



INNOVATION AT SHEBA MEDICAL CENTER

# Innovation at Israel's National Medical Center



**Toward a fast track in healthcare innovation:  
Accelerating Development in Precision Medicine**

Prof. Eyal Zimlichman  
Chief Transformation Officer  
Chief Innovation Officer  
Sheba Medical Center



**October 2022**





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# About Sheba Medical Center



## SHEBA Comprehensive hospital



**The Charles Clore  
Acute Care  
Hospital**



**The Sheba  
Rehabilitation  
Hospital**



**The Josef  
Buchman  
Gynecology and  
Maternity Center**



**The Cancer Center**



**The Edmond and  
Lily Safra  
Children's Hospital**



**The Olga & Lev  
Leviev Heart  
Center**



## Sheba by the Numbers Facts and Figures





**Laboratory  
AutoLIMS**



**HIE**



**Supply Systems**



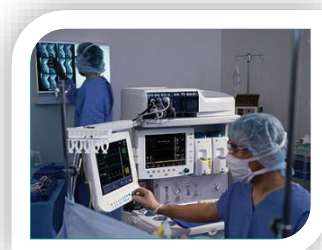
**EMR & CPOE**



**Imaging- Pacs,  
Carestream, C-Pacs**



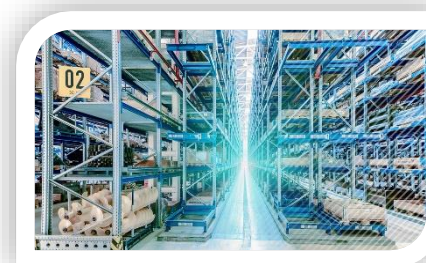
**Finance-  
TMR, Gomla Ltd.**



**Vital Signs  
Systems**



**Medical Admin.**



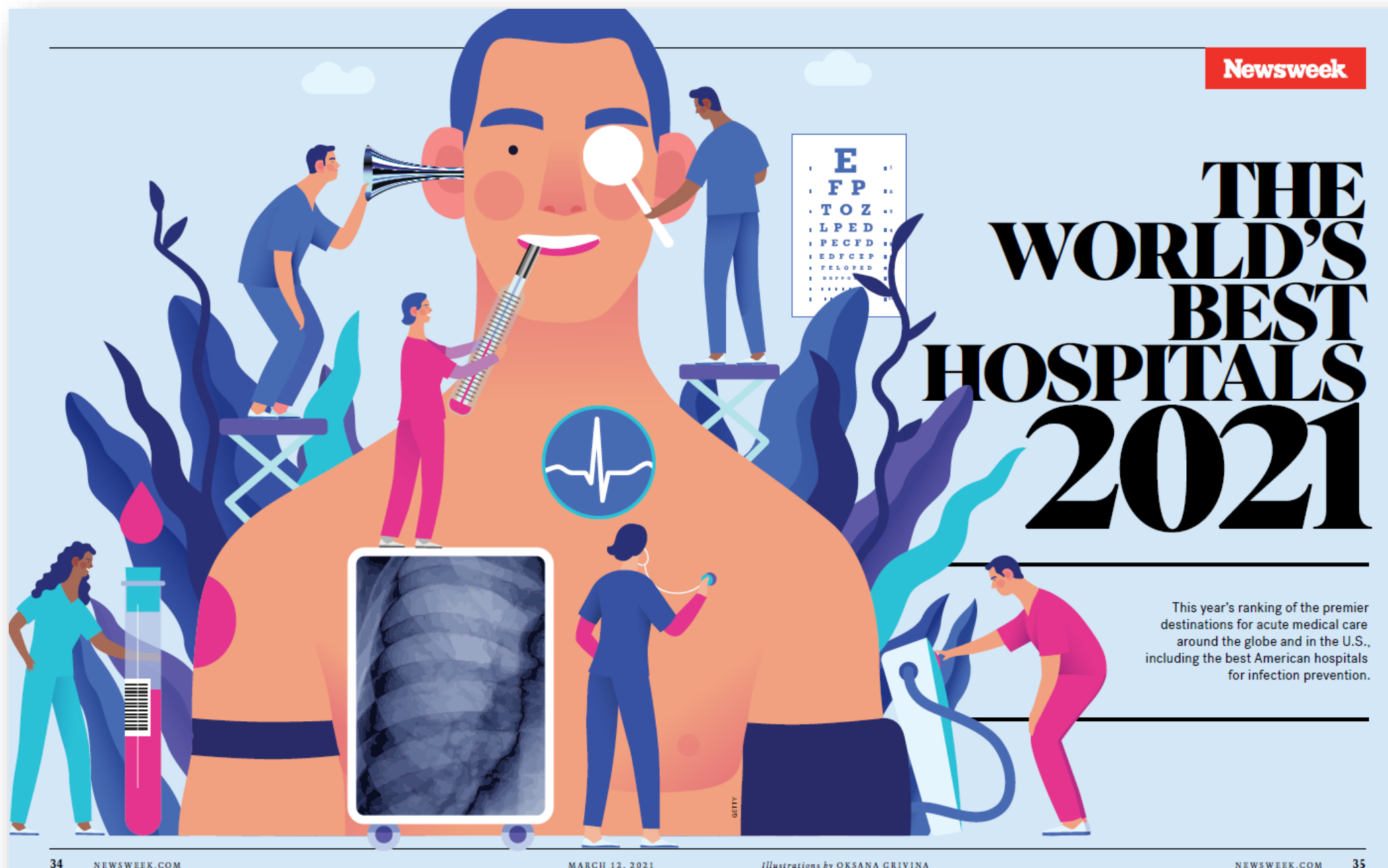
**Logistics**



**HR**



## Recent Recognition: Top 10 for Four Straight Years



# 10

**Sheba Medical Center**  
RAMAT GAN, ISRAEL

The Sheba Medical Center at Tel Hashomer, near Tel Aviv, is Israel's largest hospital. It was founded in 1948 as the country's first military hospital. Today, it has 159 medical centers and clinics, 1,425 physicians, 2,740 nurses, more than 2,000 beds and treats more than 1 million patients a year. Its facilities include an acute care hospital, a rehabilitation hospital, a women's hospital, a children's hospital, an eating disorders clinic, a post-traumatic stress disorder clinic for soldiers and an outpatient clinic. Its research specialties include cardiology, cancer, brain diseases, obstetrics and gynecology, genetics and medical education. [www.ShebaOnline.org](http://www.ShebaOnline.org)





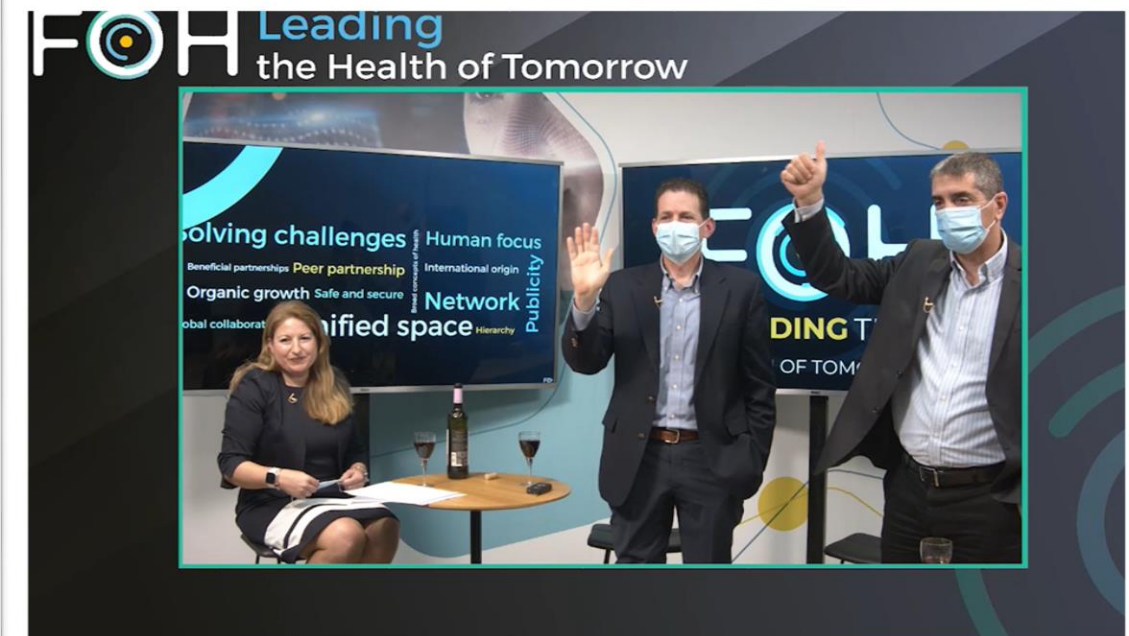


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# Setting the Vision for Health 2030



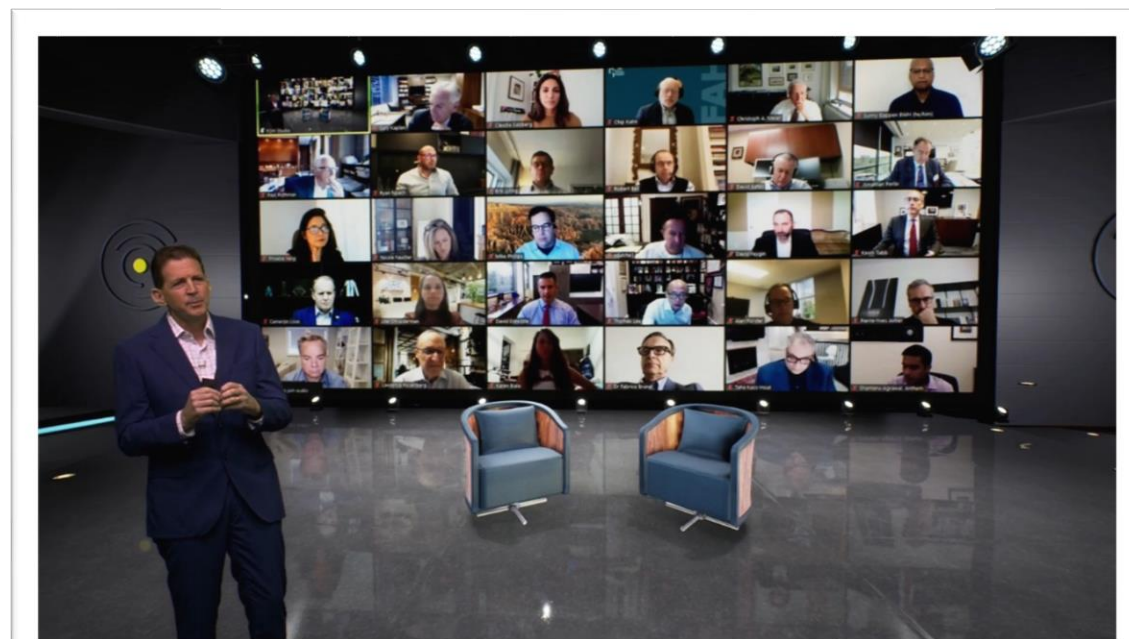
Date: October 22-25, 2018  
Location: Sheba Medical Center, Israel



Date: December 17, 2020  
Location: Virtual



Date: November 17-18, 2019  
Location: University Hospital of Montreal (CHUM), Montreal, Canada



Date: October 25, 2021  
Location: Virtual

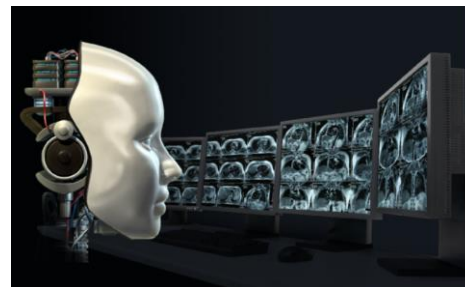


## Innovation Enabling Transformation

***Tele-  
health***



***Artificial  
Intelligence***



***VR and AR***



***Robotics***





INNOVATION AT SHEBA MEDICAL CENTER

**A New Concept for Medical Innovation**



**ARC**  
***Accelerate***  
***Redesign***  
***Collaborate***

*Creating an ecosystem that will change the future of medicine together*





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# Fundamental Principles of ARC



✓ **Digital Health**

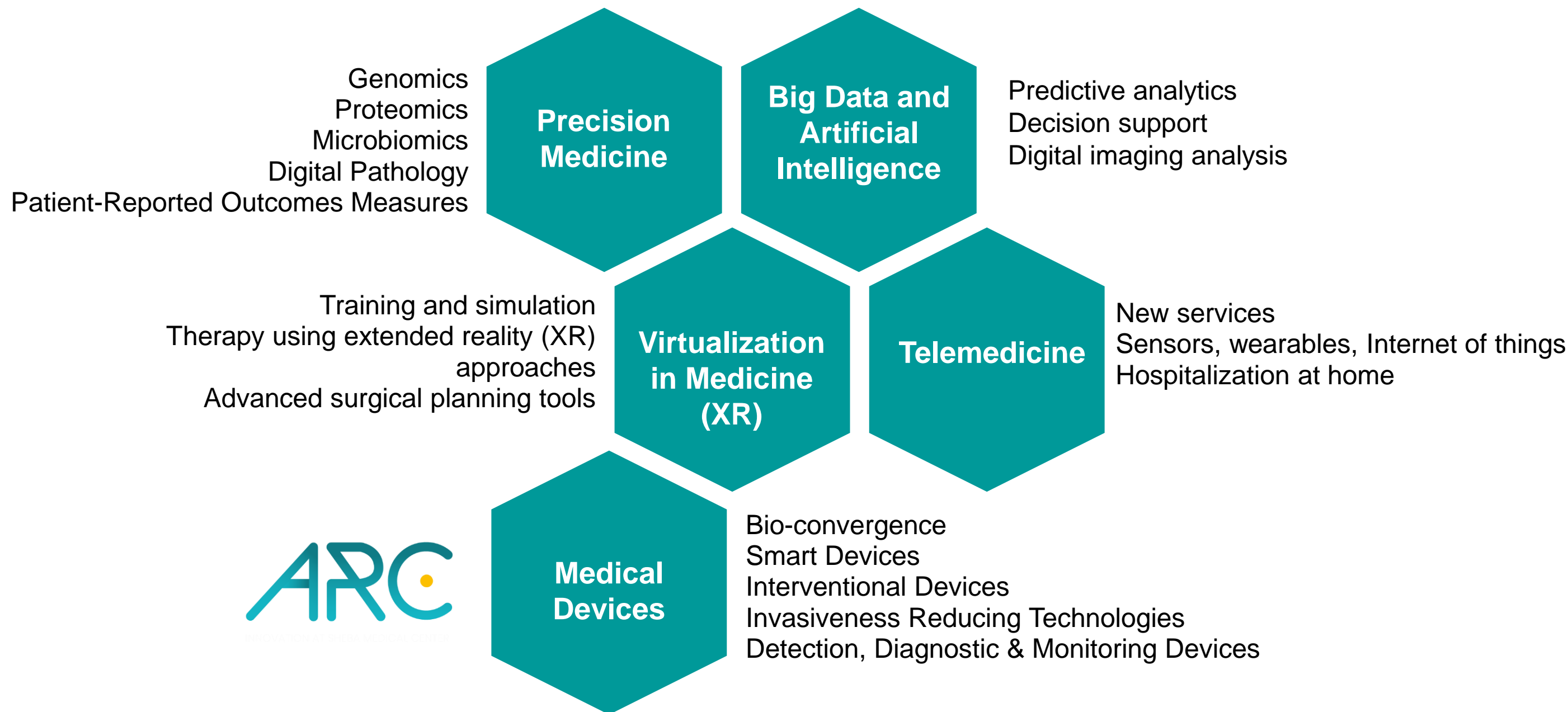
✓ **Open Innovation**

✓ **International Collaborations**

✓ **Innovation Infrastructure**







*ARC focuses on the use of software solutions and algorithms, among other elements, to transform healthcare delivery.*





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LOG IN

## Israeli success with open health innovation

BLOG
By Tue David Behind | 21 December 2017 at 11:36 | 0 comments

Print

If you travel to Tel HaShomer, a few miles east of Tel Aviv's glittering skyscrapers in downtown, you will not only meet Sheba, Israel's largest hospital, but also a groundbreaking Open Innovation Campus in the field of health.

It is a campus where the traditional model for innovation in the healthcare system is reversed.

*ARC welcomes startups, members of the industry, academia, and other types of partners to join innovation efforts through streamlined processes.*





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# ARC League of Companies



MEDICAL DEVICES



BIOTECH



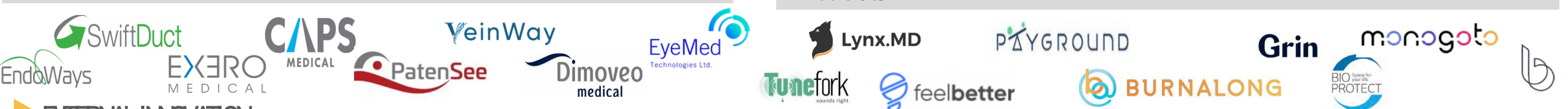
DIGITAL

## INTERNAL INNOVATION



## MEDX

## TV-ARC



## EXTERNAL INNOVATION



*Startups have the opportunity to rent space at Sheba's Innovation Center so that they have their own home on-site at Sheba*





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# International Collaborations



**Academic Medical Centers | Industry Partners | Innovation Communities | Data Network**



*Recognizing that no organization can transform healthcare alone, we work with partners around the world to advance mutual objectives.*



- On-site access to Sheba's full data warehouse
- Direct access to clinical facilities and experts
- Physical presence within the center
- First look for sponsored development



*Strategic partners work closely with Sheba and other stakeholders to transform healthcare together.*





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# Infrastructure for Innovation



*Physical space / Access to data / Policies and regulations / Funding*

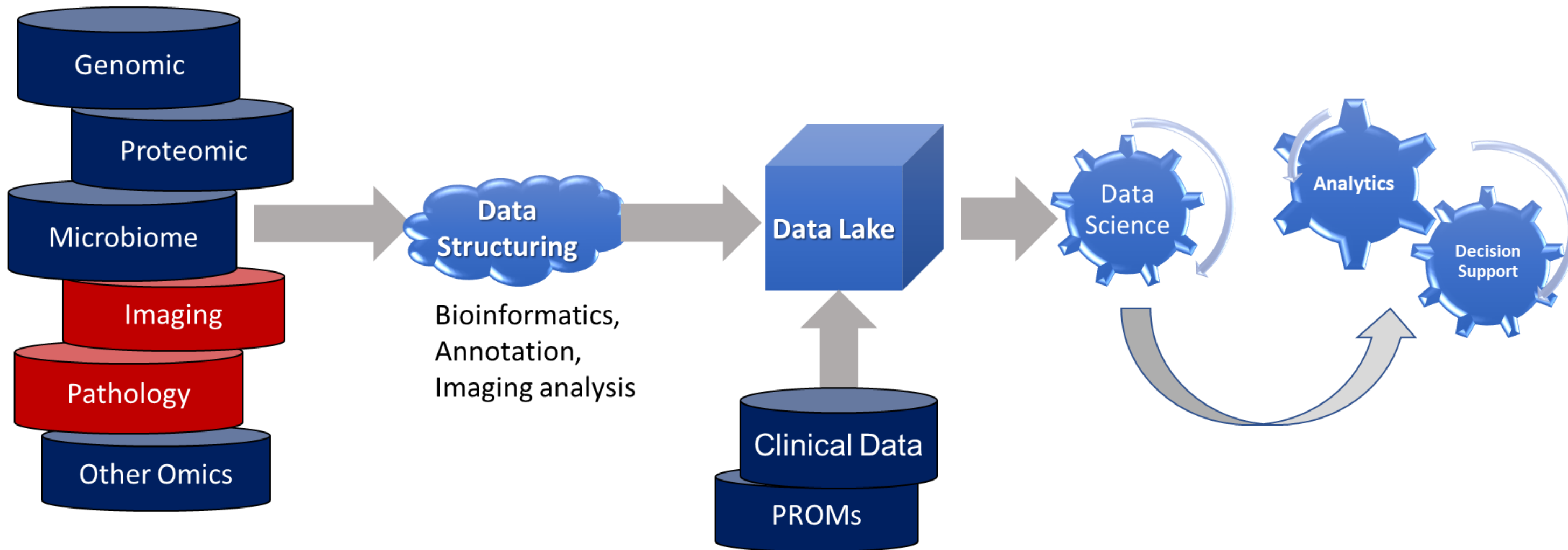


*Innovation Infrastructure goes beyond a physical space.*

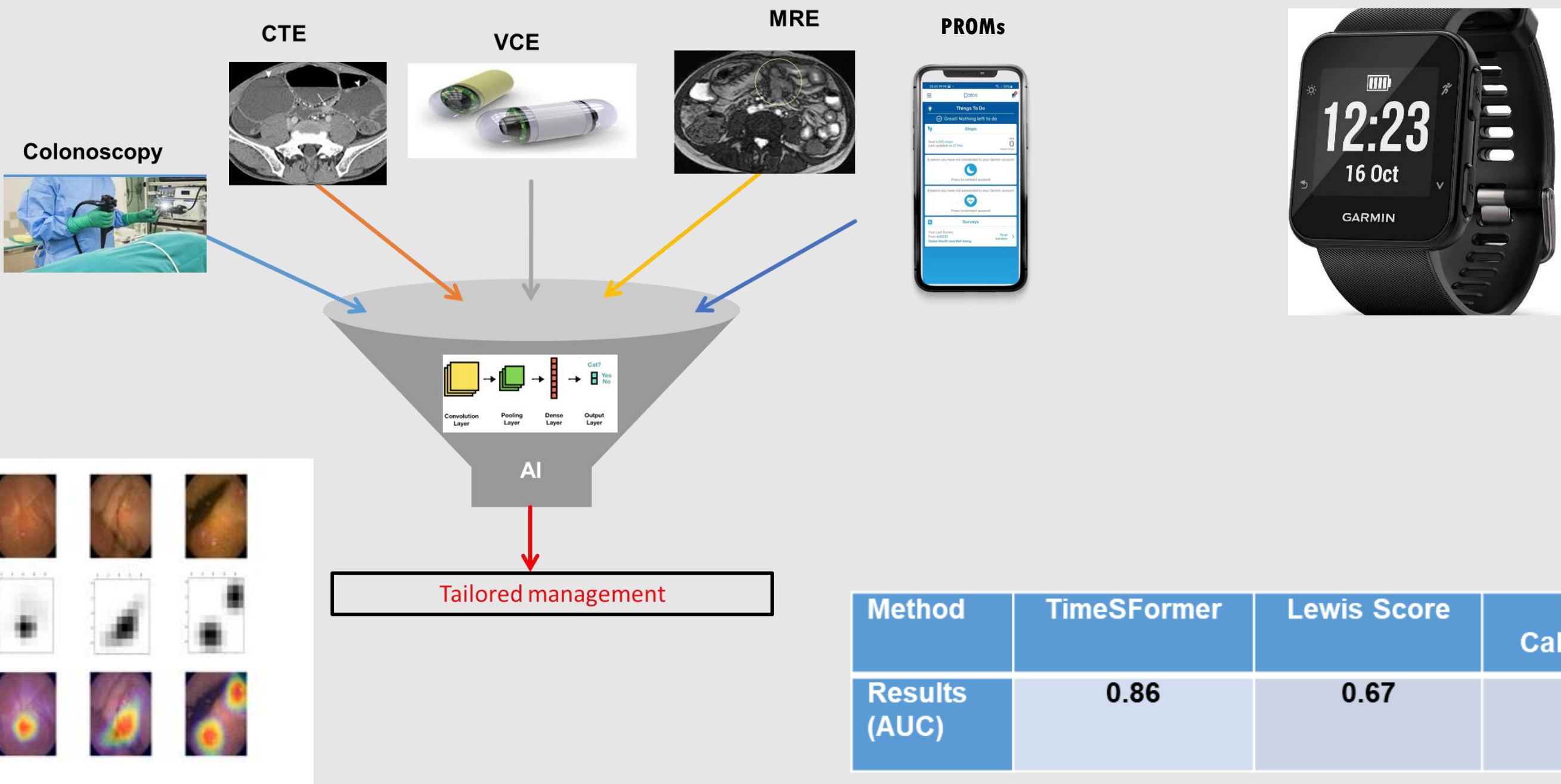


# Precision Medicine: From Data to Insights

## *Omics Data Sources*









## The evolution and future of ALK fusions Detection in Lung Cancer



www.nature.com/modpathol

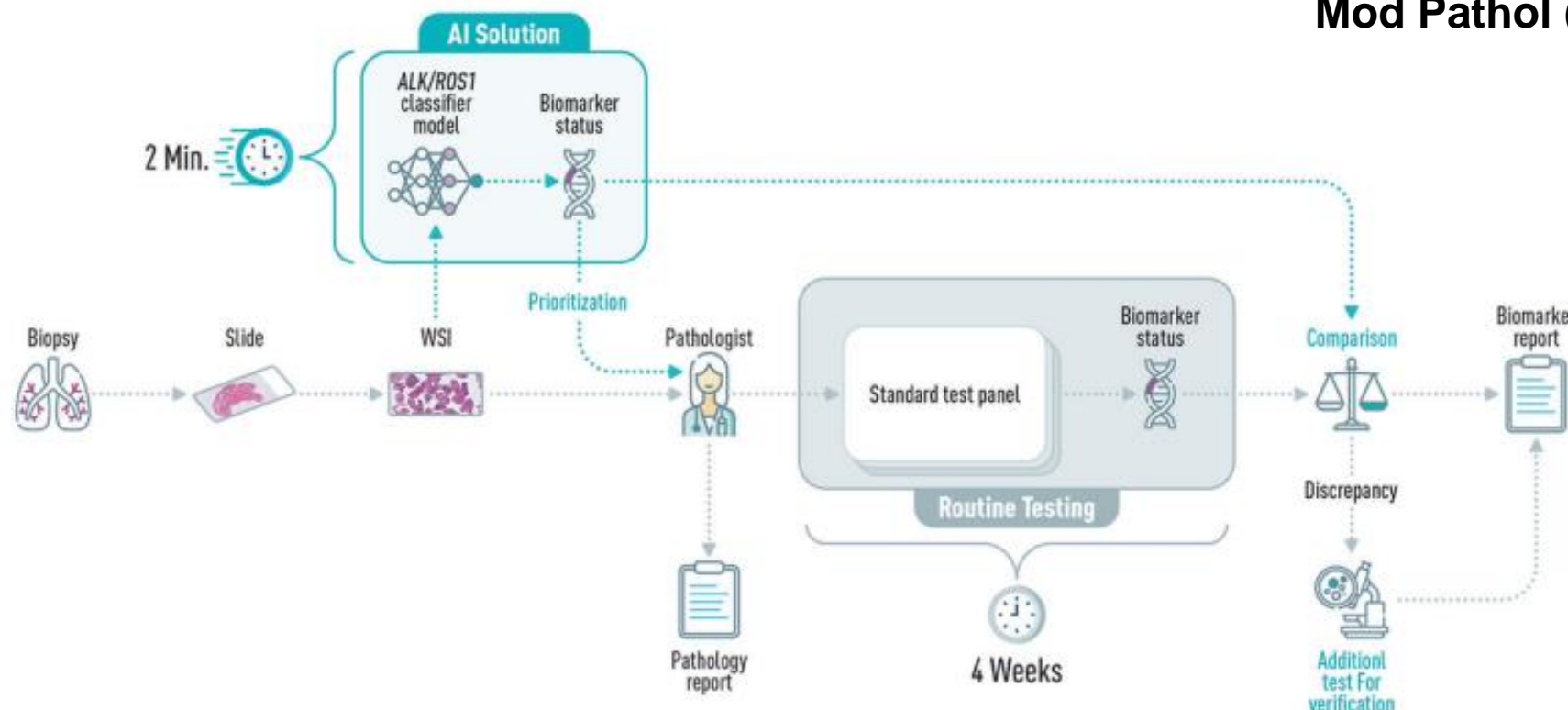
ARTICLE OPEN

Check for updates

## Direct identification of *ALK* and *ROS1* fusions in non-small cell lung cancer from hematoxylin and eosin-stained slides using deep learning algorithms

Chen Mayer<sup>1,4</sup>, Efrat Ofek<sup>1,4</sup>, Danielle Even Fridrich<sup>1</sup>, Yossef Molchanov<sup>1</sup>, Rinat Yacobi<sup>1</sup>, Inbal Gazy<sup>2</sup>, Ido Hayun<sup>2</sup>, Jonathan Zalach<sup>2</sup>, Nurit Paz-Yaacov<sup>2</sup> and Iris Barshack<sup>1,3</sup>

Mod Pathol (2022). <https://doi.org/10.1038/s41379-022-01141-4>



Integration Into Clinical Practice

## Patho-Radiomics

Digital Pathology

Digital Radiology







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# ARC Network



## Corporate Strategic Partners



## International Collaborations



## Innovation Communities



## Academia



## Startups







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# Contact Information



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