



Main business activities of Daegu-Gyeongbuk Medical Innovation Foundation (K-MEDI hub)



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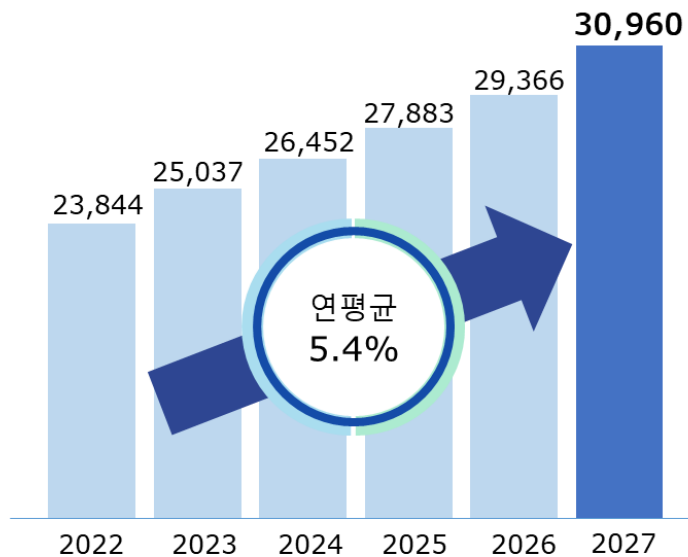
IV . Directions for Future Development

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들어가기(1) - 바이오헬스 산업의 중요성

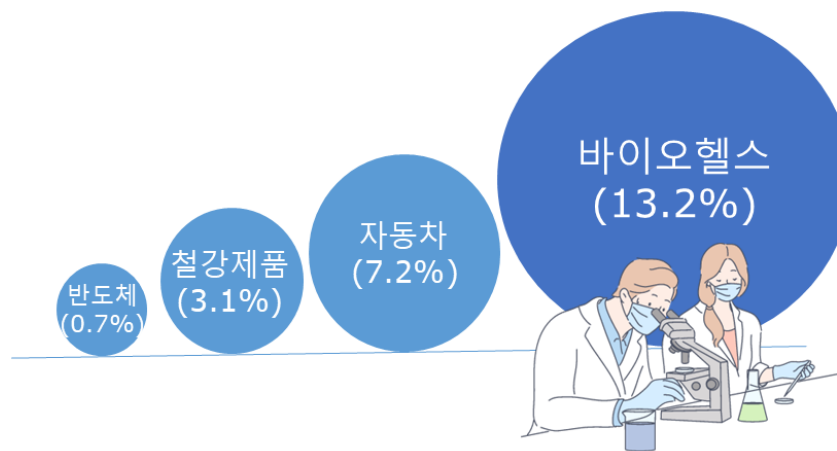
세계 바이오 헬스 시장 전망

(단위: 억달러)



최근 5년간('18~'22) 연평균 수출 성장률

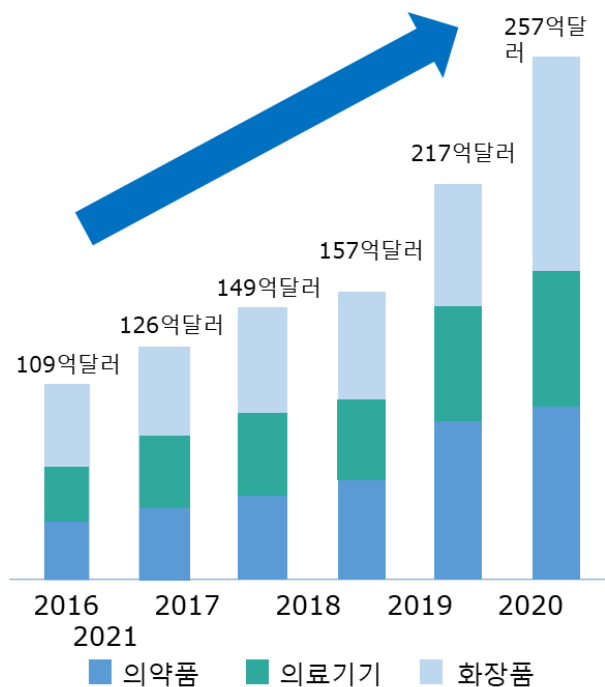
타 산업 대비 높은 수출 성장률



출처: 보건산업진흥원/복지부

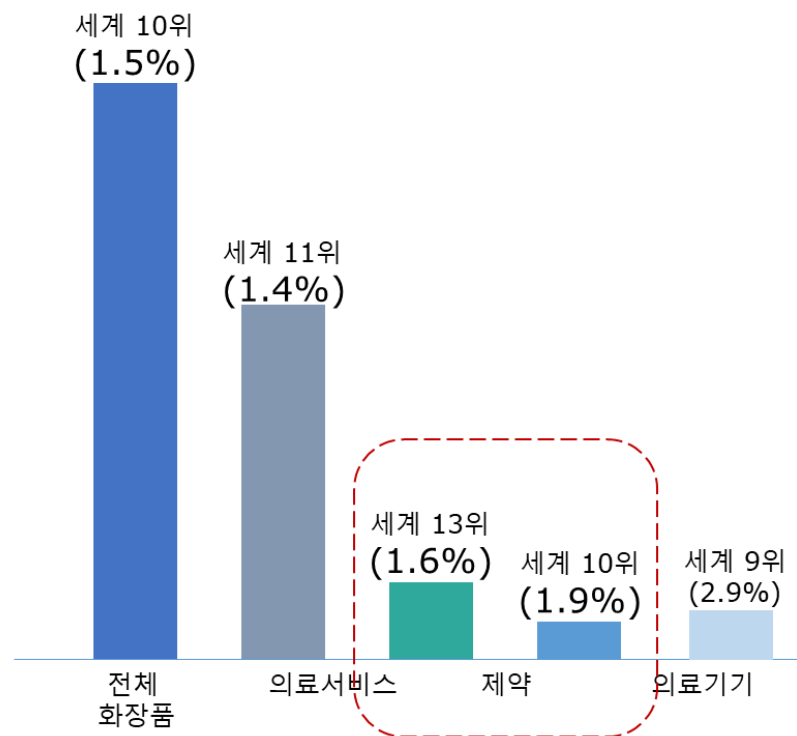
들어가기(2) - 바이오헬스 산업의 중요성

바이오헬스 산업 수출액



출처: 보건산업진흥원/복지부

산업군별 점유율



Daegu Gyeongbuk Medical Cluster



Aim : Forge comprehensive global infrastructure to promote new drug and medical device industries ('09~'38)



Area : 1,026,000m²

No. of resident companies : 102
- 17 organizations, 85 companies



Daegu Gyeongbuk Medical Innovation Foundation



Aim : Promote cluster into global medical R&D hub and contribute to development of national med industry (est. Dec '10)*



Org. : 1 HQ, 4 Centers*

* New Drug, Med Device, Pre-clinical, Manufacturing



Personnel : 448 (incl. 350 permanent, 98 contract staff)

- 284 with masters/doctorate degree
(81% of permanent workforce)



참고: 대구경북첨단의료복합단지



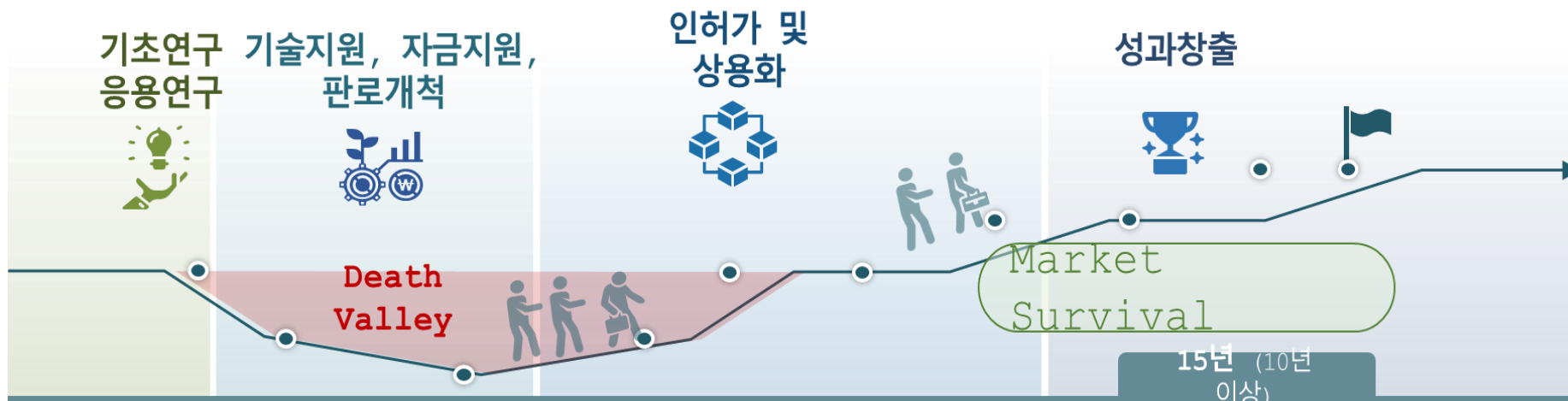
전국 15개 시도의 25개 바이오클러스터 중
정부주도형은 대구와 오송 두 곳

산·학·연·병 네트워크 구축
대학 및 연구소 → 지식창출 / 기업 → 사업화 / 병원 → 사용



K-MEDI hub의 미션 역할

“아이디어만 있으면 누구든지 첨단의료제품 개발에 필요한”
연구지원을 받을 수 있는 **글로벌 수준의 종합 연구 인프라** 제공



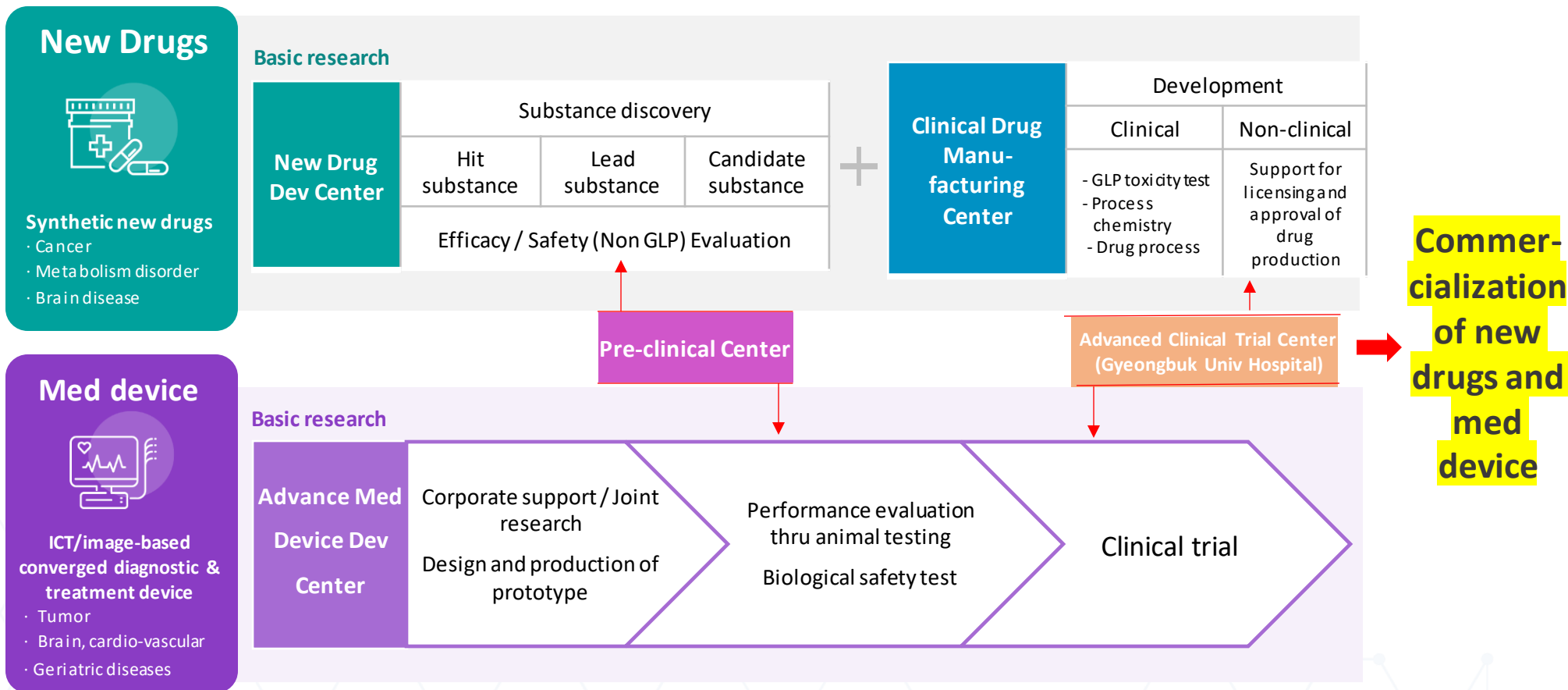
K-MEDIhub “죽음의 계곡” 탈출 지원

Main Roles of the Foundation

“ An organization that supports healthcare/medical R&D and commercialization for Korean SMEs and start-ups ”

- Specializes in synthetic new drugs and ICT-based medical device

- Facilitates commercialization by using own infrastructure and Korea+overseas network



Major Achievement 1 : Provided Foundation for Growth of Medical Industry

Created jobs

- **Created 817 local jobs ('17~'21)** by proactively recruiting and using local talent

Vitalized ecosystem

- **6 start-ups by researchers** from local industry/academia/research/hospital, in connection with local government projects
- **Hosted KOAMEX* and acted as bridge for resident and local companies to enter global markets**
 - * Korea International Advanced Medical Equipment & Medicine Expo
- **Signed MOU with Ministry of Health of Dominican Republic and forged basis for mutual cooperation**

Triggered new businesses

- **5 projects incl. Medical Technology Test Training Center*, contributing to boosting of local economy (Total KRW155.9bil)**
 - * Korea Institute of Medical Training&Testing (4yrs, KRW85.1bil), Future Med Tech Research Bldg. (3yrs, KRW15.6bil), Pharma Smart Factory (3yrs, KRW20bil), and 2 more projects(KRW35.2bil in total)

Major Achievement 1 : Provided Foundation for Growth of Medical Industry

인도네시아 무함마디야 대학 및 재단 50개 대학 MOU 체결(23.10.12~10.13)



하버드 의과대학 뇌질환 포럼 (23.11.10)



Major Achievement 1 : Provided Foundation for Growth of Medical Industry

태국 탐마삿 콘켄 대학교류 및 국가임상연구협의체 참가(23.11.15~11.17)



말레이시아 FERCAP2023 컨퍼런스 참가 (23.11.27)



Major Achievement 2 : Built Research Capacity of SMEs and Start-ups

Tech assistance

- **Implemented 854 joint research projects** to attain source tech for new drug development and commercialize converged medical devices
- **Provided 7,193 tech services**, incl. optimization of candidate compounds and supporting approval & licensing

Tech transfer

- **30 new drug tech transfers and 10 tech commercialization cases in new drug field** incl. dementia treatment and target treatment for lung cancer
- **15 tech transfers and 8 tech commercialization cases in med device field** incl. ultrasonic tech and surgery planning S/W

Nurturing of experts

- **Nurtured 4,862* healthcare/med experts** to strengthen expertise in Medicity Daegu
* 685 in new drug & med device fields, 4,177 in preclinical & pharma fields

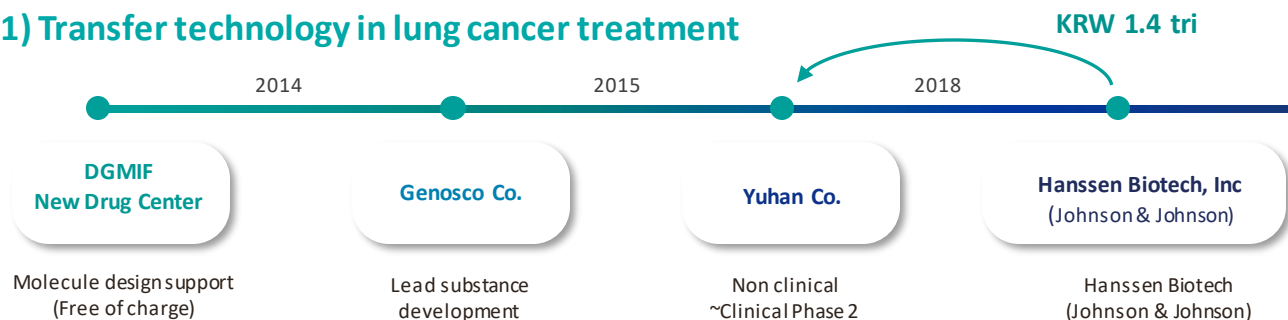
Support for resident companies

- **Established system for more focused fostering of resident companies** by setting up dedicated department and institutional basis ('22)
- **Promoted mutual cooperation and institutional reform** through the Cluster Resident Companies Council ('14~)

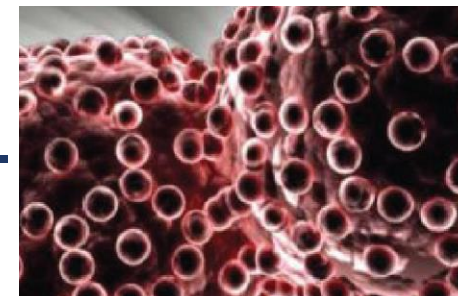
Direction for Future Development 1

- Support new drug development through technology transfer

1) Transfer technology in lung cancer treatment



2) Transfer technology in autoimmune disease treatment



01

Technology transfer stated above shows **the core competence of New Drug Development Center**

02

More than 20 core technologies held by New Drug Development Center (for 9 indications including metabolic diseases and cancer)

03

The best AI-based new drug exploration technology in Korea (Reducing time/cost innovatively, by half)

“

Contributing to securing competitiveness of Korean pharmaceutical industry”

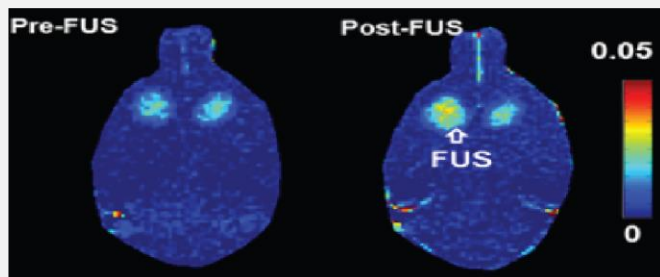
(Planning to promote KRW 1 tri tech transfer during next 5 years)

Direction for Future Development 2

- Lead new medical market with advanced medical technology

Blood Brain Barrier (BBB) Control Technology

Own technology to open BBB on the targeted spot, using ultrasonic technology without skull opening (non-invasive) and deliver brain disease medicine (provide know-how advice)



BBB (Brain Blood Barrier) control

- Developed ultrasonic-based brain disease treatment technology

* Published related papers (December, 2019)

Commercialization of Human-derived Collagen

By being appointed as regulation-free smart wellness district, work on the first demonstration project on human-derived collagen in Korea

Extraction of collagen started from human waste fat in Daegu Free Economic Zone - the first in the world (KBS, August, 2021)

Full-fledged development in progress of medical devices using recycled human waste fat

(Maeil Newspaper, August, 2021)

Human-derived collagen Project

- Demonstrated utilization of waste fat generated in the process of liposuction, on medical devices such as bio ink, coating materials, stem cell, etc.



Leading Future Medical Market with Global-level Advanced Technology



Strengthening Competitiveness of Medical Industry of Korea

Direction for Future Development 3

- Drive growth of medical cluster and respond to huge demand from medical industry

* Future Medical Technology Research Building Project (2021~2023)



Strengthen evaluation of medical device efficacy

- Strengthen the only (converged) medical device efficacy evaluation in Korea to respond to explosive demand from medical companies
(Capable of reducing the 3-yr service wait time after start of project)



Build minipig disease model platform

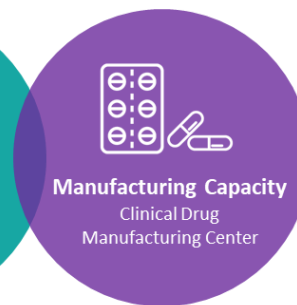
- Genetic modification/immune deficient minipig, arthritis model, diabetes model, Parkinson's disease model, etc.
* Diverse new drug candidate substances incl for anticancer drug, degenerative brain disorder treatment

“ By building the largest facility for animal model med device efficacy tests for human safety evaluation, ”
drive dissemination of advanced evaluation technology and
growth of medical device industry

Direction for Future Development 4

- Drive growth of medical cluster and respond to huge demand from medical industry

* Future Medical Technology Research Building Project (2021~2023)



Pharmaceutical industry competitiveness

Development Competitiveness

Manufacturing Competitiveness

Securing global manufacturing competitiveness by building a smart factory, commensurate to standard of advance countries

Competitiveness of Daegu Foundation Manufacturing Center

- Good Manufacturing Practice (GMP)
- Quality-by Design (QbD)
- Process analysis with Factory Acceptance Testing (FAT)
- IOT-based Manufacturing process monitoring

“

As the first public smart pharmaceutical manufacturing facility in Korea,

satisfy unmet demand from the pharmaceutical industry

and build grounds to become a leading country in pharmaceuticals

”

Direction for Future Development 5

- Build medical industry ecosystem centered around medical cluster

Nurture star companies



Nurture START-UPS

Expand cooperative channels



Offer high-tech infrastructure

- Brain disorder/fusion dielectric study
- Video, 3D-based support
- Laboratory Animal Resources Bank
- Clinical test, license/approval, manufacturing consignment



Nurture star companies

- Cultivate advanced medical industry lead-off
- Support each stage of corporate growth (Pre-Star, Medi Frontier, World Class Company Nurturing)



Implement cluster's very own branding program

- Cultivate promising start-ups and assist business start-ups by med school students

“ Complete Korean version of Boston Bio Cluster through the Foundation's open medical innovation to facilitate technology transfers, technology-based businesses and start-ups ”

Direction for Future Development 6 - Korea Institute of Medical Training & Testing(KIMT)

Overview

Period	'21 ~ '24 (opening: '25)
Funding	KRW 85.3 Bil (\$ 63.3 M)
Location	Daegu Gyeongbuk Medical Cluster



Function 01 National Qualification Testing

Facilities for national medical licensing examination(e.g., doctor, nurse)

02 Trainings for Healthcare professionals(Domestic/Foreign)

Simulation, animal - based training programs designed to improve clinical skills as well as teamwork, with the ultimate goal of improving health care quality and protecting patient safety

“ KIMT will contribute to the growth and expansion of Korean Medical capabilities ”

The Daegu Gyeongbuk Medical Innovation Foundation supports Korea's medical industry with the best technology and infrastructure!

