

# Hospitals taking the lead in research and commercialization

At 70.4%, the rate of growth of South Korea's AI healthcare market is significantly faster than the 60.3% average for major economies globally. From €1.3 million in 2015, it is expected to reach €18.7 million by the end of 2020.

AI-based digital healthcare products are mainly developed by large hospitals, which have their own big data centers and utilize that data for a variety of purposes. An example is the 'Doctor Answer' software, which is based on AI and big data technology and adopted by 25 hospitals. Another is the Voice Recognition Electronic Medical Record system (which a.o. includes voice to text in medical records) implemented by Seoul Catholic Medical Center and commercialized by Puzzle.

## Korea's AI healthcare market is growing some 10% faster than the average for major economies

### Bureaucratic bottleneck

An issue is that South Korea's laws & regulations can't keep pace with the speed of technological development. Products that are technologically ready for market first need approval from three different governmental organizations, which takes about a year. As a result, many Korean companies in the AI healthcare industry are looking or heading overseas for business opportunities.

### Thriving medical imaging sector

The medical imaging sector is one of the most active areas for AI applications. One of the leading Korean companies in this field is VUNO, whose solution assists bone-age assessment of a child's hand x-ray image, reducing reading time and significantly improving accuracy. VUNO have now expanded their technology to brain analysis of neurodegenerative disorders, detection of major abnormalities in chest x-rays and screening

solutions for the fundus of the eye. LUNIT, who have developed AI analysis for chest x-rays, mammography and tissue slides to detect lung diseases, have now opened an office in the Netherlands. Selvas AI provide predictive services that look at yearly medical examination data to identify possible risks of disease in four years' time.

### New medicines

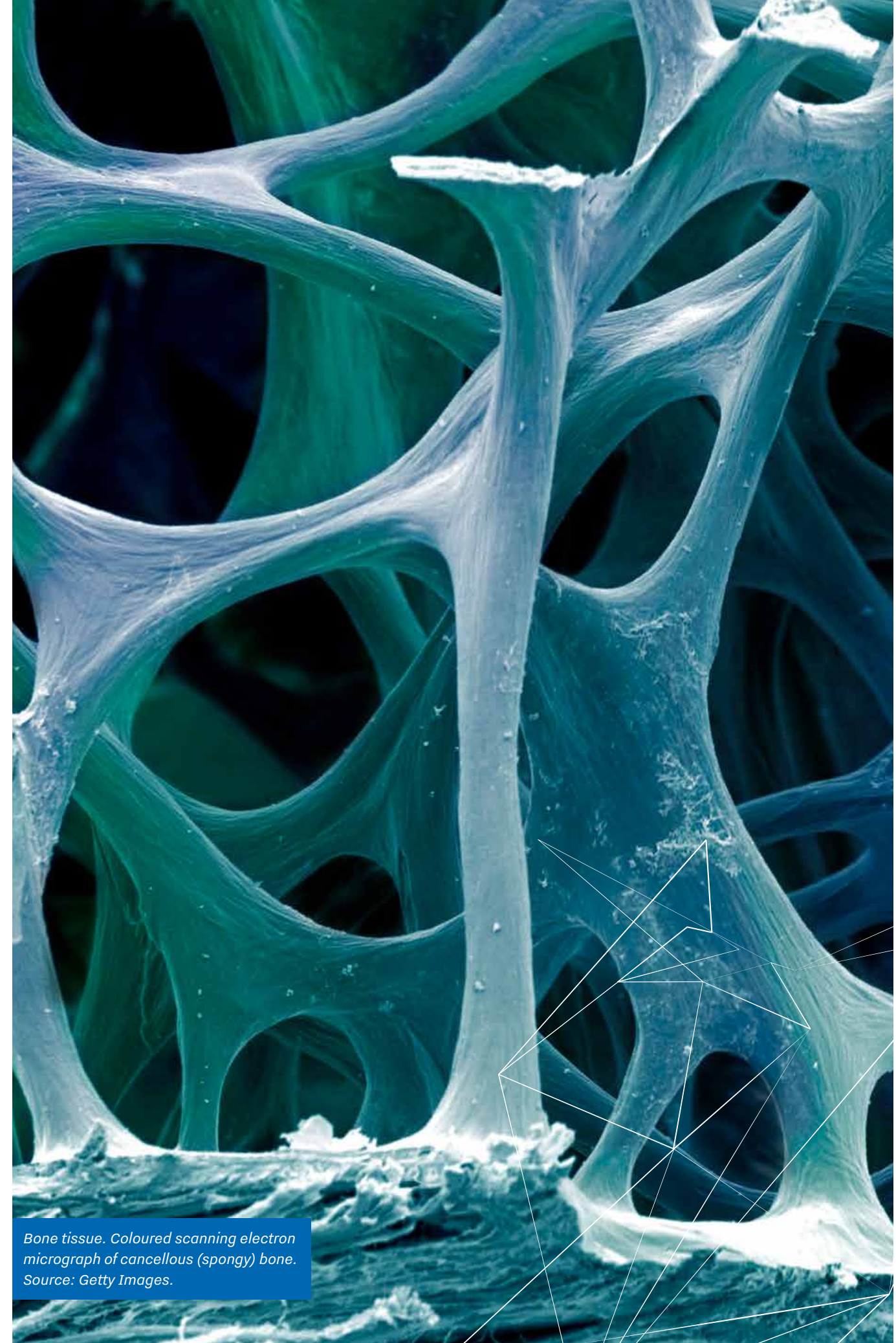
Because AI-related work in Korea around the development of new medicines is not yet globally competitive, the government has increased its budget to support this field, which it believes will dramatically reduce the time and costs of developing new drugs.

Promising players include:

- Standigm, a startup that has developed an algorithm for discovering new medicine materials in order to minimize trial and error, better predict the synergy of different drug combinations, and identify the patients most likely to benefit from the drug.
- twoXAR, who are collaborating with SK BIOPHARM to develop an AI-based drug-design platform that aims to save years in drug development while generating a 30-times higher hit rate in vivo efficacy milestones.
- CIMPLRX, who have developed an AI-based drug-discovery platform for the earliest phase of drug discovery, which is designed to search for new compounds while simultaneously finding new uses for existing drugs.
- Syntekabio, who have discovered COVID-19 combination treatment candidates that in animal tests using an AI-solution have shown therapeutic effects twice as strong as remdesivir.

With the global AI healthcare sector so competitive, the South Korean government is supporting a number of different programs under the auspices of nurturing fourth industrial revolution technology. However, for now it is still mainly the country's hospitals taking the lead in both joint research and commercialization.

*Netherlands Innovation Network Korea  
Jeong Eun Ha and Peter Wijlhuizen  
[info@nost-korea.com](mailto:info@nost-korea.com)*



*Bone tissue. Coloured scanning electron micrograph of cancellous (spongy) bone. Source: Getty Images.*