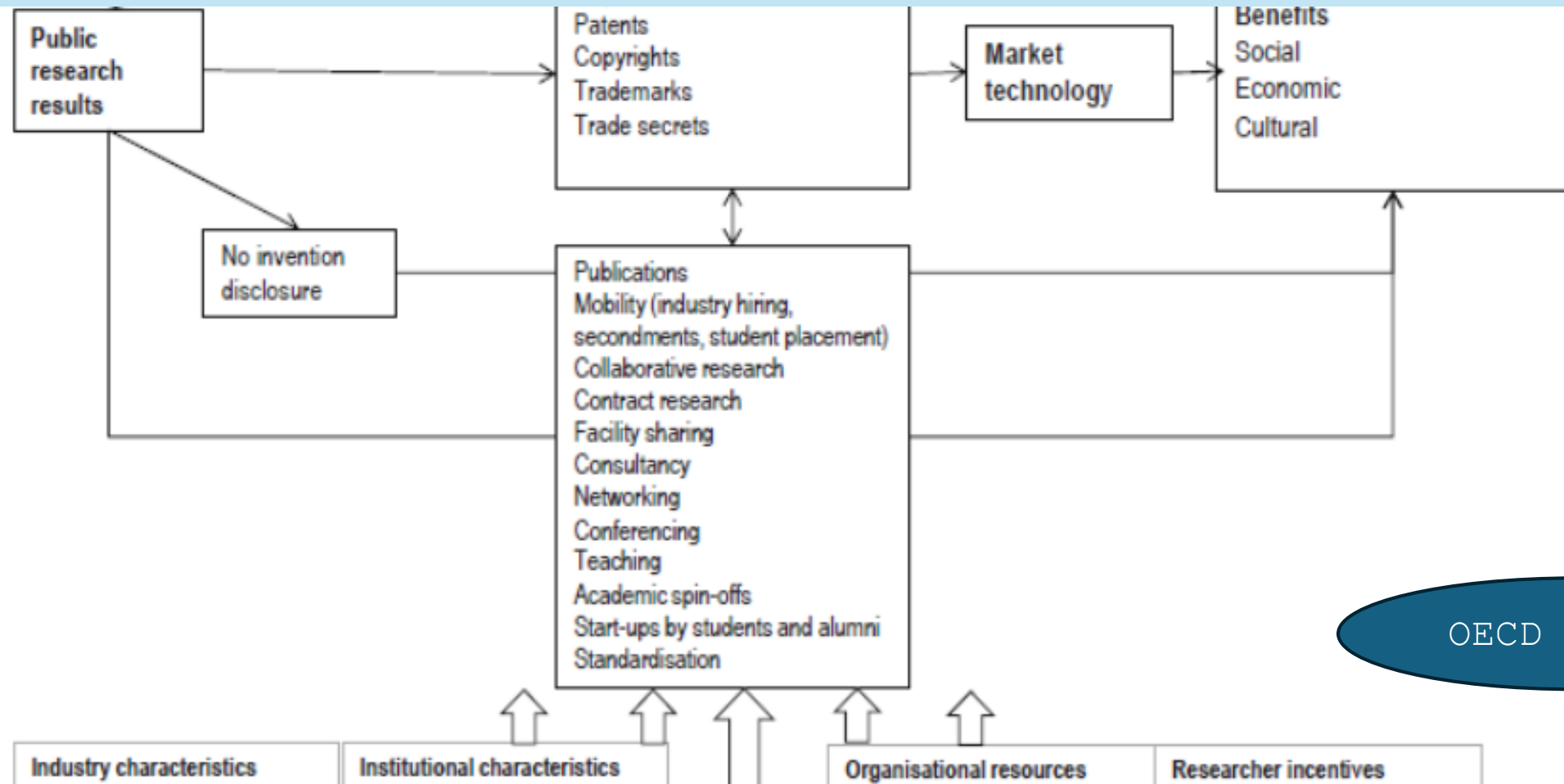
- **Technology Developers or Owners:** Universities, research institutes, and innovative companies.
- **Technology Beneficiaries or Users:** Companies that adopt and implement new technologies.
- **Intermediaries:** Technology transfer centers, innovation brokers, and business incubators.

## Beneficiaries

- Companies that improve their products or processes.
- Society, through access to advanced technologies and job creation.
- Research institutions, which capitalize on their results and secure resources for new projects.



# Knowledge transfer and commercialization channels



OECD (2013)

# Selected knowledge transfer and commercialization channels

OECD (2013)

Channels	Description	Degree of formalisation	Degree of finalisation	Relational intensity	Significance for industry
<b>Publishing</b>	Traditional mode of transmission of knowledge, mostly limited to published papers.	Low	High	Low	High
<b>Conferencing, networking</b>	Professional conferences, informal relations, casual contact and conversations ranked as most important by industry.	Low	Low	Medium	High
<b>Collaborative research and research partnerships</b>	Scientists and private companies commit resources to joint research; can range from small-scale to large strategic partnerships.	Medium	Low	High	High
<b>Contract research</b>	Commissioned by private firms to solve industry problems; more applied than collaborative research.	High	High	High	High
<b>Academic consulting</b>	Research or advisory services provided by researchers to industry clients; includes different types such as research-driven and commercialisation-driven consulting.	Medium	High	High	High
<b>Industry hiring, student placement</b>	Motivation for firms to engage in industry-science linkages; includes joint supervision of theses, internships, or collaborative research.	Medium	Low	Medium	Medium
<b>Patenting and Licensing</b>	Ranked among the least important channels by both industry and researchers; substantial attention in	High	High	Low	Low

# Benefits (US Study, 2022)

## Driving the Innovation Economy

Academic Technology Transfer In Numbers

From 1996 to 2017, up to...

**\$1.9** trillion

contributed to  
U.S. gross  
industrial  
output



**\$1** trillion

contributed to  
U.S. gross  
domestic  
product



**6.5** million

jobs supported



**480,000+**  
inventions disclosed...



**117,000+**  
U.S. patents issued...



to research institutions since 1996

**15,000+**  
startups formed



**68%**  
of university  
licenses are to  
startups and  
small companies



**200+**  
drugs and vaccines  
developed through  
public-private partnerships  
since Bayh-Dole Act  
enacted in 1980



For more information visit  
[www.autm.net](http://www.autm.net)

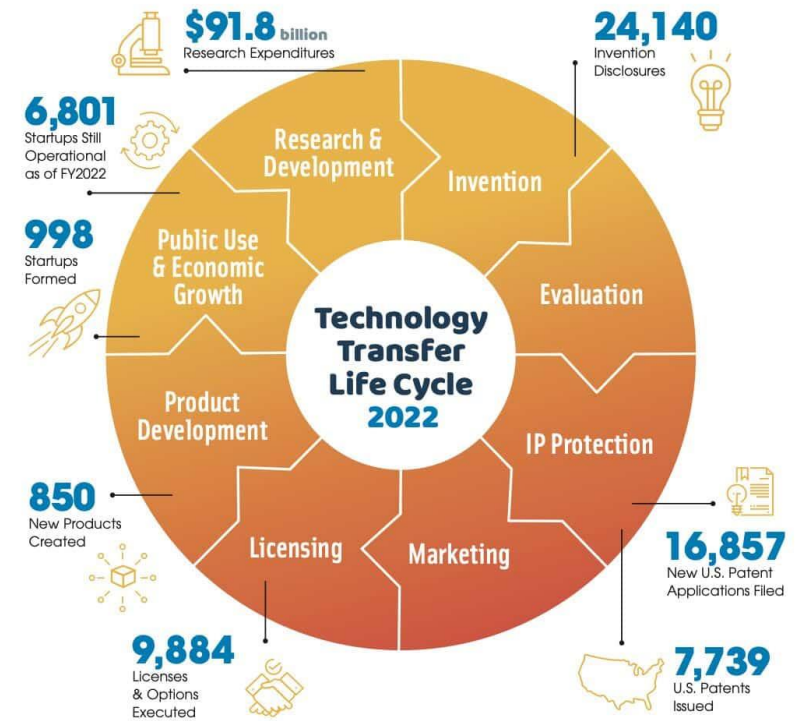
Thank you to our sponsors

This information was compiled from AUTM and the Biotechnology Innovation Organization: The Economic Contribution of University/Nonprofit Investments in the United States: 1999-2020; June 2022 as well as the AUTM 2021 Licensing Activity Survey and Statistics Access for Technology Transfer Database, [www.autm.net/STAT](http://www.autm.net/STAT), and Academic Patent Licensing Helps Drive the U.S. Economy, [watchdog.com](http://watchdog.com), June 20, 2022.



## Benefiting Society and the Economy

Academic Technology Transfer for 2022



For more information visit  
[www.autm.net](http://www.autm.net)

**Every year university research yields discoveries with commercial potential.**

Technology transfer professionals associated with universities and other academic institutions manage the complex process of shepherding ideas from the lab to the marketplace – from evaluating and protecting discoveries to commercializing the inventions through new and existing companies.

# MAIN DIRECTIONS OF MARKET RESEARCH IN TECHNOLOGY TRANSFER



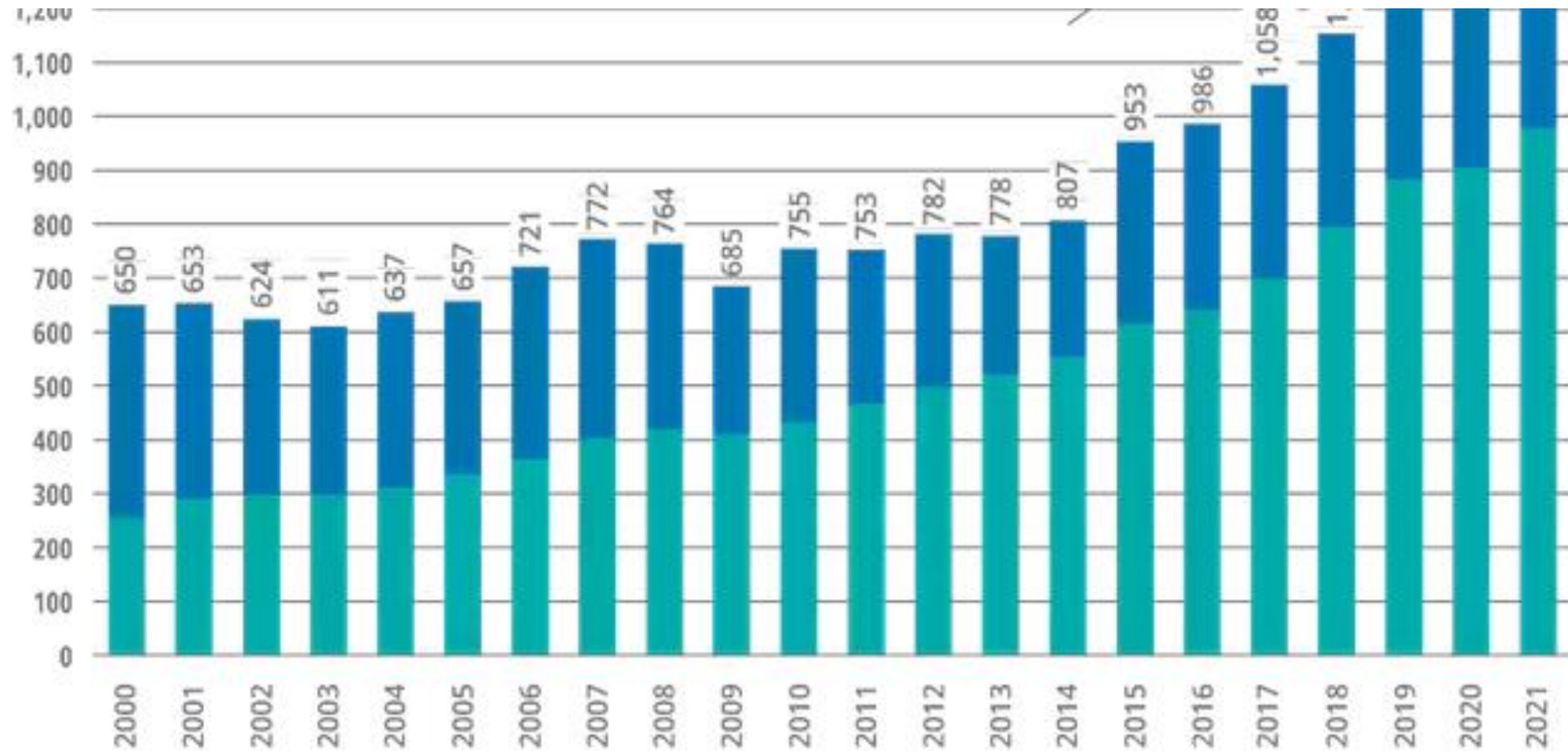
- Identifying Market Opportunities
- Assessing Technological Competitiveness
- **Testing Commercial Viability**
- Market Segmentation and Positioning
- Supporting Licensing or Direct Commercialization Decisions
- Reducing Investment Risks
- Creating Innovation Ecosystems and Networking

A large, vertical, purple double-headed arrow is positioned on the right side of the slide. It points both upwards and downwards, framing the central text.

MAIN DIRECTIONS OF MARKET  
RESEARCH IN TECHNOLOGY TRANSFER

# Technology Transfer Ecosystem in Europe and Other

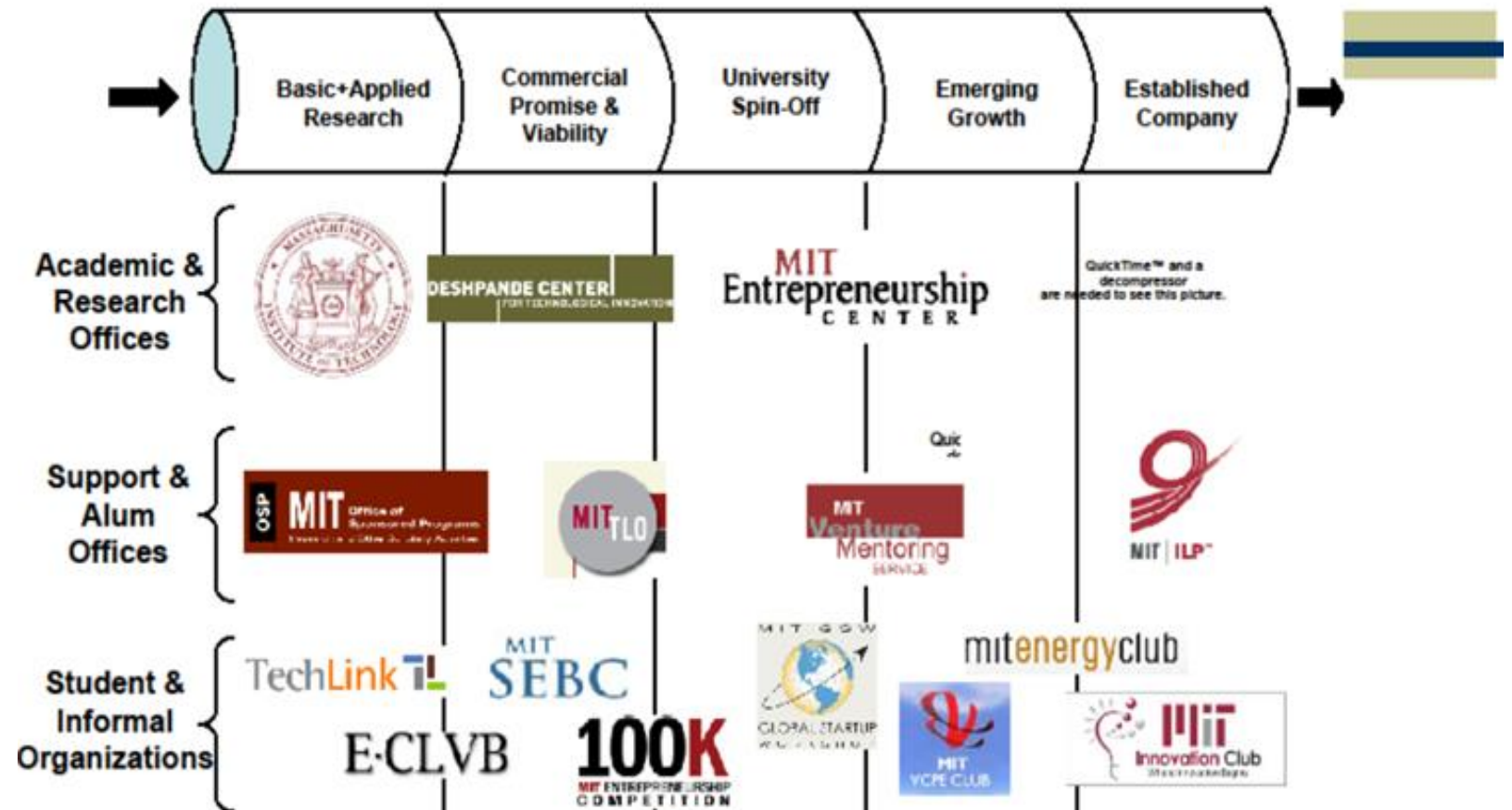
European technology sales  
(2000-2021)  
Source: Deloitte (2022)



- MIT Technology Transfer
- by Turner (n.d.)

# Massachusetts Institute of Technology (MIT)

## MIT Innovation Pipeline



# Massachusetts Institute of Technology (MIT)

**MIT Venture Mentoring Service (VMS)** (2000), provides mentoring, help, and advice to any MIT student, faculty, alumni, or staff member who is interested in starting a new venture.

**MIT \$100K Entrepreneurship Competition:** This student-managed business plan competition helps students and researchers from MIT and Greater Boston transform their ideas into leading companies - successful startups.

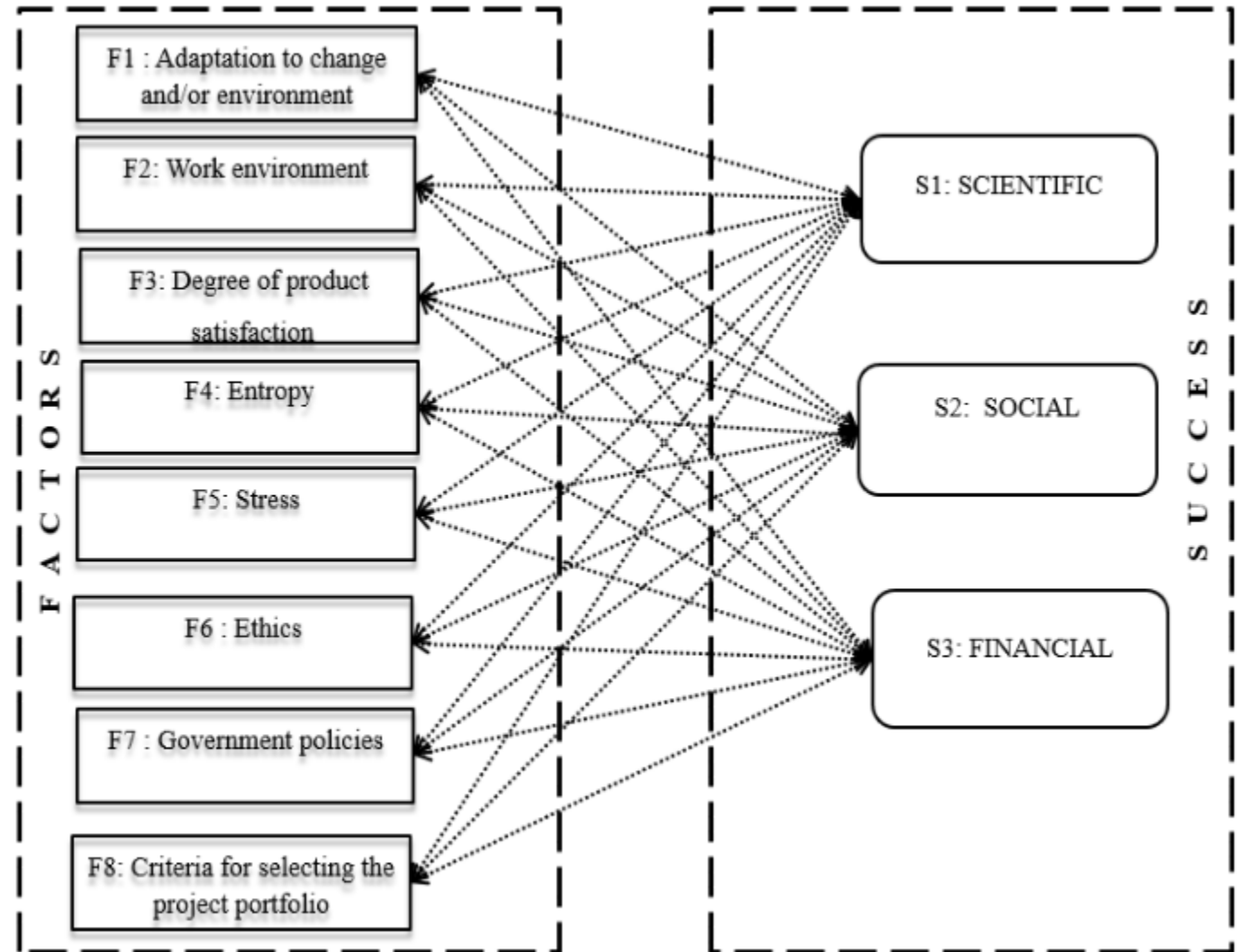
**MIT Sandbox Innovation Fund Program:** MIT Sandbox provides up to \$25K in seed funding, mentorship, and tailored entrepreneurship education that empowers student innovators to explore ideas, take risks, and prepare to launch.

conducts cutting-edge research with commercial applications in fields such as biotechnology, software, and advanced manufacturing.

**Strong Entrepreneurial Culture:** The institution fosters a robust entrepreneurial environment through educational programs and initiatives that support startups.

**Solid Collaborations with the Private Sector:** MIT maintains strong partnerships with major corporations and provides access to venture capital, facilitating innovations.

**Innovative Ecosystem:** Located in the Route 128 area of Boston, a global hub for advanced technologies, MIT benefits from a vibrant innovation ecosystem.



López-Mendoza, X .(2021). Factors of technology transfer and its relation to success

# Horizon Europe - European Union's funding program for R&I 2021 to 2027- budget of €95.5 billion



**Excellent Science (Pillar I):** This pillar supports fundamental research and skill development through the European Research Council (ERC), Marie Skłodowska-Curie Actions, and investments in research infrastructures.

**Global Challenges and European Industrial Competitiveness (Pillar II):** It addresses societal challenges and bolsters industrial capacity through thematic clusters, including health, culture, civil security, digitalization, industry, space, climate, energy, mobility, food, bioeconomy, natural resources, agriculture, and environment.

**Innovative Europe (Pillar III):** This pillar aims to position Europe as a leader in innovation and entrepreneurship by supporting the development of innovation ecosystems and promoting collaboration among various research and innovation stakeholders.

- **European Institute of Innovation and Technology (EIT) is an integral part of Horizon Europe, the EU's key funding program for research and innovation**

CCTT focuses on:

Development of Innovation Ecosystems: Projects, knowledge, and tools for developing innovation ecosystems.  
Financing: Projects, knowledge, and tools for financial instruments in technology transfer.  
Capacity Building: Projects, knowledge, and tools for strengthening capacities in technology transfer.



## Innovation Ecosystems

Projects, knowledge and tools for development of innovation ecosystems



## Financing

Projects, knowledge and tools for financial instruments in technology transfer



## Capacity Building

Projects, knowledge and tools for capacity building in technology transfer

Technology Transfer by topic at Competence Centre on Technology Transfer European Commission (2022).

# Market Research and Analytical Methods in Technology Transfer

## Importance of Market Research for Assessing Technological Potential



## Importance of Market Research for Assessing Technological Potential

Mystery Shopping is a method of marketing research in which individuals, known as mystery shoppers or secret shoppers, are employed to act as typical customers and assess the quality of products or services provided by a business.

Experimental research - used to investigate causal relationships by manipulating one or more variables and observing the effect on another variable.

Ethnographic research - used to gain a deep understanding of consumer behavior, preferences, and culture. It involves immersing researchers in the natural environment of the target audience, whether that's in a physical location, a social context, or an online community.

Online analytics - collection and analysis of data related to online activities, such as website visits, user behavior, and digital marketing campaigns.

**Social media monitoring/social media listening/social media analytics - tracking & analyzing conversations, mentions, and trends on social media platforms.**

Secondary research - involves the collection and analysis of existing data and information from various sources.

Observational Research - systematically observing/recording behavior, events, or activities without directly interacting with or questioning the subjects.

**In-depth interviews** - qualitative research method that involves one-on-one conversations between a trained interviewer and a research participant.

Focus groups - qualitative research method used to gain consumer opinions, perceptions, attitudes, and feelings: products/services/marketing concepts.

Surveys - commonly used method in marketing research, involving the collection of data from a sample of respondents through structured questionnaires or interviews; online surveys, telephonic interviews, face-to-face interviews, and mailed questionnaires.

## Key Analytical Methods in Technology Transfer Market Research

specific innovation.

**Focus Groups:** Gathering a group of industry experts, researchers, and potential customers to discuss existing challenges and available technological solutions is useful for identifying barriers to the adoption of new technologies.

**In-Depth Interviews:** Detailed discussions with industry leaders, technology transfer experts, and potential users of the new technology help in understanding unmet market needs and the selection criteria of companies interested in innovation.

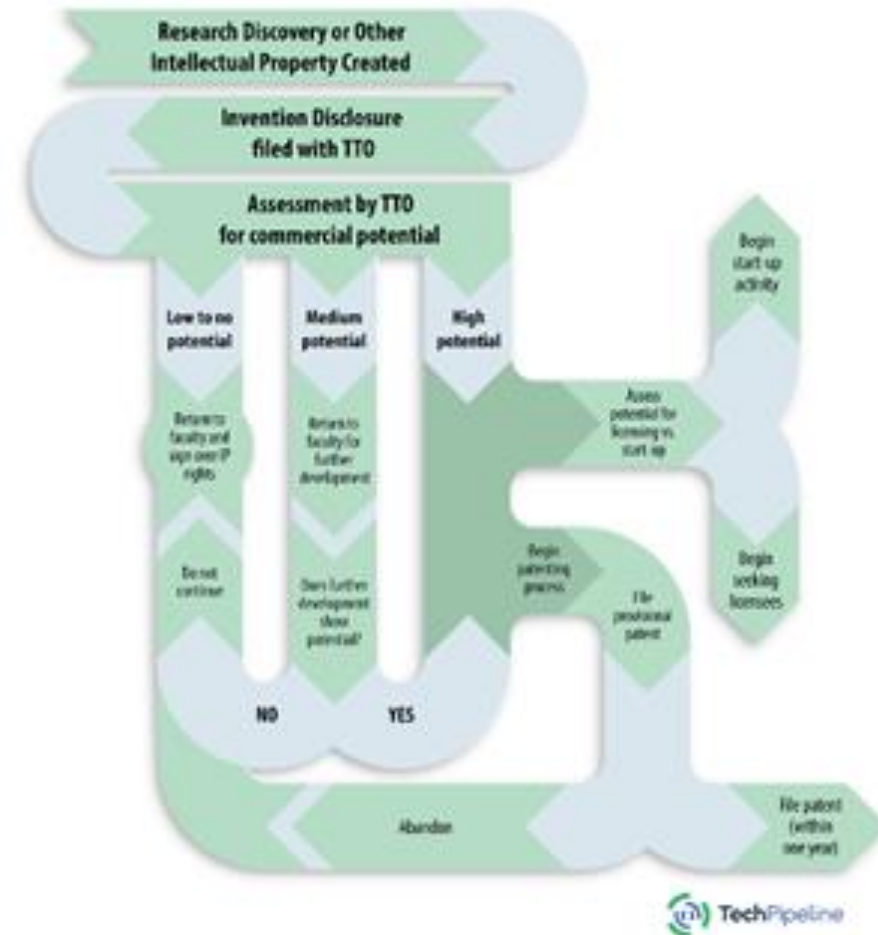
**Observational Research:** Analyzing how companies use existing technologies to identify gaps and potential improvements is useful for studying organizational behavior towards adopting new technologies.

**Secondary Research:** Analyzing industry reports, academic articles, and government studies to identify trends and directions in the technology market helps in understanding competition and emerging trends in innovative technologies.

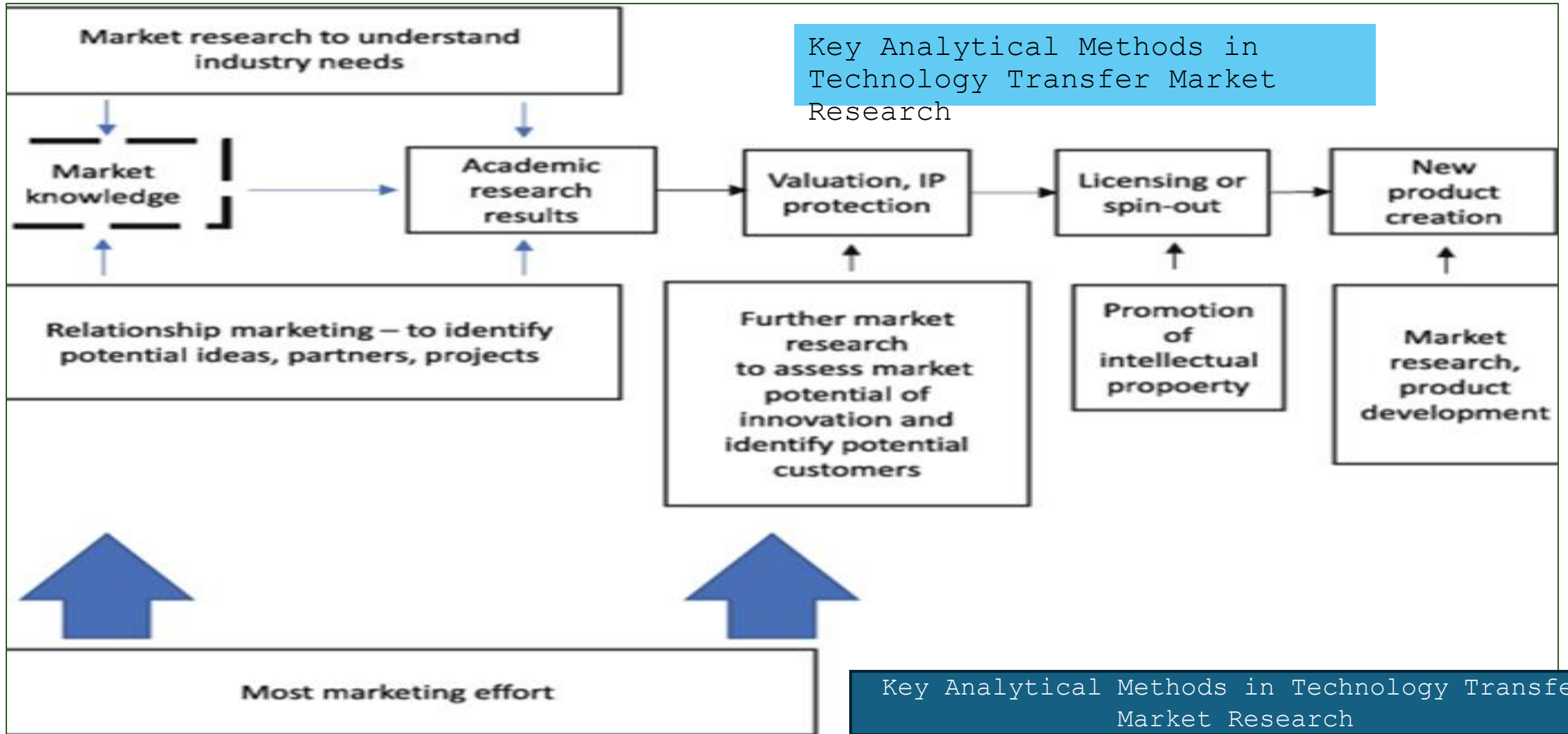
**Online Analytics & Social Media Monitoring:**

Utilizing big data and behavioural analysis to identify market interest in certain technologies. Monitoring conversations on

## The Tech Transfer Process

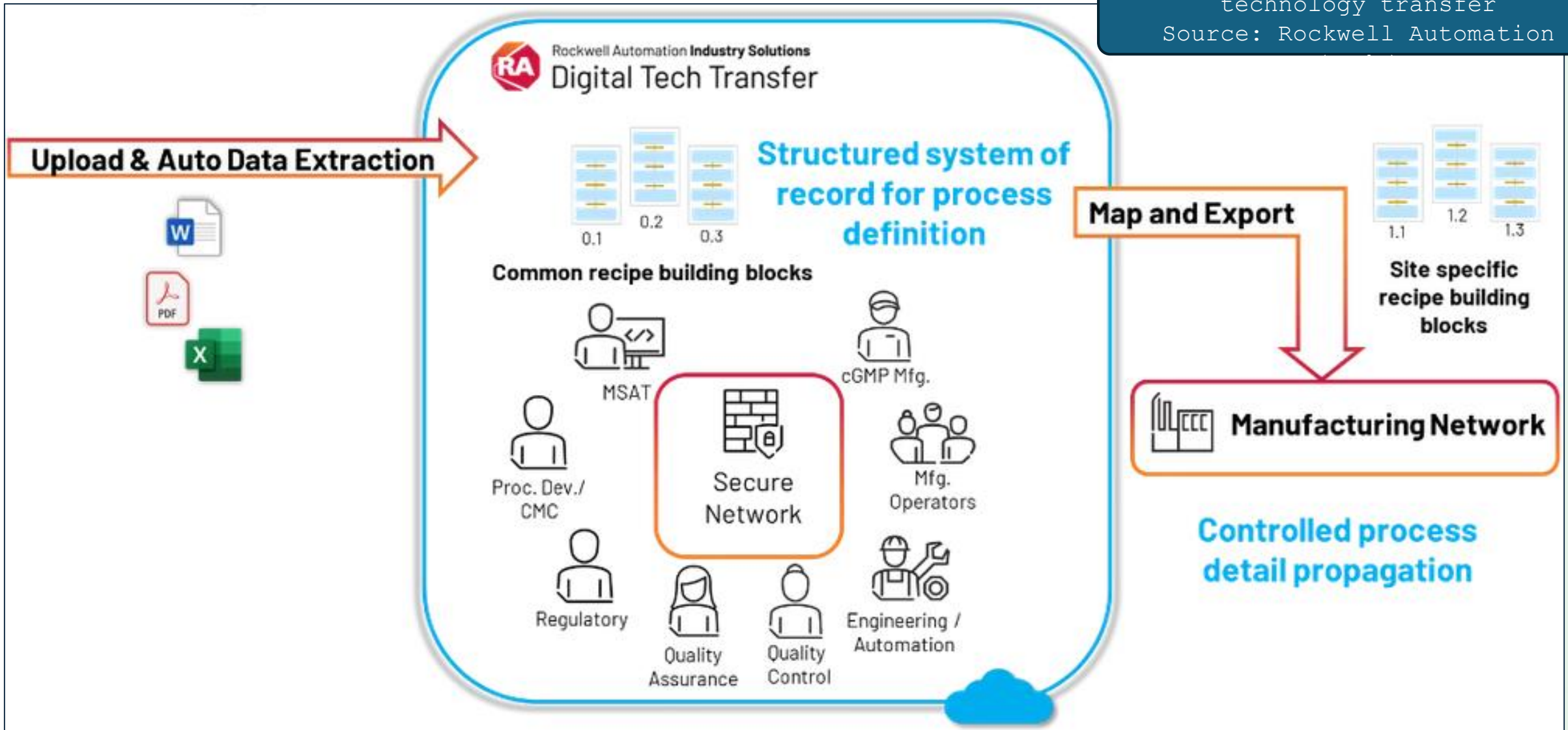


# MARKET RESEARCH AND ANALYTICAL METHODS IN TECHNOLOGY TRANSFER



# Market Research and Analytical Methods in Technology Transfer

## Digital Tools and Data Analytics for Technology Market Research



# TRANSFER STRATEGIC APPROACHES FOR MARKETING TECHNOLOGY TRANSFER

## Fundamental Strategies for Technology Transfer Marketing

**Market Entry Strategies:** This encompasses market segmentation, positioning, and the marketing mix. By identifying specific market segments and effectively positioning the technology, organizations can tailor their marketing mix to meet the unique needs of each segment (ITONICS, 2023)

**Communicating Technological Benefits to Industrial Partners:** Clearly articulating the advantages and applications of the technology to potential industrial collaborators is crucial. This involves creating targeted marketing materials and presentations that highlight the technology's value proposition (Georgetown University Office of Technology Commercialization., n.d.).

**Licensing Models:** Understanding various types of licensing agreements and their **Technology push:** This takes place when a company or university patents its invention and licenses it to other companies. This process is common with university-related inventions because universities are not in charge of manufacturing the inventions themselves, but they want to get their inventions out into the market.

**Market pulls:** This is when new technologies are developed in response to demand for a product or service. This is the most common way of technology transfer as it pulls up innovation to meet the demands of the market.

**Technological spillover:** This takes place when new advances in one area stimulate progress in another. It's called a "spillover" because it's like ideas spilling from one subject to another, technology being transferred between countries.

# TRANSFER STRATEGIC APPROACHES FOR MARKETING TECHNOLOGY TRANSFER

## Proactive vs. Reactive Marketing in Technology Transfer

Technology transfer involves licensing it to other companies. This process is common with university-related inventions because universities are not in charge of manufacturing the inventions themselves, but they want to get their inventions out into the market.

**Market pulls:** This is when new technologies are developed in response to demand for a product or service. This is the most common way of technology transfer as it pulls up innovation to meet the demands of the market.

**Technological spillover:** This takes place when new advances in one area stimulate progress in another. It's called a "spillover" because it involves **Active marketing** involves proactively promoting

**Passive marketing in technology transfer involves online listings, enhancing visibility but relying on external discovery, requiring complementary active strategies.**

an institution's inventions and identifying potential licensees. This approach includes conducting market research and reaching out to companies in relevant sectors to find firms interested in acquiring licenses and retaining top talent. Researchers prefer

## Why is Active Marketing Important in Technology Transfer?

institutions that actively promote high-quality intellectual property rather than letting it remain uncommercialized.

**Enhancing Institutional Reputation:** Active marketing provides institutions with a platform to showcase their work and achievements.

**Engaging with Licensees:** Collaborating with the right licensees can generate additional benefits, such as promotion at conferences, publication in prestigious journals, and advertising campaigns.

# TRANSFER STRATEGIC APPROACHES FOR MARKETING TECHNOLOGY TRANSFER

Co

## Innovative Approaches to Technology Commercialization



Creating case studies, specialized articles, blogs, and white papers about available technologies.

Organizing webinars and presentations to demonstrate the technology's value to the industry.

Publishing in academic and industry journals, and participating in international conferences and innovation fairs to showcase new technologies.

## Networking and Public Relations Marketing

Establishing strategic partnerships with innovation clusters, business incubators, and venture capitalists.

Participating in international conferences and innovation fairs to showcase new technologies.

Establishing strategic partnerships with innovation clusters, business incubators, and venture capitalists.

## Market Intelligence-Based Marketing (Market Intelligence)

Utilizing big data and market analysis to identify trends and potentially interested companies.

Assessing technological demand and industry needs through surveys and focus groups.

Creating comparative reports highlighting the technology's advantages over existing alternatives.

## Digital Marketing and Online Promotion

Utilizing technology transfer platforms (e.g., AUTM, WIPO Green, Enterprise Europe Network).

Promoting inventions through targeted email campaigns to relevant companies.

Creating dedicated pages for technologies on university websites and social media (e.g., LinkedIn, Facebook, Twitter, YouTube, and ResearchGate).

## Branding and Storytelling-Based Marketing

Developing a strong brand for the technology transfer office (TTO) to attract trustworthy partnerships.

Crafting a compelling narrative about the innovation's impact on society and industry.

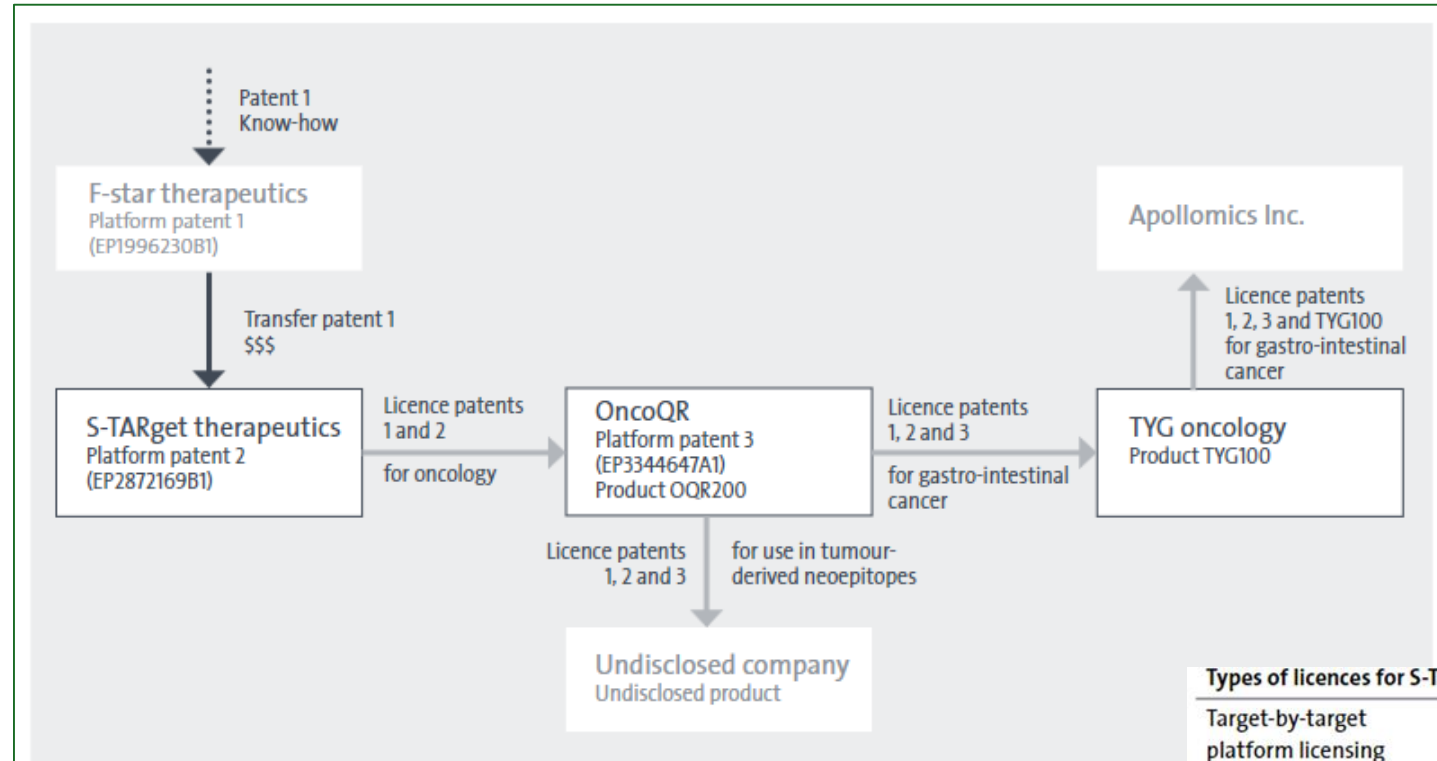
## Matchmaking and Technology Auction Marketing

Organizing matchmaking events between researchers and companies.

Hosting technology auctions where multiple potential licensees can bid for rights to a technology.

## Good Practices in Technology Transfer

### OncoQR (Austria): Case study



Biotechnology company specializing in the development of innovative therapeutic cancer vaccines.

Treating severe allergic diseases before expanding its applications to oncology.

... enabled the company to attract funding and develop biotechnological products, highlighting the importance of patents in communicating value to investors and business

#### Types of licences for S-TIR

Target-by-target platform licensing (commercial)	Licensing the three basic patents protecting the platform on a worldwide exclusive basis for use in combination with a specific immunogen, independent of the indication.
Product licensing (commercial)	Licensing of the complete product (warhead connected with an immunogen) for further development or commercialisation.
Research licences (non-commercial)	Licensing of the platform in combination with one or more specific targets for non-clinical use, which may show the clinical relevance of new targets and potentially lead to obtaining a commercial licence. This type of licence may result in additional evidence and data or improvement of the warhead.

# CASE STUDIES AND GOOD PRACTICES FOR TECHNOLOGICAL TRANSFER

## Good Practices in Technology Transfer

### Cubicure (3D Printing Technology - Austria): Case Study

University of Vienna, specializing in the development

Technology transfer strategy: Developing long-term strategy with an intelligent distribution of usage rights has enabled the university to achieve both scientific progress and commercial success. University-Industry Collaboration: The partnership with Ivoclar facilitated the practical application of university research, leading to innovative

This case study highlights the importance of strategic collaborations and efficient intellectual property management in successful technology transfer.



### Oxeon (Composite Materials - Sweden): Case Study

Spin-off from the Technical University of Vienna, specializing in the development of advanced 3D printing technologies

Intellectual Property (IP) Management: Oxeon secured patent protection for its tape weaving technology, establishing a strong IP portfolio that attracted private investment and facilitated partnerships.

University Support and Collaboration: The company benefited from the innovation ecosystem at Chalmers University, including business development assistance from the Chalmers School of Entrepreneurship and financial backing from Chalmersinvest.

Strategic Business Development: Oxeon's management team, comprising the inventor and entrepreneurship students, developed a comprehensive business plan and go-to-market strategy, enabling the successful

commercialization of their technology. Spin-off from Chalmers University of Technology, Oxeon developed a unique tape weaving technology that led to the creation of lightweight, durable textiles used in sports, industrial, and aerospace applications

## Assignment of the Patent for Vegetable Paste (Sanovita) at Dunărea de Jos University of Galați (UDJG)

### Paste (Sanovita)

**Description:** UDJG developed a patent for an innovative vegetable paste as a sustainable alternative to animal-based products.

**Technology Transfer:** The patent was assigned to Sanovita, a Romanian company specializing in niche food products, which was later acquired by an American investment fund.

#### Steps:

Initially, UDJG granted the right to use the patent for testing economic feasibility.

After market validation, the company obtained

### IMPACT

The product received international awards, including at Ecotrophelia, an international food innovation competition for students.

The model demonstrated that a university patent could become commercially viable with industry partner support.



### IMPACT

Demonstrated another variant of intellectual property valorisation without direct patent assignment.

Allowed a private partner to obtain European funding using the university's expertise.



## Technology Transfer for Whey Ice Cream – Model Based on European Funding

**Description:** UDJG patented an innovative technology for valorising whey by obtaining healthy ice cream with nutritional benefits.

**Technology Transfer:** The collaboration model differed from that of the vegetable paste:

Instead of assignment, the university used the patent as a basis for consultancy in accessing European funds.

The partner company obtained funding to implement the production process without purchasing the patent but benefited from UDJG's technical support.

# CASE STUDIES AND GOOD PRACTICES FOR TECHNOLOGICAL TRANSFER

## Technology Transfer at "Dunărea de Jos" University of Galați (UDJG)

Characteristic	Vegetable Paste (Sanovita)	Whey Ice Cream
Type of Transfer	Patent Assignment	Technology Transfer through Consultancy
Partner	Sanovita	A Romanian dairy products company
Funding Method	Private Funds	European Funds
UDJG's Role	Patent development and technical support	Scientific support for obtaining funding and implementation
Benefits	Revenue from patent assignment, international commercial success	Access to funding for industry, utilization of research in production

## Technology Transfer at "Dunărea de Jos" University of Galați (UDJG)

### Conclusions and Lessons in Technology Transfer

- **Flexibility in Valorization Models:** Not all technologies need to be assigned; some can be used as support for attracting investments.
- **Role of Consultancy:** The university can offer more than patents, assisting companies in implementing innovation.
- **Long-Term Strategy:** Capitalizing on a patent requires active collaboration with the industry and promoting research results.



## 4.3 Actions and Measures for Improving the Technology Transfer Process in Romania

**Establishing and operationalizing an interministerial high-level coordination committee for innovation policies**, responsible for overseeing the implementation of a unified process for the management, development, and monitoring of technology transfer activities at the national level.

**Creating and operationalizing a pilot program to manage, develop, and monitor technology transfer activities nationwide.** This pilot program could be incubated within an existing institution and function as a "one-stop-shop" for all stakeholders involved in the technology transfer process.

**Supervising the initiation and coordinating the implementation of a program aimed at establishing a Technology Transfer Fund (TT Fund)** to support and finance technology transfer initiatives.

- **Training Program for Human Resources within Technology Transfer Entities**

The program aims to strengthen and expand expertise in technology transfer, while also training and supporting a specialized body of experts in the field.

- **Twinning Program**

The program is a twinning initiative for research institutions and universities, designed to encourage professional networking and facilitate the introduction of new ideas, knowledge, methods, initiatives, and procedures related to technology transfer within academic and research environments.

- **300+ Innovators and Entrepreneurs Program**

The program aims to create an innovation and technology transfer community within research and innovation organizations. This professional community, actively engaged in innovation activities, will be developed by connecting its members to high-performing international innovation ecosystems and providing entrepreneurial training. This will be achieved through initiatives such as partnerships with top universities worldwide, shadowing programs, and experience exchange programs.

- **Technology Transfer Festival**

The program focuses on promoting research results through Technology Transfer Festival events. Showcasing the achievements and activities of the research and innovation sector to the business community should be a key pillar in building sustainable relationships between the two sectors and generating new business opportunities for both. This program addresses the need to create collaboration bridges between

## Additional Tools and Resources (15 minutes)

### E-learning Modules Offered by the European Patent Office (EPO):

- **How to Use Patent Information to Identify Market Opportunities:** This module guides users on leveraging patent data to uncover potential market prospects.
- **Intellectual Property Management in Small and Medium-sized Enterprises:** This course provides strategies for effectively managing IP within smaller organizations.

### Examples of Events and Training:

- **Conferences and Webinars on Technology Transfer Organized by the EPO:** The EPO regularly hosts events focusing on various aspects of technology transfer, offering insights from industry experts.
- **Participation in International Events for Networking and Learning:** Engaging in global conferences and workshops provides opportunities to connect with professionals and stay updated on the latest developments in technology transfer.

### Practical Activity (15 minutes)

Simulation: Identify a relevant patented technology for a specific sector (e.g., green energy, biotechnology).

### Questions:

- How could the patent be utilized to attract partners?
- What marketing strategies could be applied for commercialization?

### Additional Resources for Further Study

- Explore the EPO's e-learning center for a comprehensive list of courses and materials on patent information and IP management.
- Attend upcoming EPO events to gain deeper insights into technology transfer and related topics.



