TRANSFORMING HEALTHCARE

The Vital Role of Health Organizations in Leading Innovation and Change

Prof. Ronni Gamzu
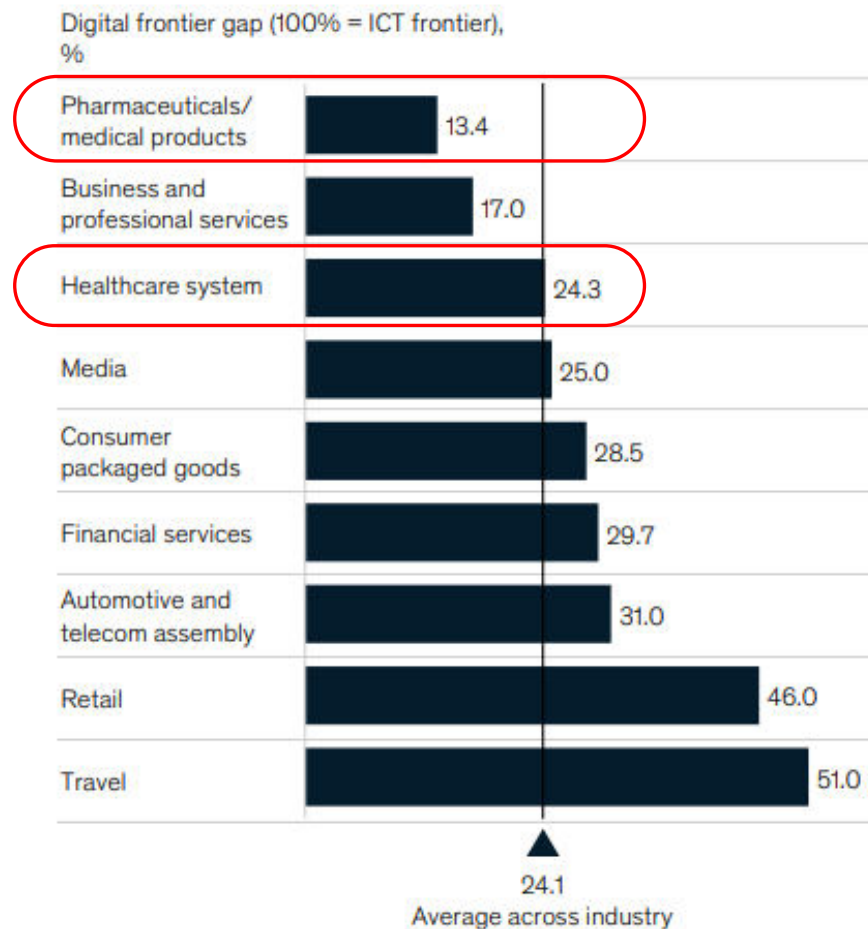
CEO of Tel Aviv Sourasky Medical Center – Ichilov
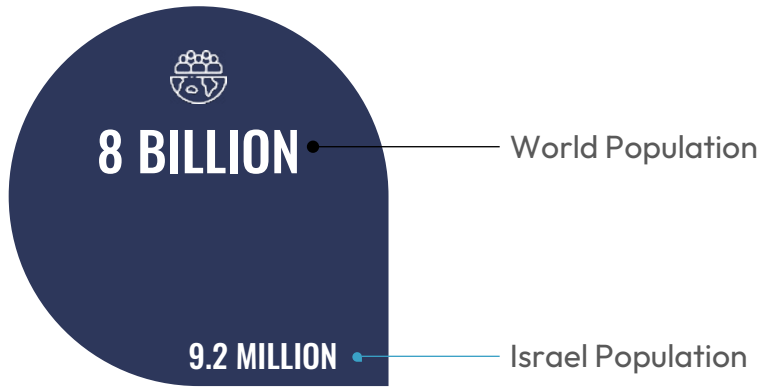
Swiss MedTech Day 2023

HEALTHCARE INNOVATION GAP

Unlocking the Potential of Healthcare by Accelerating Digital Transformation and Shifting Mindsets

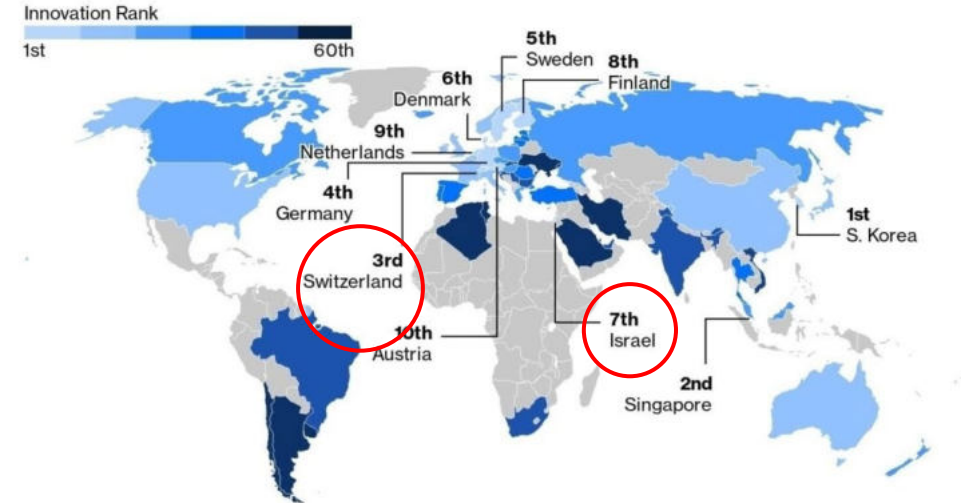## THE GAP TO THE DIGITAL FRONTIER REMAINS LARGE ACROSS INDUSTRIES

Digital frontier gap (100% = ICT frontier), %

Industry	Gap
Pharmaceuticals/medical products	13.4
Business and professional services	17.0
Healthcare system	24.3
Media	25.0
Consumer packaged goods	28.5
Financial services	29.7
Automotive and telecom assembly	31.0
Retail	46.0
Travel	51.0

24.1
Average across industry

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DATA DRIVEN & INNOVATIVE INDUSTRIES IN ISRAEL

8 BILLION — World Population

9.2 MILLION — Israel Population

World's 60 Most Innovative Economies
South Korea, Singapore and Switzerland lead the index in 2021

Innovation Rank
1st — 60th

5th Sweden
8th Finland
6th Denmark
9th Netherlands
4th Germany
3rd Switzerland
10th Austria
7th Israel
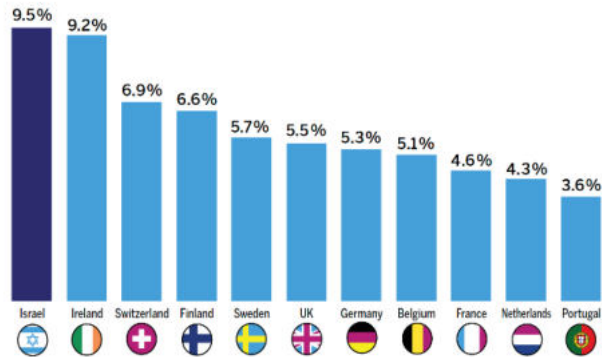1st S. Korea
2nd Singapore

Sources: Bloomberg, International Labor Organization, International Monetary Fund, World Bank, Organisation for Economic Cooperation and Development, World Intellectual Property Organization, United Nations Educational, Scientific and Cultural Organization

Bloomberg

07 **Israel Leads The World In Ratio Of High-Tech Employees**
Ratio of high-tech employees as a % of total employees per country (2020)

Israel	Ireland	Switzerland	Finland	Sweden	UK	Germany	Belgium	France	Netherlands	Portugal
9.5%	9.2%	6.9%	6.6%	5.7%	5.5%	5.3%	5.1%	4.6%	4.3%	3.6%

Source: CBS adaptation of Eurostat data

ISRAEL'S TOP INDUSTRIES PUSHING THE BOUNDERIES OF INNOVATION

Cyber Security	Automotive	Fintech	Water Technologies	Agriculture & Food Technology	Health & life Science

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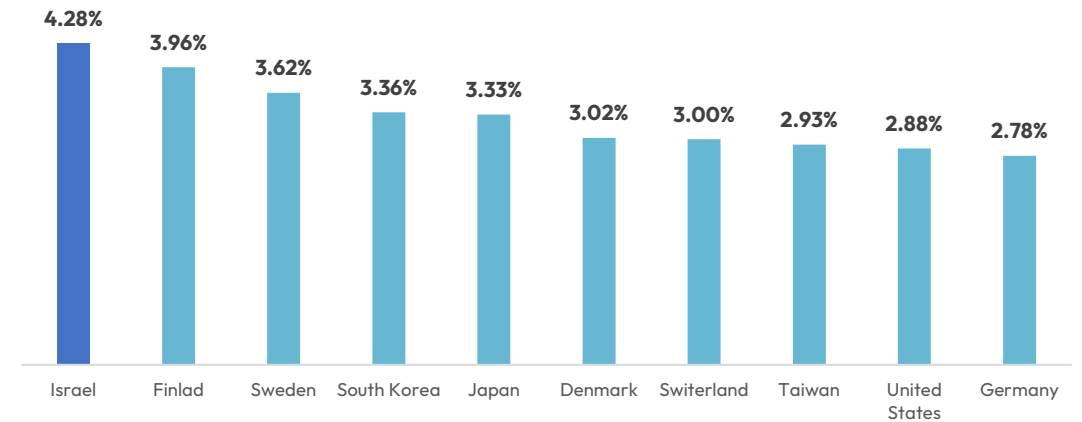# THE START-UP NATION

Over 1300 Start-ups in 2021

▶ 3ʳᵈ most listed country on NASDAQ

▶ 33% of the cyber unicorns in the world are Israeli

▶ Ranked #3 globally in Medtech and Lifescience IP per capita

▶ >10 start-ups Surpass $1Bn value in 2021

Expenditures on R&D as a percentage of GDP

Israel	Finlad	Sweden	South Korea	Japan	Denmark	Switerland	Taiwan	United States	Germany
4.28%	3.96%	3.62%	3.36%	3.33%	3.02%	3.00%	2.93%	2.88%	2.78%

ISRAEL STANDS OUT

▶ Israel has a **centralized,** community-based and high-quality healthcare system.

▶ Over 98% of the population is covered by **full health insurance**

▶ Israel's four HMOs have been accumulating medical **digitized data** for over 25 years

▶ Over **1600** innovative Health Tech companies

▶ More than **70 innovation hubs**

▶ Dozens of **R&D** centers

▶ Over **250 active VCs** in healthcare

▶ Over 7300 **technology** companies

Israel's healthtech sector

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TEL AVIV SOURASKY MEDICAL CENTER- ICHILOV

The Medical Center features four main hospitals:

01 Ichilov General Hospital

02 The Dana-Dwek Children's Hospital

03 The Lis Maternity and Women's Hospital

04 The Rehabilitation Hospital

SERVING

> 2M large TA population

> 1M TA daily visitors

350,000

Total Square Meters

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One of Israel's largest and most advanced full-service healthcare treatment and research institutions.

Leading multidisciplinary academic medical center. Highly Technological

Largest emergencies hospitals in the world

Research (basic, clinical, translational), Bioconvergence

TEL AVIV MEDICAL CENTER IN NUMBERS

61
Departments

1,815
Physicians

210
Outpatients Clinics

1,883
Nurses

1,523
Beds

4,380
Healthcare Professionals
Director & Staff

R&D DRIVING MEDICAL EXELLENCE

700 researchers and clinical coordinators

56 research group laboratories

8000 sqm research facilities

>200 collaborative projects with health organizations across the globe

>100 start-up companies working within TASMC

7 new spin outs in 2021

>2300 clinical trials

Data lakes growing at **2,000,000** new EMR entries/year

>300 contracts with HealthTech companies

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BARRIERS OF MEDICAL INNOVATION

01 Regulatory hurdles

02 Funding constraints

03 Intellectual property challenges

04 Risk aversion

05 Fragmented healthcare systems

06 Limited collaboration and knowledge sharing

OVERCOMING BARRIERS: A PATHWAY TO SUCCESS

01 Patient Engagement

02 Regulatory Reforms

03 Increased Funding and Investment

04 Intellectual Property Support

05 Risk-sharing and Collaboration

06 Education and Training

07 Addressing Ethical Considerations

08 International Collaboration

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HOT SEGMENTS IN HEALTH INNOVATION

- AI and Machine Learning technologies transform healthcare

- Advanced Diagnosis (multiomics)

- Precision Medicine (+Teranostics)

- Robotics & IoT

- Virtual, Metaverse, Saptial, AR/VR/XR

- Advanced Therapies, Immunotherapy

- Nanomedicine (+nanobots)

- Gene Editing

- Tissue rejuvenation

- Cyber

- Insurtech
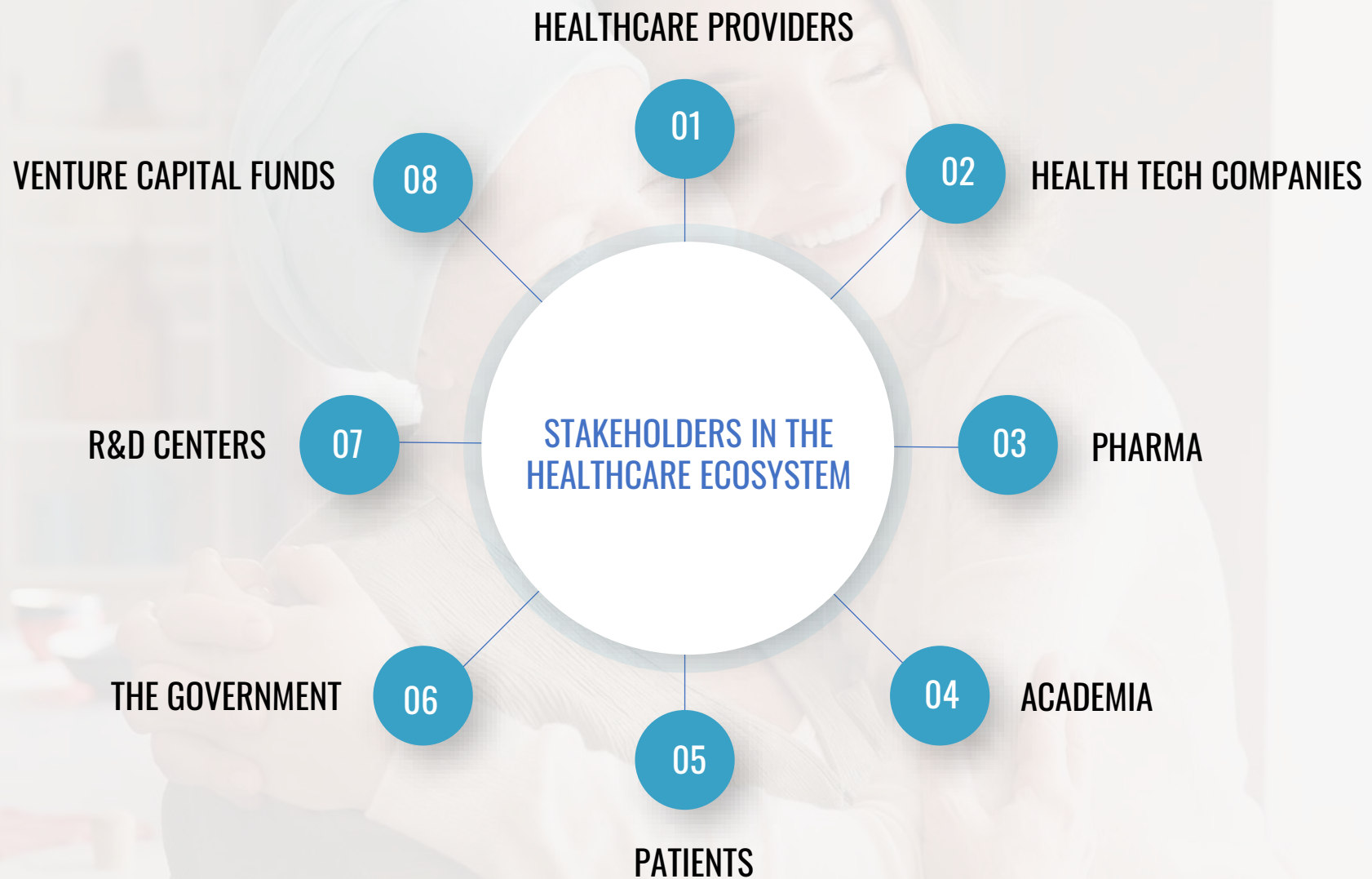
TEL AVIV MEDICAL CENTER: I-MEDATA REVOLUTIONIZING HEALTHCARE WITH AI

- I-Medata AI Center: Advancing healthcare with cutting-edge AI solutions.

- Holistic approach to AI for healthcare needs.

- Diverse team of experts: data scientists, engineers, physicians, statisticians, and more.

- Unlocking valuable insights through data revolutionizes patient care and clinical decisions.

- Global network of partners: digital health startups, companies, research institutes, and HMOs.

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ISRAELI ACADEMIA: KEY DRIVER FOR FOSTERING ENTREPRENEURSHIP

US Unicorn Founders Ranking By Undergraduate Degrees
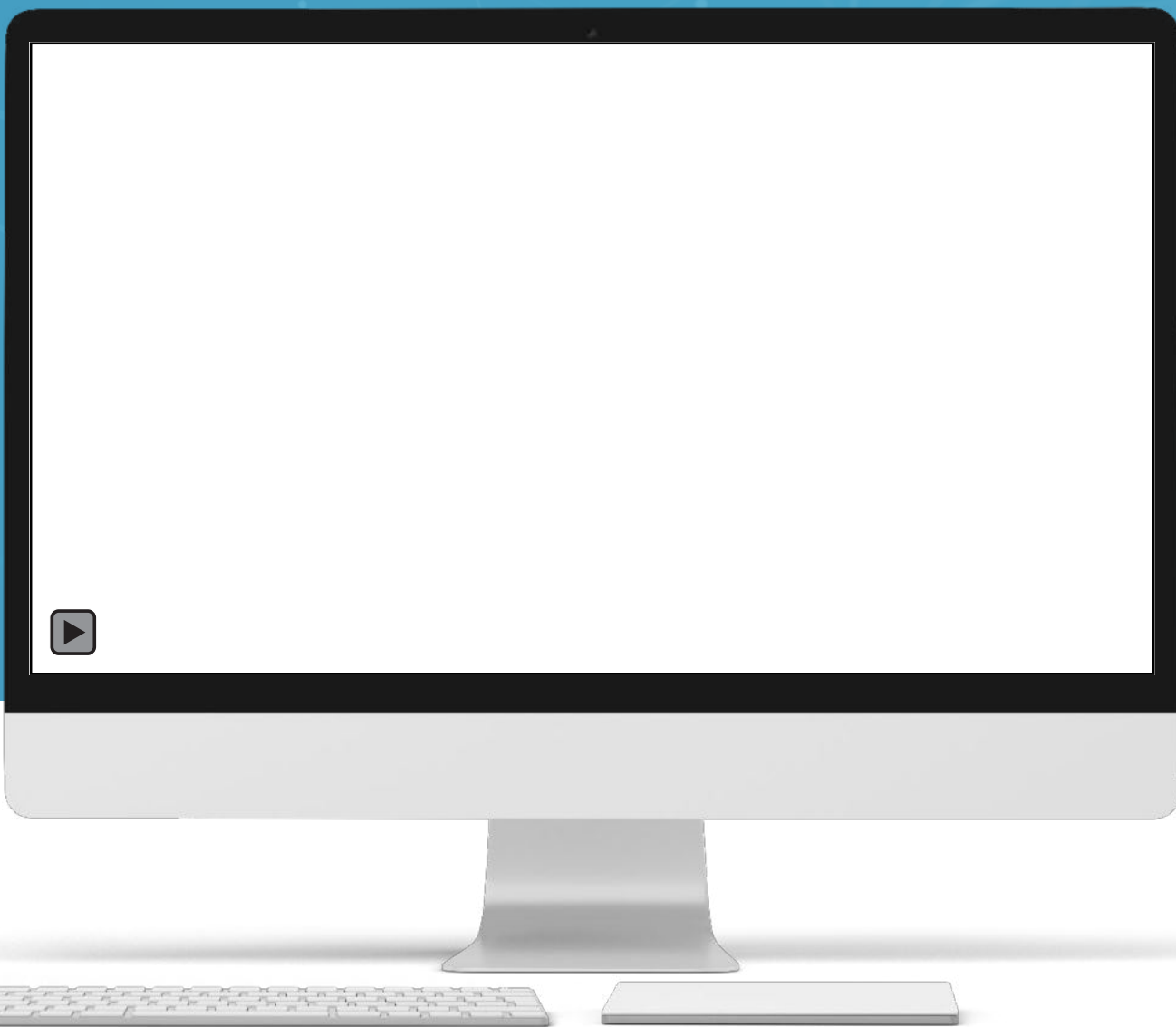
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THE MEDICAL CONTROL TOWER:

- Dynamic data center with real-time actionable insights

- Enhances patient flow, reduces treatment time, and improves operational efficiency

- Identifies and resolves bottlenecks, allowing for faster decision-making

- Provides operational predictions for better planning

- Improves overall patient experience through optimized processes

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REVOLUTIONIZING EMERGENCY ROOM EXPERIENCE: DIGITIZED CHECK-IN AND SELF-TRIAGE

Replaces traditional office admission with a streamlined kiosk process. Patient registration is via facial recognition and a short questionnaire. All documents are scanned and saved to their Electronic Medical Record (EMR). The kiosk is equipped with a touch screen, camera, scanner, and printers.
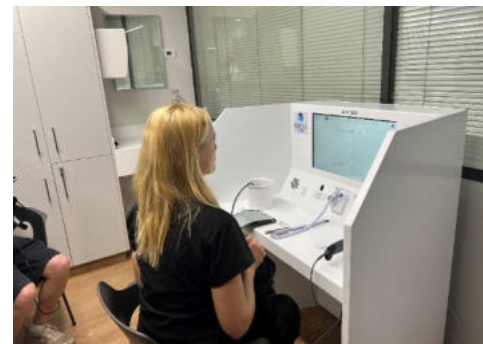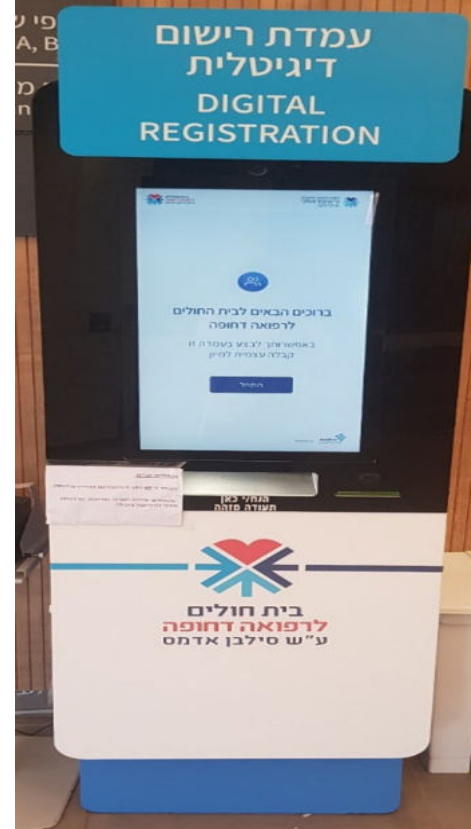
GOALS

- Save waiting time
- Streamlining administration process
- Improving the patient experience
- Innovation
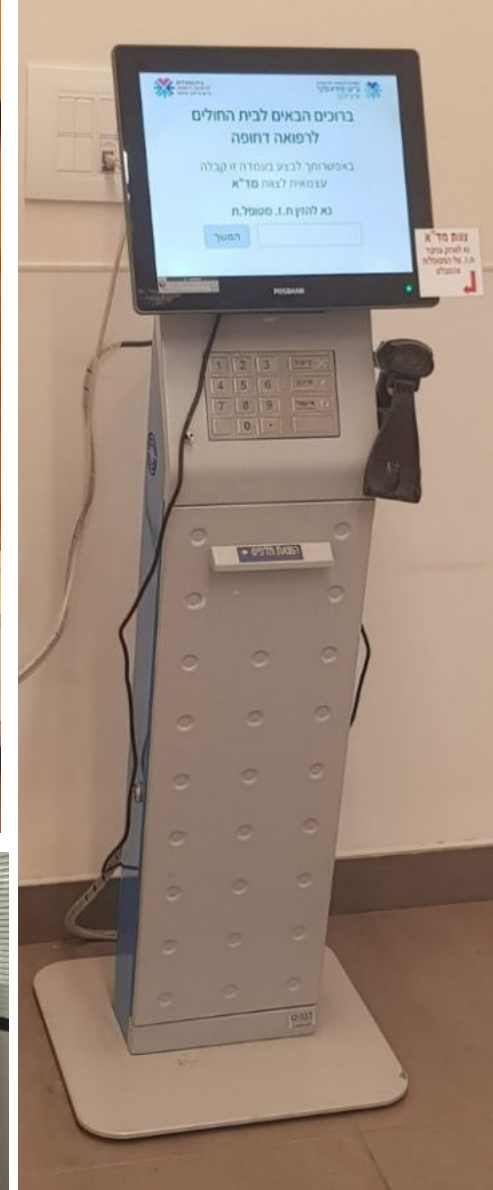
AI IN RADIOLOGY – AIDOC

Key Features of AiDoc in Radiology:

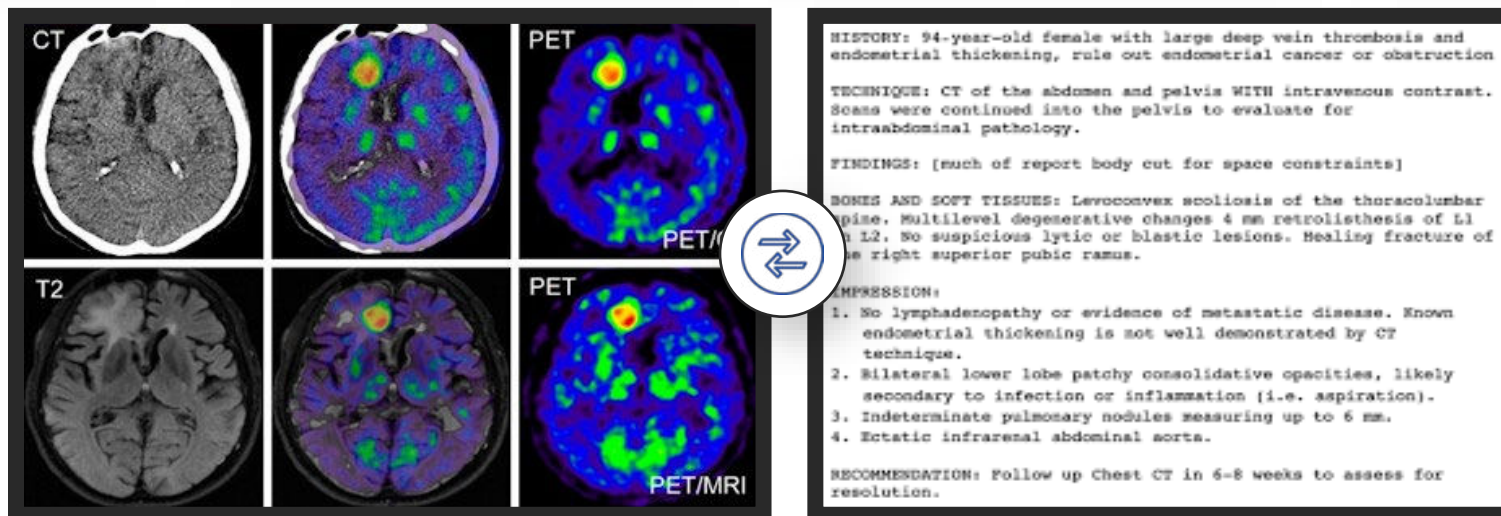Enhanced diagnostic accuracy for precise diagnoses

Personalized treatment options based on AI-driven insights

Accelerated diagnoses enable doctors to review a higher number of patients per day

AiDoc specializes in detecting acute findings in CT scans

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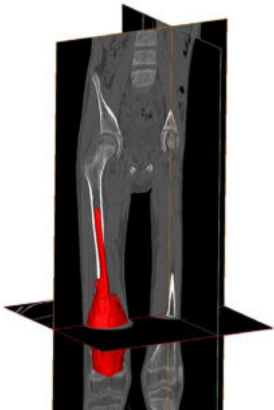
IMPLEMENTING SOLUTIONS FOR SUCCESS

Cultural Shift

Foster a culture of innovation and change

Strong Leadership

Impose effective leaders to drive innovation

Resource Allocation

Allocate sufficient resources for innovation initiatives

Infrastructure Development

Foster collaborations for doctors, startups, and biomedical engineers.