Hun Che Cho – Executive Director, Korea Drug Research Association



Korea is innovating rapidly and currently holds 14.2 percent of the global new drug pipeline

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Hun Che Cho of the Korea Drug Research Association has spent 35 years shaping Korea's pharmaceutical policy, drafting the 2009 Special Act and coining the Innovative Pharmaceutical Company designation. KDRA, for its part, has facilitated more than 200 technology transfers in five years. He sees Korean companies moving from generics towards first-in-class science, and aims to turn open innovation into precise, global matchmaking by 2030.

How did you come to be Executive Director of KDRA, and what did you do before?

I joined the association approximately 35 years ago as the project manager of a government-funded R&D project and have led most of KDRA’s work since, including policy development and legislative initiatives. Most notably, I drafted the Special Act on Fostering and Supporting the Pharmaceutical Industry. I joined the legislative working group in 2009, prepared the draft, and the act was passed by the National Assembly in 2011. I also coined the term “Innovative Pharmaceutical Company”, the designation now conferred by the Ministry of Health and Welfare.

On the basis of that act, the Ministry began support programmes for the Korean pharmaceutical and biotech industries in 2012. Every five years since then, the government has revised and renewed its mid- to long-term national support plan, and we are now in the third stage.

What does that framework mean in practice, and how has the Korean industry changed since you drafted it?

Companies designated as Innovative Pharmaceutical Companies receive benefits in several areas: preferential treatment in the evaluation of national R&D programmes, tax reductions and favourable drug pricing for innovation. Designated companies must undergo regular re-evaluation to retain their status and the associated benefits.

The current government has established a National Bio Health Committee and recently announced support for 200 biotech companies. Which of its policies matter most to your members?

This year, the government established a dedicated national committee for the bio-health industry, the National Bio Health Committee, and we are working closely with it. Several months ago, we submitted policy proposals based on a member survey and our own strategic analysis, which the committee is now reviewing. Our proposals focus on R&D policy to accelerate collaborative research and development, further tax relief, and practical mechanisms to accelerate innovation in pharmaceuticals and biotechnology.

One issue requires attention. The government increasingly channels national programmes through consortia, and those consortia determine the research priorities. Some focus exclusively on advanced therapies, including cell and gene therapy, with no interest in chemical or conventional biologic approaches. Yet most of Korea’s key innovators still work in small-molecule chemistry and conventional biologics, while some researchers focus on natural products.

We are therefore urging the government to recognise the need for a diversity of R&D methodologies, rather than concentrating on a narrow set of modalities. This is a significant gap in Korea’s innovation ecosystem. Although the government invests substantial sums, most Korean innovators, whether companies, universities, research institutes, ventures or start-ups, still depend largely on their own resources.

Pricing policy has become more favourable to innovation. How are traditional companies that have historically relied on generic revenue adapting to these new

market realities?

Most Korean companies naturally continue to generate revenue from generics. That has been the traditional business model, as it was for many Western companies, and they understand how to operate within that ecosystem.

The transition towards innovative drug development is not without its challenges. Developing new medicines involves substantial costs and long timelines, while the domestic market remains relatively limited. Companies therefore need to consider global licensing strategies and access to overseas markets from the earliest stages of development. There is also a shortage of specialised expertise in areas such as clinical development, regulatory affairs and international licensing. Smaller companies and ventures, in particular, often lack the capital, data, clinical infrastructure and global networks needed to advance their programmes internationally.

At the same time, an increasing number of Korean pharmaceutical companies now invest more than 10 percent of their revenue in research and development each year. They are also investing in venture and start-up acceleration because they need external innovation. Alongside their in-house R&D, they are actively investing in external partners to raise innovation productivity. In the past, their open innovation was focused on the domestic market; today, they are looking to global partners.

KDRA established the KBD Group to promote open innovation and match companies with biotech partners. How does this mechanism work, and how far does your network extend internationally?

We established the KBD Group several years ago. Its members are principally business development directors from Korean pharmaceutical and biotech companies. Through our Pharma Business Centre, KDRA manages and coordinates technology transactions, while the KBD Group enables the exchange of business development information.

I also founded the InterBiz Bio Partnering & Investment Forum in 2002, which has become an important platform for technology transfer and open innovation in the pharmaceutical and biopharmaceutical sectors. It brings together pharmaceutical companies, biotech ventures, research institutions and investors to facilitate partnerships and investment.

Such information has traditionally been held centrally within each company and treated as confidential. Yet many companies lack expertise in licensing, technology transfer and investment,

and have had to seek it from individual advisers or more advanced companies. We wanted to ensure that this knowledge could be exchanged more openly among key players in the Korean market.

KDRA is also the only association officially designated by the government, specifically the Ministry of Trade, Industry and Energy, as a technology transfer organisation. We work continuously with industry, academia, research scientists, ventures and start-ups. They connect with KDRA for open innovation, technology transactions or investment, depending on their needs, and we coordinate collaboration among the key players.

Our network extends beyond Korea. We are developing partnerships with China, India, Southeast Asia, including Thailand, Taiwan and the Middle East, where we are now actively engaging.

Could you share some examples of what this ecosystem has delivered?

Significant deals are concluded through the KDRA ecosystem every year. Over the past five years, based on reporting from participants, more than 200 technologies have been successfully transferred or licensed to Korean pharmaceutical companies, with a total value of approximately USD 228 million. These transactions have taken place mainly within Korea.

What conditions are necessary for collaboration and technology transfer to translate into actual clinical development and commercialisation?

Technology transfer is only a starting point. For a collaboration to lead to clinical development and commercialisation, the scientific potential of the technology must be supported by a clear development strategy, well-defined intellectual property rights, sufficient capital and an organisation capable of executing the programme.

Development feasibility needs to be assessed from the outset. Even a promising target or candidate compound from a university or research institution can be difficult to commercialise if its intended indication, non-clinical data, patent scope, CMC feasibility and clinical development pathway are not clearly established. The parties should therefore assess the target product profile, regulatory strategy and commercial potential together before entering into a technology transfer agreement.

Rights and responsibilities must also be clearly defined, including ownership of patents, data and research outcomes, licensing conditions, development obligations and royalty structures. Finally, ventures and research institutions need access to partners with expertise in clinical development, regulatory affairs, GMP and international markets. Rather than relying on one-off technology transfers, we believe that long-term partnerships connecting joint research, co-development, investment and licensing offer a much stronger route to success.

You mentioned China, India and wider Asia. Even in 2019, every company I met was focused on the US. How is the innovation and partnership model changing in this region, and will Asia come to dominate the industry?

In the past, the pharmaceutical and biotech industries across Asia-Pacific, including China, India and Thailand, focused on generics. That is no longer the case. They are now developing new modalities and new medicines themselves.

These countries are also eager to collaborate with the Korean industry to elevate their own national capabilities. Many companies and delegations from China, India and Southeast Asia now visit Korea in search of R&D collaboration, commercial partnerships and manufacturing cooperation. The key shift is that every country is now focused on advancing its pharmaceutical industry up the innovation curve.

Historically, only Korea and Japan in Asia-Pacific were focused on new drug development. Over the past 20 years, however, Taiwan, China and India have made concerted, government-led efforts to advance their pharmaceutical industries. Twenty years ago, Taiwan had almost no domestic pharmaceutical industry and relied on imports. Today, as I understand it, Taiwan has several hundred new drug candidates in its own pipelines. That is very significant, and Taiwan has become a potential partner for Korea.

Across Asia, there is a growing emphasis on self-reliance and national resilience, yet licensing still dominates. How do you see the balance between early licensing, co-development and taking assets through to commercialisation?

Most companies naturally prefer late-stage assets because they reduce investment risk. However, a growing number are interested in early-stage assets for the sake of genuine innovation. To achieve strong market dominance, a company needs first-in-class assets rather than best-in-class

ones. A best-in-class product must compete against very strong incumbents and may enjoy only a few months of advantage globally. A first-in-class product addresses a concept others cannot easily replicate, offering a longer period of market exclusivity.

That is why companies globally, including Korean companies, are increasingly interested in early-stage innovative pipelines and platform technologies. Many of those assets target fundamental disease areas with significant unmet medical need, such as pancreatic cancer, wider oncology and rare diseases. That focus is driving the emergence of new modalities across industry, academia and research institutions. Korean pharmaceutical and biotech companies are now concentrating on these areas too, in contrast to their past focus on more general disease areas.

Korea is increasingly recognised for complex first-in-class and best-in-class assets. How does Korean innovation differ from that of China, India or Taiwan?

In my personal view, China has everything: very strong infrastructure, extensive genomic data and a leading role in international genome projects. It is very strong in basic science but relatively weaker in commercialisation and domestic open innovation, although many talented Chinese scientists work around the world.

Even with companies such as BeiGene (now BeOne Medicines) now among the world’s top 50, Chinese companies have a strong need for new compounds and pipelines, yet their open innovation networks, both domestic and international, remain relatively small. It is an ironic situation: very strong basic scientific infrastructure combined with substantial gaps in commercialisation and open innovation. As a result, many Chinese companies are now actively seeking collaboration with Korean pharmaceutical companies, biotech firms and start-ups to strengthen their R&D and commercial capabilities. This is because Korea, despite having only about 40 years of experience in new drug development, is innovating rapidly and currently holds 14.2 percent of the global new drug pipeline.

Where is Korea particularly strong, in terms of technologies and therapeutic areas?

Traditionally, Korean pharmaceutical companies have exceptional capability in chemical synthesis, and most Korean novel drugs have emerged from that approach. Today, R&D approaches have diversified considerably, extending into gene and cell therapy.

Beyond novel medicines, Samsung Biologics and Celltrion have achieved remarkable success in biosimilars. Biosimilars are extremely demanding in terms of quality control and other technical challenges, and these companies have overcome them. They are now pursuing novel drug development across several areas, including rare and life-threatening diseases. The government has also enacted dedicated legislation to accelerate regenerative medicine and regenerative technologies, and it supports new approaches and modalities.

Korea now has more than 1,000 ventures and start-ups, although some have closed, and more than 100 traditional Korean pharmaceutical companies are working with them.

How is the open innovation model itself evolving?

More and more companies are participating, and the model has diversified. Companies are now creating spin-offs for specific innovations, establishing joint ventures with foreign and domestic partners, and investing heavily in advanced technologies, ventures and start-ups.

Is there sufficient domestic venture capital to scale up, and is it easy to attract foreign investment?

This is a recent challenge. Venture capital firms have substantial reserves that remain undeployed, and they face complex investment considerations. There are many good ventures, but investors now favour stable companies or those with strong platform technologies.

In the past, venture capital invested in companies with several advanced pipeline assets, taking a long-term view. But if a single-asset programme fails in development, that is the end. A company with a strong platform technology can generate further candidates from that platform. That is why investors are increasingly focused on platforms, even though building a robust platform is very difficult for most bio-ventures, which tend to concentrate on a handful of assets.

At the same time, many Korean pharmaceutical companies now operate their own corporate venture capital (CVC) arms and have emerged as significant investors. For them, CVC is a means of accessing innovation by investing in advanced ventures and start-ups. Pharmaceutical companies also bring marketing, manufacturing and R&D infrastructure, which makes them very strong partners for ventures and start-ups, whereas venture capital firms bring only capital. We are therefore encouraging pharmaceutical companies to invest in and co-develop with ventures and

start-ups, which are closer to commercialisation than academia or research institutes. Strong collaboration with academia and research institutions remains essential for fundamental science; the balance depends on each company’s strategy.

Will we see more mergers and acquisitions in the local market?

M&A in Korean pharmaceuticals remains a complex and difficult area because many Korean companies still lack sufficient capital for innovation. Even so, a number of companies are pursuing mergers with foreign or domestic partners, though this is not yet widespread.

Successful M&A requires a clear, concrete and robust strategy, sufficient capital and the ability to integrate the merged businesses. Capital without preparation achieves nothing; a company needs both. Nevertheless, I regard M&A as a very powerful route to rapid innovation.

Which international partnerships do you see as most valuable?

I have a very strong collaboration network with Israel, which is renowned for biotech platform technologies that are close to commercialisation. Israel relies heavily on the US, but we want to build a strong partnership with Israel around its platform technologies. Scandinavia, including Denmark and Sweden, is also very strong in R&D pipelines; by my estimate, around 5-10 percent of global pipelines draw on Scandinavian sources. Western countries, including the US and the UK, are very strong in basic technologies and infrastructure.

KDRA wants to link Korea with all of these nations, together with China and India, to drive effective innovation. China and India offer major advantages in market size and cost, and many of their companies have made great progress in international regulatory harmonisation. If we can combine the respective strengths of each country, we can create a genuinely win-win environment globally. That is our philosophy.

How has KDRA evolved, both in terms of its membership and the services it provides to the industry?

Since 2019, our membership has grown from approximately 350 organisations to more than 450, including pharmaceutical and biotech companies, start-ups, universities, government-funded

research institutes and contract research organisations. We have also expanded and structured our activities to provide more comprehensive support for the industry, covering open innovation, full-cycle R&D support, links with national R&D policies, talent development and specialised communities.

We have established several dedicated structures to address emerging needs. These include the Bio-Health Talent Development Center in 2022, the Bio-Health Investment Council and Microneedle Convergence Research Society in 2023, and the Digital Bio-Health Innovation Council in 2024. In addition, the Ministry of Trade, Industry and Energy designated KDRA as a technology transaction organisation in 2023.

As a result, KDRA has evolved from an organisation primarily focused on research collaboration into a broader industry ecosystem platform, supporting technology transactions, investment, talent development and policy engagement.

The government has major ambitions for 2030, including Korea’s first blockbuster and a global biotech hub. What do you want KDRA to achieve for its members by 2030?

To realise that ambitionwe will concentrate on three priorities.

The first is to elevate the quality of open innovation. We will move beyond simple networking to precise matching and coordination of the needs of industry, ventures and academic research centres, linking innovation assets with real precision and converting those connections into co-development, investment and licensing. Ultimately, we want to build a high-quality, well-structured open innovation mechanism.

The second is to support the entire R&D life cycle: from target identification through non-clinical development, CMC, clinical research and regulatory affairs to commercialisation. We will coordinate and connect the capabilities required to achieve global commercialisation.

The third is to support Korean companies’ entry into global markets. We will expand our international partnerships, coordinate cooperative clinical development, and equip companies with regulatory strategy. Many Korean companies have a strong ambition to enter foreign markets but limited knowledge of each country’s regulatory environment, and KDRA must support them in navigating it. We will also create licensing, technology transfer and collaboration opportunities through annual and periodic partnering events, such as last week’s Korea–China forum.

Finally, we will strengthen the underlying infrastructure. We will advocate for robust government policy and train industry professionals across R&D, business development, regulatory affairs and clinical research, including artificial intelligence. Digital infrastructure has become a critical driver of innovation, and we will support the industry across all of these areas.

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