



# Meet K-Startups in CarbonTech and BioHealth

Cohort 2025



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# About Korea



## Economy



**51,8 Mio.**  
Population



**36.129 US\$**  
GDP per capita



**+2,0%**  
Annual economic  
growth

## Energy & Hydrogen

South Korea aims to increase hydrogen supply to 5.26 million tons per year by 2040.

## Smart Materials

South Korea is on 9th place in worldwide exports of chemical goods.

## Startup-Ökosystem



**38.216**  
Number of  
start ups and  
scale-ups (2024)



**14\***  
Number of  
Unicorns  
(Mai 2025)



**4,2 Mrd. US\$**  
VC funding  
per year  
(2024)

## Manufacturing

More than 340,500 experts work in Manufacturing in South Korea.

## Biotech

South Korea is the thirteenth-largest pharmaceutical market worldwide.



# Smart Material

# CheomdanLab Inc.

*Resource-Circulating Ceramic Bearing Ball Production.*



**CheomdanLab**

## POC

**INDUSTRY** Smart Material

**STAGE** Series A

**FOUNDER** Ha-Joon Jang

**CONTACT** cheomdanlab@nate.com  
www.cheomdanlab.com



## Problem

Silicon nitride-based ceramics are vital components of EV, aerospace, energy and medical applications. Current production methods are monopolized, have significant raw material costs and are energy-intensive.

## Value Proposition

CheomdanLab uses recycled silicon powder combined with the patented energy-efficient chemical process to manufacture silicon nitride, with improved material properties. Their sintered reaction-bonded chemistry reduces Scope 1 & 2 carbon emissions by 67% while demanding 21% lesser energy. They have also integrated precision machining for ball bearing manufacture, and have the required infrastructure for scaling up production.

# ENERGY UP CNC

*Heat-insulating, sustainable eco-friendly paints.*



## POC

**INDUSTRY** Smart Material

**STAGE** Series A

**FOUNDER** Choi Jangsik

**CONTACT** eucnc0604@gmail.com



### Problem

Traditional paints are formulated with petrochemicals, contributing to environmental degradation and greenhouse gas emissions. They have poor heat reflection & insulation requiring additional primers and insulation coatings.

### Value Proposition

Energy Up CNC's patented water-based paints can generate a three- layer coating with a single application. The unique material composition of micro-ceramics provides effective heat shielding and insulation across all colors. The paint shows at least 30% better insulation in domestic and international testing. The paint is sustainable, eco-friendly to manufacture and certified by the Korean Ministry of Environment.

# Unitech3DP Inc.

*Sustainable metal 3D printing technologies.*



## POC

**INDUSTRY** Smart Material

**STAGE** Series A

**FOUNDER** Sanglae Kim

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www.unitech3dp.com



## Problem

Precision metal components in aerospace, automotive, electronics, energy etc. are produced using machining. Machining requires large, costly raw materials and works by removing up to 95% of it, resulting in expensive waste.

## Value Proposition

Unitech3DP uses a unique furnace-based metal 3D printing process that eliminates the need for large material removal. It uses a variety of materials as input, including recycled/waste metal. It leads to 75% lesser material waste and reduces production time by 60%. Unitech3DP's patented process is 10 times cheaper than current metal 3D printing technologies.

# AIMT

*Industry-leading eco-friendly cold chain insulation.*

# AIMT

Advanced Insulation Materials & Technology

## POC

**INDUSTRY** Smart Material

**STAGE** Series A

**FOUNDER** Seunghoon Gal

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[www.aimtcorp.com](http://www.aimtcorp.com)



## Problem

Cold chain logistics are vital for fresh produce and medicine transportation. Polyurethane foam and polystyrene are the most common materials used. However while they are light and efficient, they are not eco-friendly.

## Value Proposition

AIMT is a Samsung Electronics spin-off developing advanced vacuum insulation panels (VIP) using eco-friendly recycled PET material. The VIPs have 10x better insulation properties while remaining lightweight and cost-effective. They are made of recycled PET bottles and are versatile in shape and thickness, making them compatible with existing cold chain logistics.



# Manufacturing

# LPTech Co.,Ltd.

*Smart Grippers for factory automation.*



Factory Automation Consulting

LPTech co.,Ltd

## POC

**INDUSTRY** Manufacturing

**STAGE** Series A

**FOUNDER** Hyungsoon Park

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www.motorlpt.com



## Problem

Robotic handling in factories are not versatile. Grip strength, shape and mechanics require to be trained for each different type of product. This costs the factory time and money to refitting entire lines when product types change.

## Value Proposition

LPTech's Smart Gripper is highly versatile. It can be repurposed for multiple applications with minimal time and cost. The Smart Gripper mimics human fingers and adjusts grip dynamics in real time based on the product. The simple design allows it to be customizable for all ranges of product sizes. Additionally it doesn't rely on vacuum based gripping, eradicating capital intensive vacuum costs, and issues such as lid detachment during product transport.

# FUST Lab. Co. Ltd.

*Innovative ultrasonic tech for safe wastewater.*



## FUST Lab.

Focused Ultra-Sonic Tech. Lab.

### GMEP & POC

**INDUSTRY** Manufacturing

**STAGE** Pre-Series A

**FOUNDER** Minseong Hwangbo

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<https://fustlab.com>



### Problem

Current PFAS wastewater treatments are ineffective at complete removal of these toxic chemicals. They generate hazardous byproducts, cause secondary pollution, and are energy-intensive.

### Value Proposition

Fust Lab developed innovative focused ultrasonic technology to break down PFAS and other toxins at the molecular level, achieving 99% removal without incineration, filters, or chemicals. It eliminates secondary pollution, reduces both Scope 1 and Scope 3 emissions, and enables full industrial wastewater reuse, aligning with ESG goals and regulatory compliance while significantly lowering energy consumption and costs.

# Vision Innovation Co. Ltd.

*Energy-saving nozzles for injection molding.*



## GMEP & POC

**INDUSTRY** Manufacturing

**STAGE** Seed

**FOUNDER** Hyeonsik Kang

**CONTACT** [visiontech2070@naver.com](mailto:visiontech2070@naver.com)



### Problem

Plastic injection molding processes face defects due to gas and moisture. This leads to higher production times and a ~15% defect rate, necessitating quality control and additional energy/time spent drying.

### Value Proposition

The Vision Nozzle is a high-performance injection molding solution that attaches to existing machines, eliminating the need for extra drying processes by removing moisture and gas. This leads to faster production and less than 5% defect rate. It supports up to a 30% increase in recycled material usage, enhancing sustainability. The nozzle improves productivity by 30% through reduced cycle times and energy savings.



# Mobility & Aerospace

# Stellarvision

*Business intelligence services using satellite data.*



## POC

**INDUSTRY** Mobility & Aerospace  
**STAGE** Series A  
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www.stellarvision.co.kr/



## Problem

Satellite imagery data are vital for applications such as military, global logistics, infrastructure, etc. However optical imagery is limited by the Earth's 70% cloud cover, and other technologies require advanced expertise.

## Value Proposition

Synthetic Aperture Radar (SAR) Technology overcomes the limitations of optical imagery and provides greater resolution. Stellarvision provides data from 300 satellites on a single platform. It uses advanced AI models to convert SAR data into accurate color images without the need for any technical expertise. Stellarvision developed AI solutions that integrate SAR data for security, land monitoring, etc.

# Korea Mobility

*Hubless e-bikes for urban mobile advertising platforms.*



## POC

**INDUSTRY** Mobility & Aerospace  
**STAGE** Series A  
**FOUNDER** Jungseok Park  
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www.krmobility.com



## Problem

Conventional e-bikes use traditional hub-and-spoke wheel design of bicycles. This design adds weight to the ebike, raises the center of gravity, and underutilizes the space within the wheels.

## Value Proposition

Korea Mobility developed an innovative hubless wheel construction. The new design improves the durability, reduces overall weight, lowers the center of gravity, & thereby greatly increases driving stability & break response. The space inside the wheel allows the integration of electronics, including regenerative braking. Importantly an integrated LED wheel display system opens a new market of mobile digital advertising/media.

An aerial photograph of a city, likely Tokyo, with a dense urban landscape and green spaces. Overlaid on the image are numerous hexagonal icons representing various smart city concepts: renewable energy (solar panel, wind turbine), healthcare (heart rate, medical cross), education (book, graduation cap), environment (leaf, recycling, water drop), transportation (bicycle, car, train), and infrastructure (gears, network, bar charts). The icons are connected by lines, suggesting a networked city. The right side of the image is a solid blue gradient with the text 'Smart City' in white.

# Smart City

# AETECH Co.

*Waste sorting through advanced AI robotics.*



## POC

**INDUSTRY** Smart City

**STAGE** Series A

**FOUNDER** Park Taehyeong

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[www.aetech.co.kr/en/](http://www.aetech.co.kr/en/)



## Problem

Improperly segregated household waste must be hand-sorted for recycling & disposal. Hand sorting is labor-intensive & expensive. The undesirability of the work environment & accident rate also leads to attrition of workers.

## Value Proposition

ATRON is an AI-based material sorting robot that boasts industry-leading sorting speeds and recognition accuracy. It uses a combination of space-intensive, low-maintenance robotic arms and material analysis using visible and near-infrared wavelengths. The result is stable productivity with 260% reduction in waste sorting costs, and a 240% increase in sorting rate.



# Health & Life Sciences

# Bio Design Lab

*Safer delivery mechanisms for gene therapies.*



Bio Design Lab

## POC

**INDUSTRY** Health & Life Sciences

**STAGE** Series A

**FOUNDER** Hyun-Jin Choi

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www.biodesignlab.net



## Problem

Cell and gene therapies rely on specialized delivery systems called viral vectors. Most viral vectors have poor safety and efficiency profiles, posing a risk to patients and stalling clinical trials.

## Value Proposition

Bio Design Labs uses an envelope protein engineering based cell targeting delivery mechanism. The resulting retroviral vector has enhanced efficiency, higher gene loading capacity, and significantly minimizes risks of side effects. The solution is modular, highly scalable and versatile.