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# Nourishing the startups through incubating programs and entrepreneurship education in universities

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## Shout CV, Yoon Hyuk Kim

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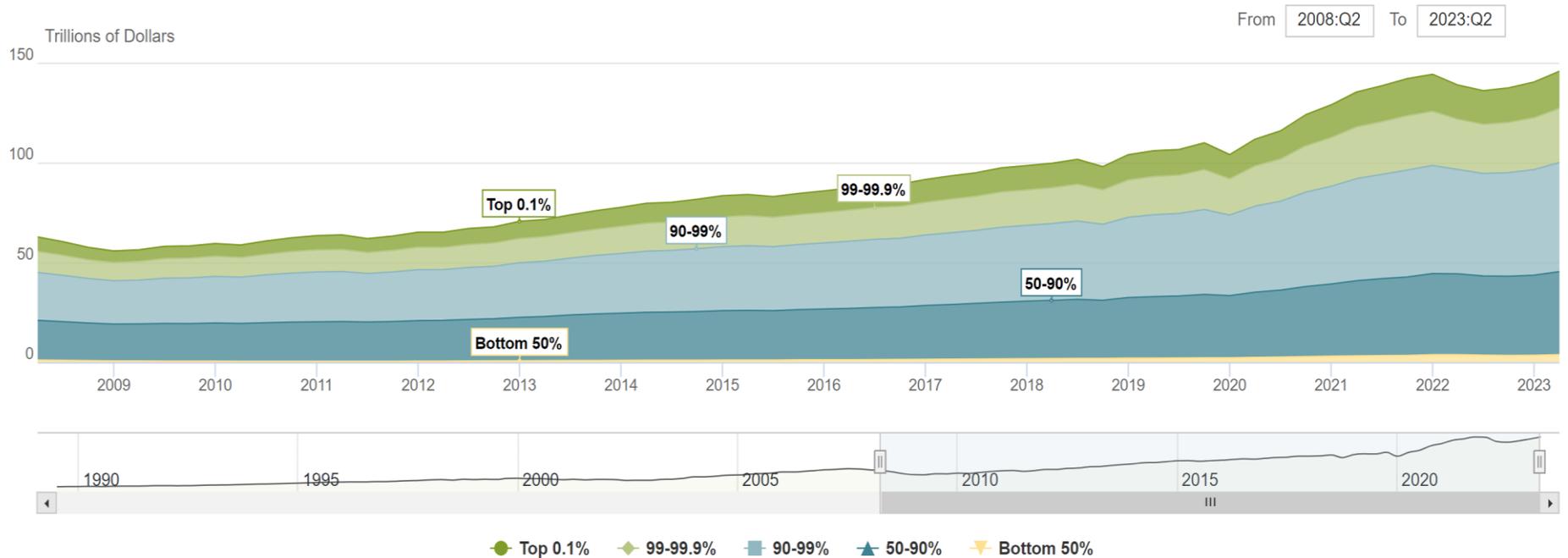
- **Professor of Dep. of Mech. Eng., KHU (2002 ~ present)**
- **Director of Research Affairs, Kyung Hee University**
- **President of University-Industry Cooperation Foundation, KHU**
- **Director of Enterprise Support Foundation, KHU**
- **Vice Director, Convergence Technology Research Institute, KHU**
- **Ph.D.Mechanical Engineering KAIST, Korea (Feb. 2000)**
  
- **President, Biomedical Engineering Division, KSME, 2021**
- **President, Korean Society of Biomechanics (KSB), 2024**
- **J. Mech. Sci. and Tech., Associate Editor, 2010-2019**
- **Int. J. Precision Engineering and Manufacturing, Editorial Board**
- **Comp. Meth. in Biomech. and Biomed. Eng., Editorial Board**
- **Asia Spine Journal, Editorial Board, 2015 ~2020**
- **JMST Advances, Associate Editor, 2018-2019**
- **Journal Biomechanical Science and Engineering, Editorial Board**
- **Biomimics Journal, Editorial Board**

# Why Startup? Why Entrepreneurship?

Units  Levels (\$)  Shares (%)

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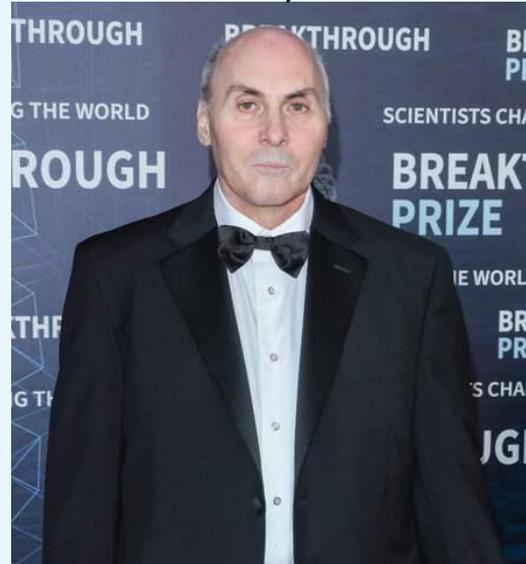
## Wealth by wealth percentile group



Source: Survey of Consumer Finances and Financial Accounts of the United States

# Why Startup? Why Entrepreneurship?

Weissman, UPENN



## Why Startup? Why Entrepreneurship?

- Startup in Korean: 창업(創業) - Initiate the new country!
  - 創: Start the farming by seeding by sword.
  - 業: Catch the firewood.
- Carefully, but decisively ...



The screenshot shows a search result for '창업하다' on a Korean dictionary website. The page has a navigation bar with '통합' (Integrated) selected, and other options like '어학사전' (Dictionary), 'VIEW', '이미지' (Image), '지식iN', '인플루언서' (Influencer), '동영상' (Video), '쇼핑' (Shopping), '뉴스' (News), and '지도' (Map). The main content area is titled '국어사전' (Korean Dictionary) and shows the definition for '창업하다 (創業하다)'. The pronunciation is given as [창:어파다] and the part of speech is '동사' (Verb). The definition includes two numbered points: 1. '나라나 왕조 따위를 처음으로 세우다. 나라를 창업하다.' (To found a country or dynasty for the first time. To found a country.) and 2. '사업 따위를 처음으로 이루어 시작하다. 회사를 창업하다.' (To start a business for the first time. To start a company.) There is also a link to '국어사전 결과 더보기' (View more dictionary results).

## Why Startup? Why Entrepreneurship?

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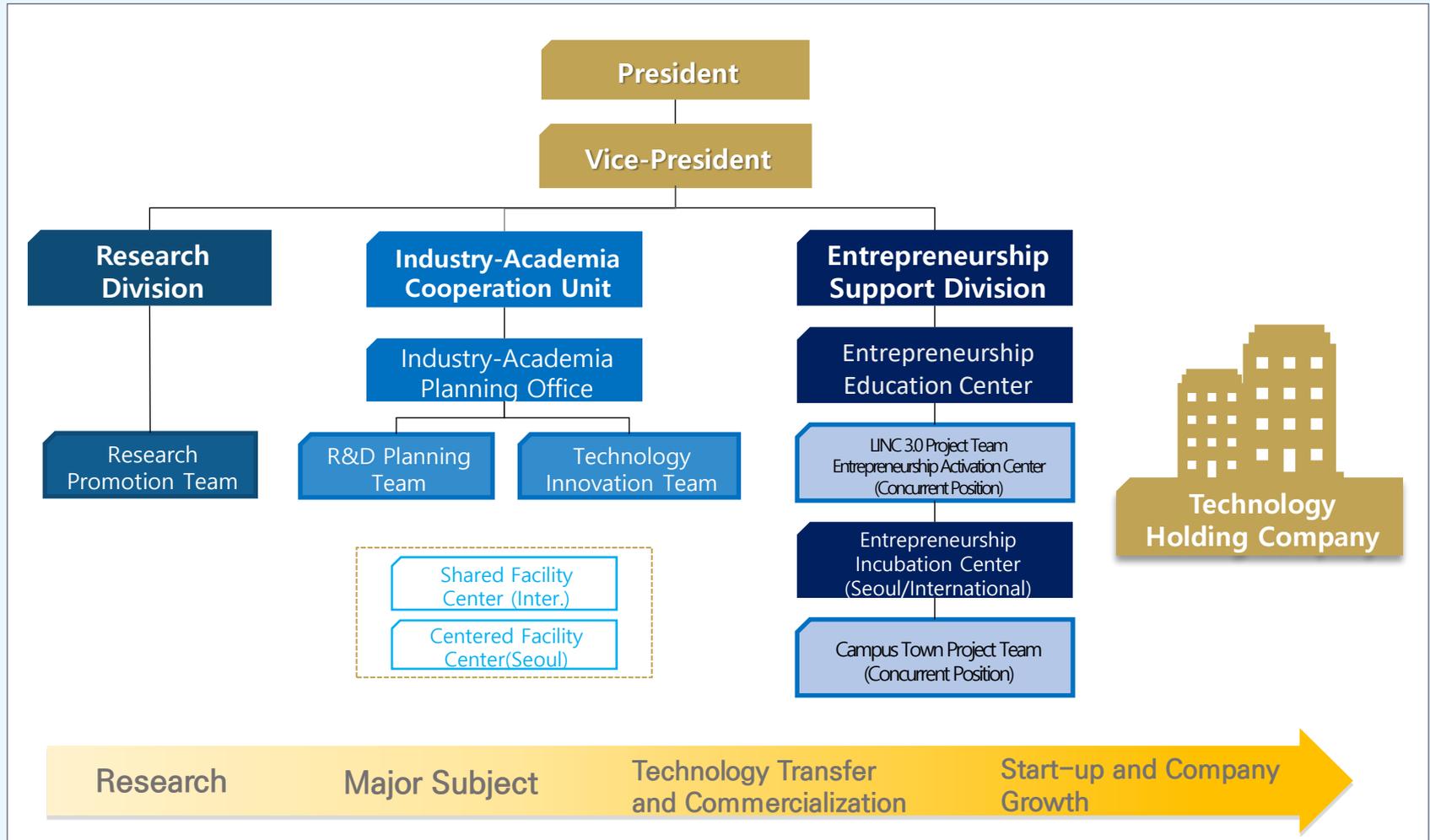
- Company in Latin : com (together) + panis (bread)
- A group of soldiers **who share bread together** in Latin.

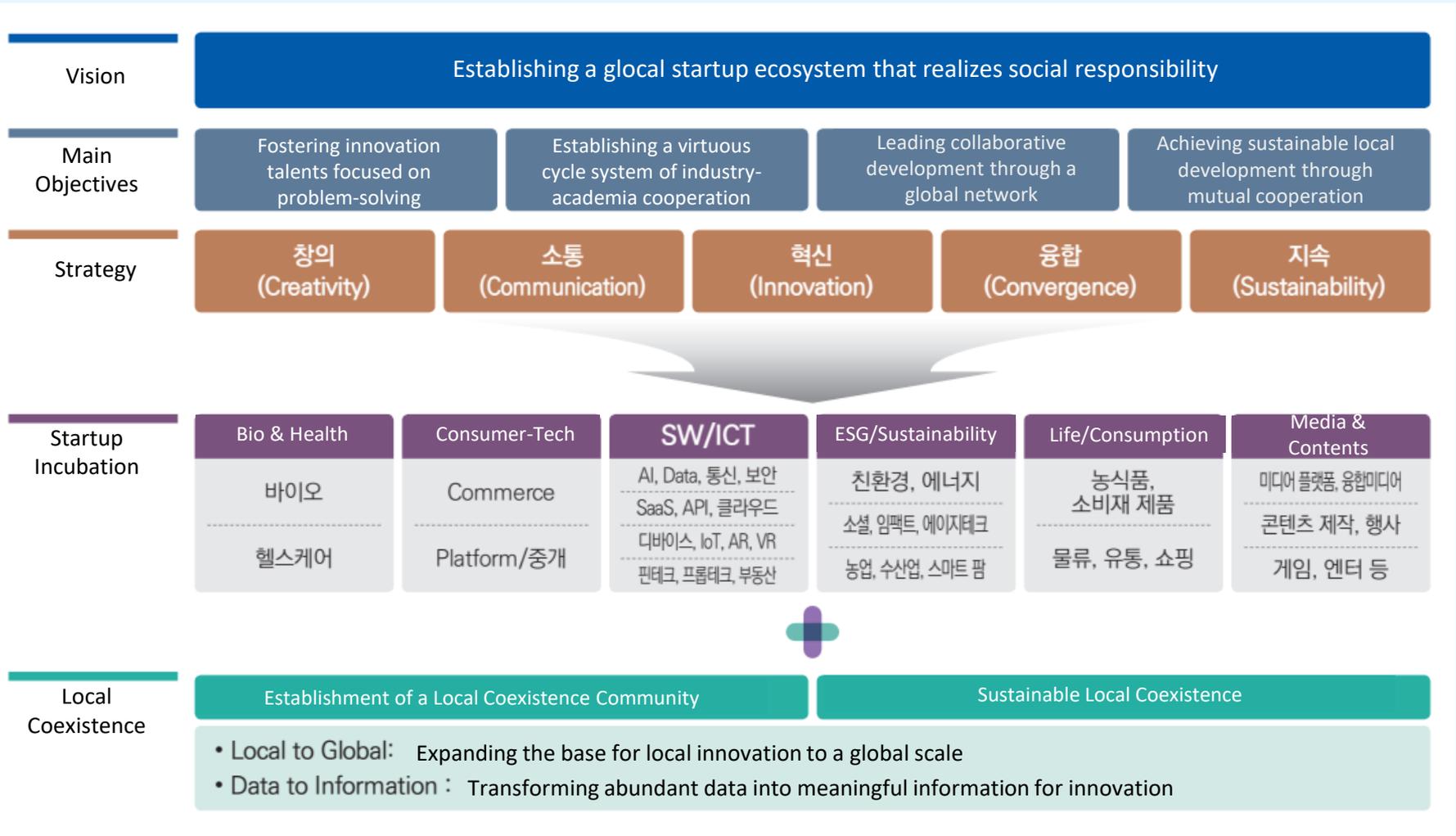
# Why Startup? Why Entrepreneurship?

## Importance in University

- Continuous growth and development by promoting innovative start-ups in the era of the 4th Industrial Revolution, securing super-gap technology, and creating new jobs.
- Establishment and activation of an industry-academic cooperation ecosystem of universities through the revitalization of start-ups.
- Acquire constant problem-solving-oriented experience through student start-up experience and exclude start-up fear hurdle.
- Contributing to raising the status of universities and expanding finances through the start-up of innovative technology teachers.

## KHU Startup Governance System





## ▣ 창업지원단 특화 분야

### 핵심요약

- ▶ KHU 특화 분야: 바이오헬스(BT) & 미래과학(ICT) 분야
- ▶ 발전방향: 서울캠퍼스 홍릉 일대의 바이오헬스 클러스터, 국제캠퍼스 경기 남부 '반도체-첨단산업'의 미래과학 클러스터와의 유기적 연계 통한 창업 활성화

### ▶ KHU 창업 클러스터(산학협력)전략 및 목표

경희대학교는 중장기 발전 계획 'Global Eminence 2025' 내 5대 연계협력 클러스터 기반 발전 계획을 마련하고 있으며, 예비창업 패키지의 성공적인 수행을 도모하고자 함

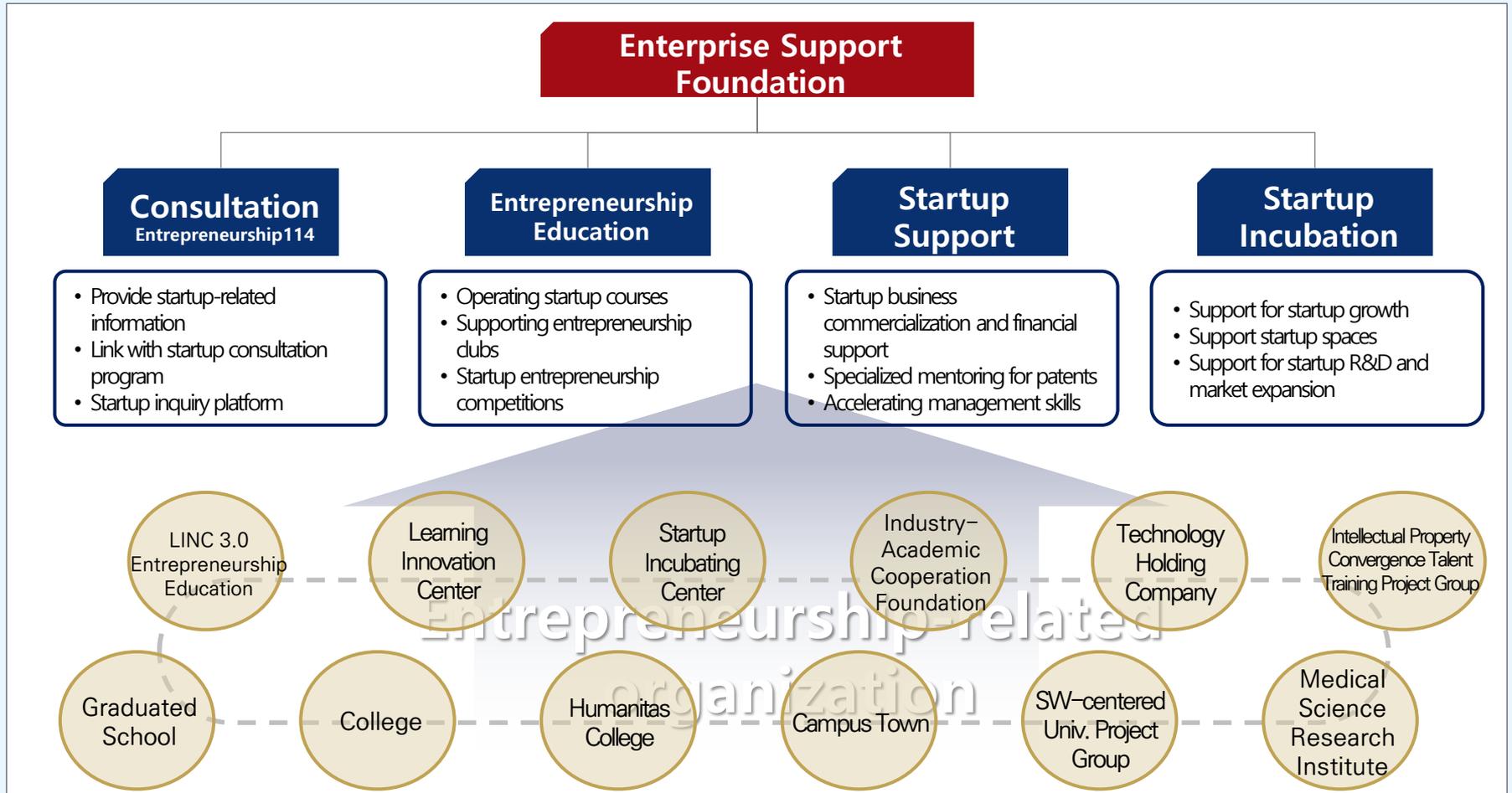


▶ KHU 클러스터와 창업 특화 분야 간 연계성

장기 발전계획을 바탕으로 창업 발전 가능성이 높은 바이오헬스, 미래과학 클러스터에 집중하며, 5대 연계협력 클러스터에 기반한 산학협력 유망분야 및 비즈니스 아이템 발굴 및 지원



## Major Roles in KHU Startup Office



	로그인	발전기금	BI포탈	Webmail	Q								
							kor	창업지원단	창업교육사업	창업보육사업	입주지원	입주기업	커뮤니티
인사말								대학원혁신 사업(CIPSS)	BI 지원사업 (서울/국제)		입주안내	서울 입주기업	KHU유니버스
비전 및 전략								창업교과목 (LINC3.0)	서울시 캠퍼스타운 사업 (서울)		공간 VR	국제 입주기업	공지사항
조직도 (업무분장)								창업비교과 (LINC3.0)	SBA TRY EVERYTHING (서울)		KHU 연계 기관	입주기업영상	자료실
오시는 길								창업동아리 (LINC3.0)	홍릉강소특구 지원사업 (서울)		KHU프로그램	KHU BI 성과	FAQ
											KHU 메이커 스페이스		KHU NEWS
											KHU 실감미디어사업단 (ICT 특화)		
											대외프로그램		

## KHU Startup related Offices

### Entrepreneurship Education Center (LINC 3.0 Project Team)

- Overseeing Planning and Management of On-Campus Entrepreneurship Education Programs (Curricular/Extracurricular)
- Establishing channels for communication between students and professors
- Developing entrepreneurship-related educational courses for professors
- Organizing seminars showcasing exemplary cases within the university, and opening courses linked with K-MOOC and the Professor Learning Support Center

### New Industry Sector Intellectual Property Convergence Talent Development Project Team

### Startup Incubation Center

- Attracting promising startup tenants and managing incubation spaces
- Planning and operating startup support programs for tenant startups
- Providing incubation spaces for on-campus entrepreneurship clubs and supporting student (prospective) entrepreneurs' entrepreneurial activities
- Winning and managing projects under the Small and Medium Venture Business Department's Business Incubator Support Program
- Collaborating with partner organizations for tasks related to the Hongneung Innovation District's InnoPolis Campus Project

# KHU Startup System

## Campus Town

- (Entrepreneurship Education) Organizing entrepreneurship trips (twice a year) and entrepreneurship competitions (twice a year) for Kyung Hee undergraduate students.
- (Entrepreneurship Support) Holding monthly office hours, operating government-supported education programs, mentoring, and consulting.
- (Entrepreneurship Events) Hosting demo days (twice a year), Camp Talk Ticketaka (twice a year), Campus Insider House, and networking events.
- (Entrepreneurship Incubation) Operating two entrepreneurship centers, nurturing entrepreneurship teams (including graduating teams of over 100 teams per year).

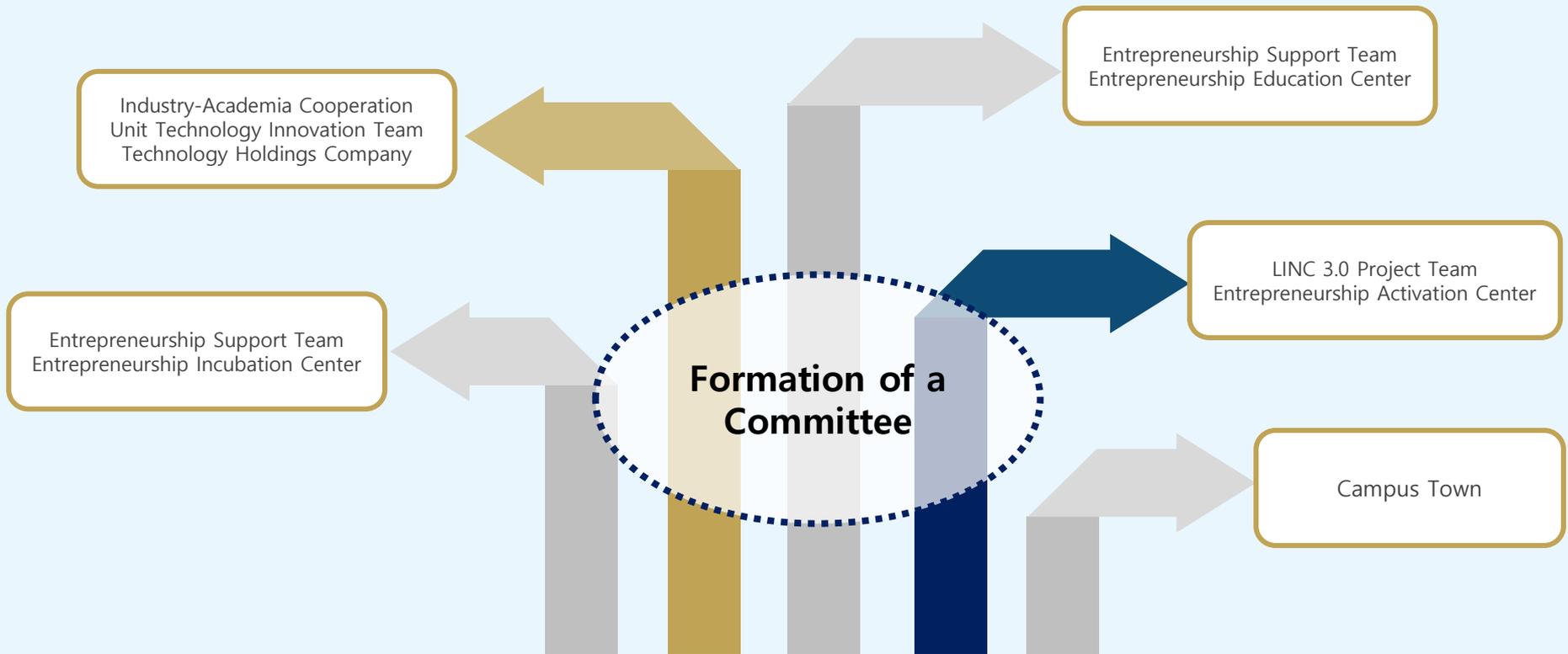
\* Samuiwon Entrepreneurship Center (68 teams), Hongneung Bio-Medical Entrepreneurship Center (16 teams).

## Industry-Academia Cooperation Unit Technology Innovation Team

- Discovering and supporting promising technology-based startups founded by faculty members
- Implementing stock grants to faculty-founded startups and generating revenue through profit realization (Exit) for the Industry-Academia Cooperation Unit
- Establishing a virtuous cycle of cooperation between academia and industry through faculty entrepreneurship and company growth

## Technology Holding Company

- Incorporating excellent technology startups as subsidiaries and nurturing them
- Engaging in activities to attract external angel investors and venture capital investment
- Generating revenue for the Industry-Academia Cooperation Unit through Exit (M&A, IPO) and reinvesting in R&D → Establishing a virtuous cycle between industry and academia



# KHU Technology Commercialization System

## Technology Commercialization

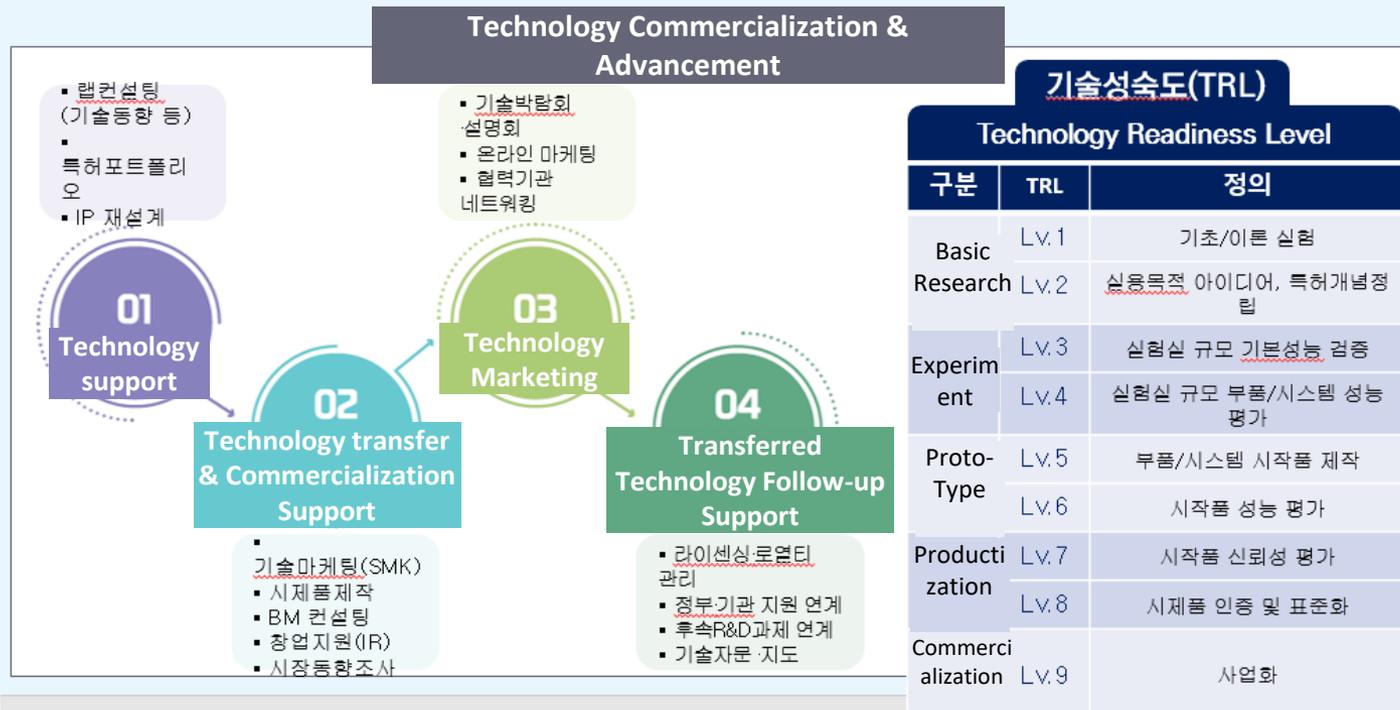
- Create value by turning research results (technology) into intellectual property rights, improving value (advanced), and commercializing (directly and indirectly).
- Create a virtuous cycle ecosystem of technological commercialization results by reinvesting the profits earned from commercialization results into research and development.



# KHU Technology Commercialization System

## Technology advancement

□ Increasing value by improving technology through consulting/IP creation/test product production in the previous stage of technology development.



# KHU Technology Commercialization System

## Technology Commercialization

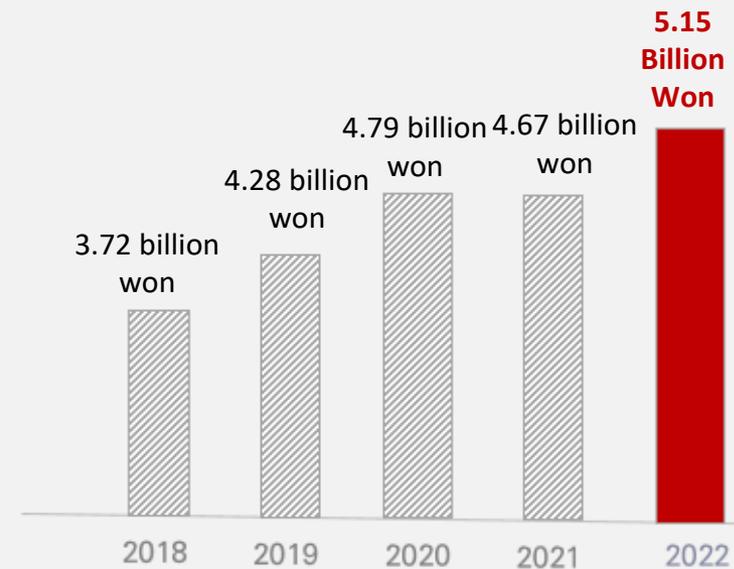
### Technology Commercialization Achievement

#### IP Current Status

(단위 : 건)

Year	In-country		Abroad	
	Application	Registration	Application	Registration
2018	468	326	128	95
2019	469	345	163	119
2020	493	333	152	103
2021	397	300	173	95
2022	440	241	152	103

#### Technology Transfer Royalty Status

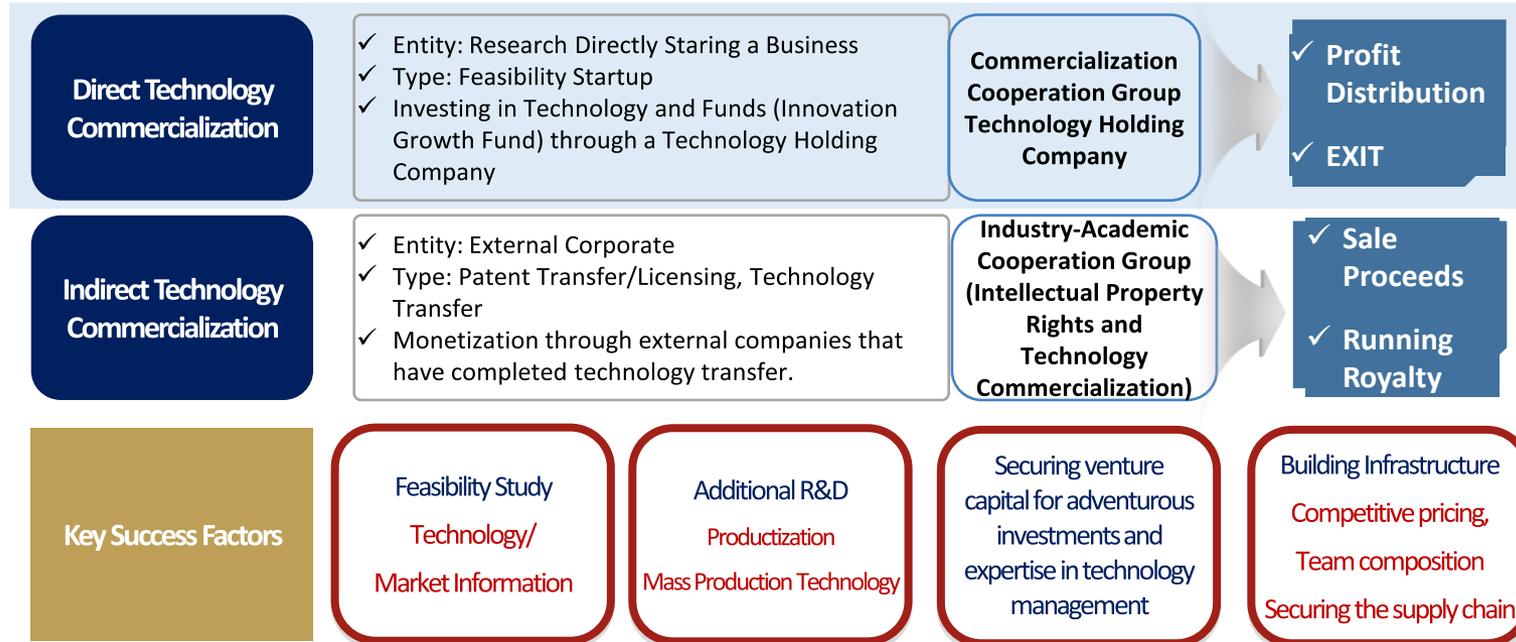


# KHU Deep-Tech Startup

## Technology entrepreneurship within the university (faculty entrepreneurship)

- ❑ Pursuing direct technology commercialization, a research institution within the university, led by researchers (professors), is engaging in entrepreneurship by leveraging technology developed through in-house research
- ❑ The key success factors for faculty entrepreneurship include the establishment of conditions beyond technology, such as competitive pricing and talent retention. Additionally, a transition to an entrepreneurial mindset is essential

### Classification and Success Factors of Technology Commercialization



# KHU Deep-Tech Startup

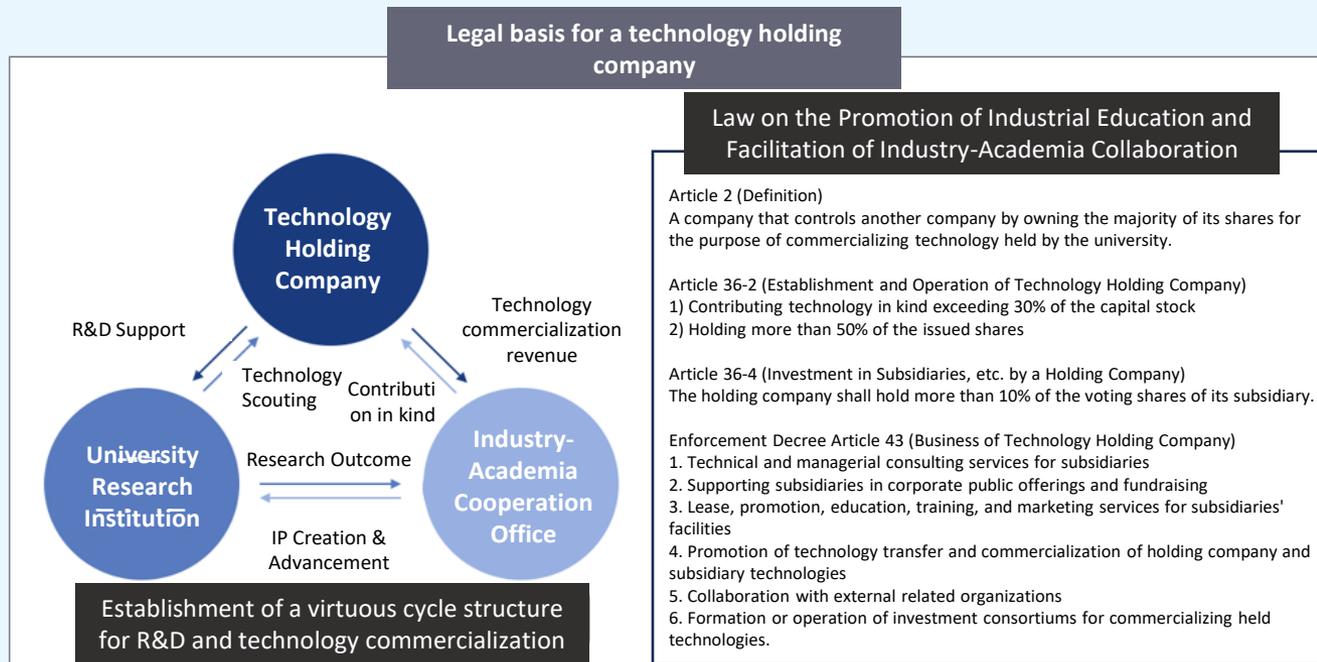
## KHU Startup Companies

Corporate	Department	Item	Accomplishments
 DEEPX	Prof. Kim (Department of Software Convergence)	Mobile electronic device with low power/high performance deep learning hardware processor	Year 2021 Selected as one of the top 100 global AI startups Year 2020~2022 Three-year consecutive selection by the Korean Ministry of SMEs and Startups Year 2023 Cumulative investment amount of 23 billion won Year 2023 The First AI semiconductor company awarded as the Presidential Commendation on Invention Day
 GI VITA	Prof. Lee (Medical School)	LifeLog: Analysis-Based Healthcare Solution	Year 2019 Health Functional Food Individualization Service Award Year 2021 Selected as the top 4 promising medium-sized companies in the food industry Year 22 Selected as a promising SME by the MSS Year 2022 Cumulative investment amount of 11.1 billion won
 Prazer Therapeutics	Prof. In (Department of Pharmacy)	Development of Targeted Protein Degradation Therapeutics for the Treatment of Intractable Diseases	Year 2021 Cumulative Investment amount of 17 billion Year 2022 Selected as the main R&D center for the MSS Year 2022 Final winner of the Seoul-BMS Innovation Square Challenge Year 2023 Published a non-clinical research paper on the degradation of Alzheimer's target proteins in the international academic journal ACS Central Science



## KHU Technology Holdings Company

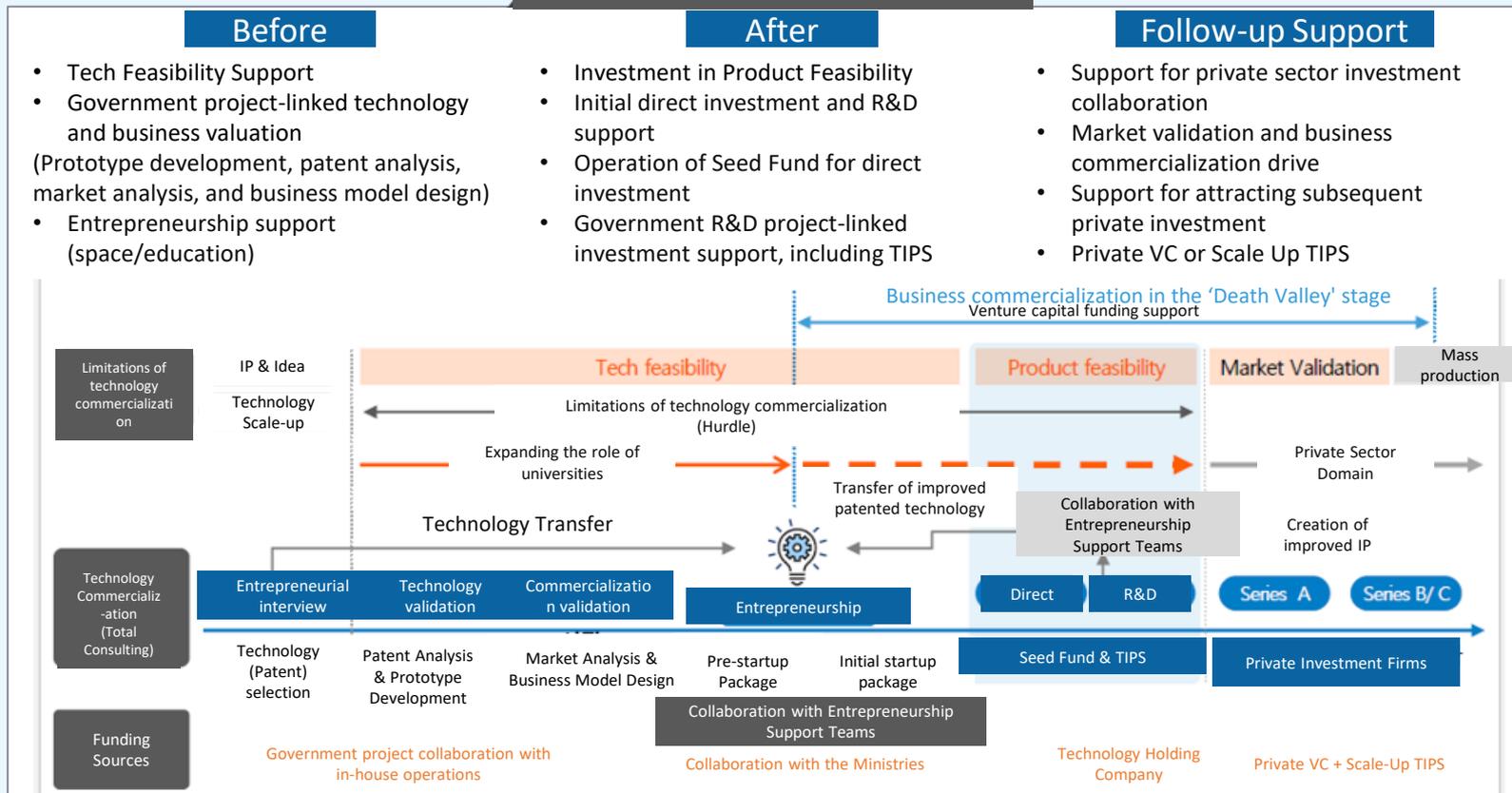
- A specialized organization for establishing and commercializing subsidiaries by investing in technologies such as patents owned by universities.
- By conducting strategic technical commercialization and investment activities led by universities, it generates profits and reinvests in securing IP and research and development of universities.



# KHU Technology Holdings Company

□ University technology holdings company promote the growth of start-ups by actively attracting outstanding subsidiaries within the university and conducting start-up incubation and start-up planning for them.

## University-based company builder model





**경희대학교**  
KYUNG HEE UNIVERSITY