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## Korean deep tech study: Deep tech ecosystem growth for building an innovation-driven, resilient economy in a new global era

Reddal Insights — 9 June 2025 Hankyeol Lee, Weike Liang, Daeseong Han, Jiyoon Kim, Per Stenius

As global innovation continues to accelerate, Korea risks falling behind. To stay competitive, it must foster a more decentralized and inclusive technology ecosystem.

Deep tech – emerging from university labs, SMEs, and public-private research collaborations – will be a driving force behind the next wave of global economic growth. For Korea to lead in this space, both technical and commercial ambitions must be high from the start. Korean deep tech ventures should strive to set global standards rather than follow them. This is key to creating a dynamic hub that draws top talent, visionary customers, and long-term investors from around the world.

A research team at Reddal, led by Hankyeol Lee and Per Stenius, examined Korea's deep tech ecosystem under the theme Innovative Korea: Deep tech ecosystem growth for building an innovation-driven, resilient economy in a new global era. This report presents a comprehensive analysis of Korea's deep tech ecosystem, built on a proprietary database of 432 startups and enriched by interviews with local and international stakeholders – including 9 investors, 8 startup founders, and 1 foreign deep tech expert.

## View and download the report here

Korea shows strong foundations in basic science and talent. However, the report highlights several structural barriers: an insular, domestically focused startup culture; limited exit opportunities; weak commercialization of scientific research; and poor integration with global

capital and markets.

A key finding is the critical need to lead in bleeding-edge technologies like quantum and nuclear – areas deeply rooted in basic science. Yet, the ecosystem lacks traction here, with only 4 quantum startups and no nuclear startups identified in Reddal's database. This signals systemic issues in Korea's research-commercialization pipeline, where public R&D remains disconnected from private sector innovation. The report stresses the need to build stronger bridges between research institutions and the market to spur business formation.

To evolve into a global deep tech hub, Korea must shed protectionist tendencies and foster an open, collaborative environment where foreign investors, international customers, and global talent can thrive. Rather than serving only domestic conglomerates, Korean startups should co-develop solutions for global markets. With world-class infrastructure and talent, Korea is well-positioned to act as a testbed and value creation platform for global deep tech ventures.

## Key recommendations include:

- 1. Startups: Target global problems and markets, particularly in AI, quantum, next-generation nuclear, and system semiconductors.
- 2. Investors: Strengthen technical validation capabilities and portfolio diversity among local investors, while expanding collaboration with global investors and LPs.
- 3. Government: Relax regulatory constraints and build testbed infrastructure, while adopting long-term policy support. In particular, the government should introduce a negative listing regulatory framework, where all activities are allowed unless explicitly prohibited. This would strengthen data collection and global competitiveness in emerging fields such as blockchain and autonomous mobility.

International comparisons – such as Finland's deep tech approach via Tesi – offer valuable lessons. Finland's university spin-off systems, public-private investment structures, and openness to foreign capital provide benchmarks for Korea.

The report concludes with a forward-looking roadmap for sustainable ecosystem growth, calling for coordinated action among startups, investors, and the government. It also includes deep dives into sectoral investment trends, IPO trajectories, and behavioral patterns of founders and investors – offering a holistic view of Korea's current position and future potential in deep tech.

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On June 12, 2025, ZDNet Korea, a leading outlet for global technology news and analysis, interviewed Per Stenius, Client Director at Reddal, and Hankyeol Lee, Business Developer at Reddal. The discussion was based on insights from Reddal's Korea Deep-Tech Study.

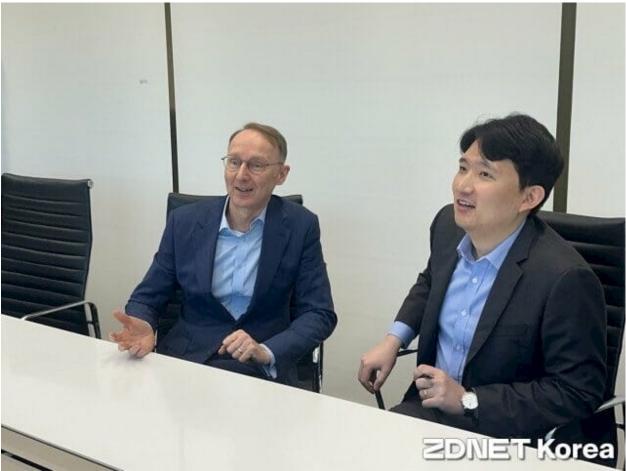


Photo taken by ZDNet Korea

The interview highlighted several key challenges that continue to hinder Korea's deep-tech ecosystem:

- 1. **Domestic focus limits growth:** Overreliance on local development and protectionist policies weaken competitiveness
- 2. **Application over core tech:** Korean startups often build applications, not foundational technologies, due to high R&D barriers
- 3. **Investment imbalance:** Funding clusters in trendy areas, neglecting deep-tech fields like quantum or nuclear
- 4. **Regulatory isolation:** Data-localization and cloud restrictions raise costs and block global cooperation
- 5. **Need for global mindset:** Korea should welcome foreign capital, talent, and partnerships instead of prioritizing national ownership

To drive growth in deep-tech, Korea needs to shift from protectionist policies toward greater

global integration. Startups should move beyond "Korea-only" solutions and build globally scalable technologies in collaboration with international capital, talent, and infrastructure. Regulators must revisit restrictive data and cloud policies that hinder cross-border connectivity and increase operational costs. At the same time, the broader ecosystem should diversify investments into high-potential fields such as quantum, nuclear, and foundational deep-tech, rather than concentrating on short-term, trend-driven sectors.

The full interview is available in Korean and is accessible via ZDNet Korea at  $[\ \ \ \ \ \ \ \ \ \ \ \ ]$  - ZDNet Korea