

A thriving collaborative ecosystem built on unique medical databases

Digital Health's roots in Israel go back over 20 years to the revolution in biological sciences. It got a boost a decade later when Israel set up a national agenda on cybersecurity to protect critical infrastructure and data. Then a couple of years ago, Israel launched its national AI agenda, aiming to build on and match its cybersecurity success story in the AI domain.

Strong data infrastructure

Israel has a well-developed medical data infrastructure. The country's 4 Health Medical Organizations (HMOs) insure the population, maintain electronic medical records (EMRs) with data going back more than 20 years, and make investments in medical AI technology.

*Vascular bifurcations background.
Shallow depth of field 3d render.
Source: Getty Images.*



The country has a booming medical AI-startup sector

For example, one of the HMOs, Meuchedet, has incorporated technology developed by American Well, a telemedicine company in which Philips has invested. While Israel's university hospitals have strong virtual data infrastructures including EMRs, and digitized patient tests and medical imaging. And all this data is regulated by the Ministry of Health.

Thriving startup sector

The country also enjoys a booming medical AI-startup sector that delivers technology to healthcare organizations in Israel and overseas in such areas as medical imaging, personalized medicine, preventative care, pharmaceuticals and computer-aided diagnoses.

The COVID-19 pandemic triggered the birth of a flourishing cooperation between startups and the medical sector to provide technological solutions for diagnostics, treatment and prevention: the local medical sector scouts for

digital health technology, while AI startups search for hospitals abroad to carry out proof-of-concept projects for innovative medical solutions.

Preventive and precision medicine

Preventive medicine is a growing part of the Israeli medical ecosystem, as initiatives by startups and HMO build digitalized solutions to intervene and protect people from chronic diseases from birth onwards. For example, Clalit, an HMO, is developing tools to monitor diseases and predict acute myeloid leukemia risk. While another HMO, Maccabi, is developing an AI system to predict the presence of colon cancer through blood tests.

The sheer wealth of data is opening up possibilities for truly personalized medicine. Maccabi has been building tools to personalize drug treatment for hypertensive patients. Numerous companies and solutions are

focusing on genetic-based personalized treatment. While, armed with comprehensive genomic databases, local companies like FDnA are leveraging AI to detect physiological patterns that reveal disease-causing genetic variations.

The Israel Precision Medicine Partnership (IPMP) funds projects to advance the implementation of personalized healthcare, with all the research projects using data from Israel's unique and vast medical databases. Israel's Ministry of Health itself runs Psifas ('Mosaic'), a huge AI program in precision medicine.

Bilateral opportunities

There have been 29 EU Health-related AI projects funded involving Israel, some of which have included Dutch partners. There are currently various Israeli companies and research bodies involved in Netherlands-funded initiatives that engage foreign partners. For example, the

Healthy.io project, a large-scale population screening study on Chronic Kidney Disease in Breda; and the collaboration between Micompany and UMC Groningen on asthma and allergic diseases. Philips also has a large subsidiary in Israel that focuses on radiology and personal medicine, and also serves as a bridge for Israeli companies interested in collaborating.

Netherlands Innovation Network Israel

Dr. Racheli Kreisberg
racheli@nost.org.il