



The Importance of Digital Skills in Healthcare

Enabling Professionals to drive Digital Health

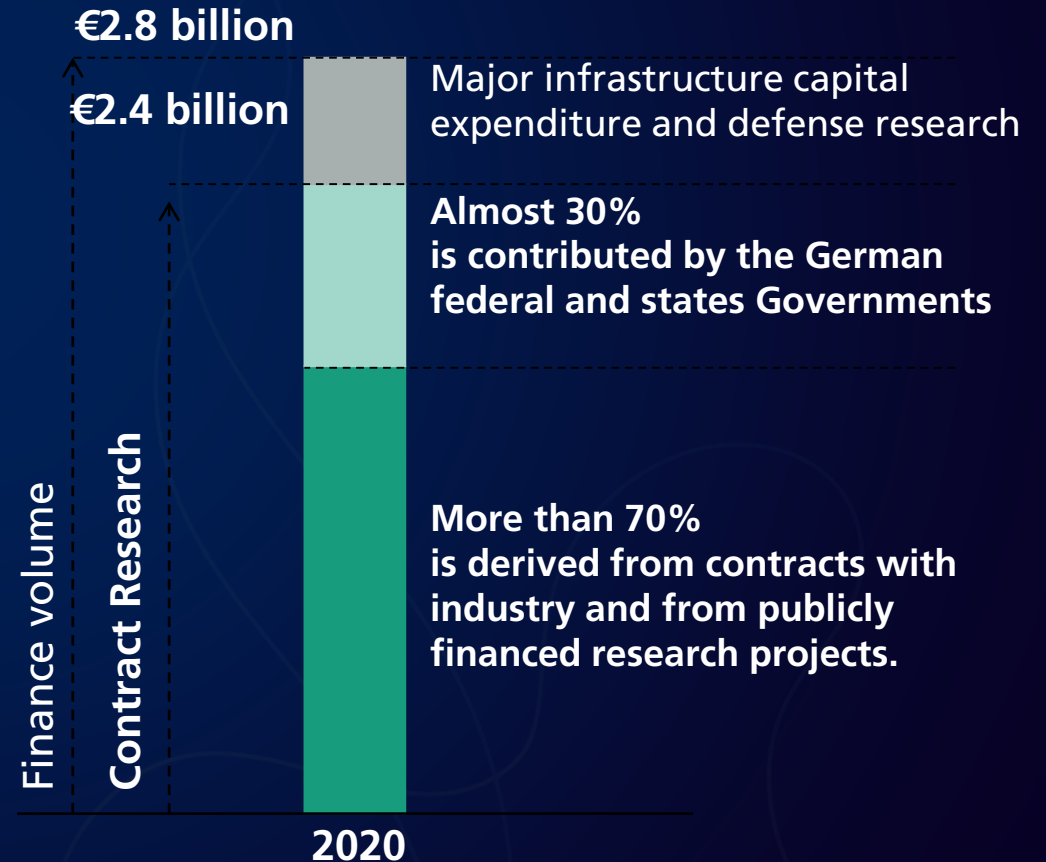
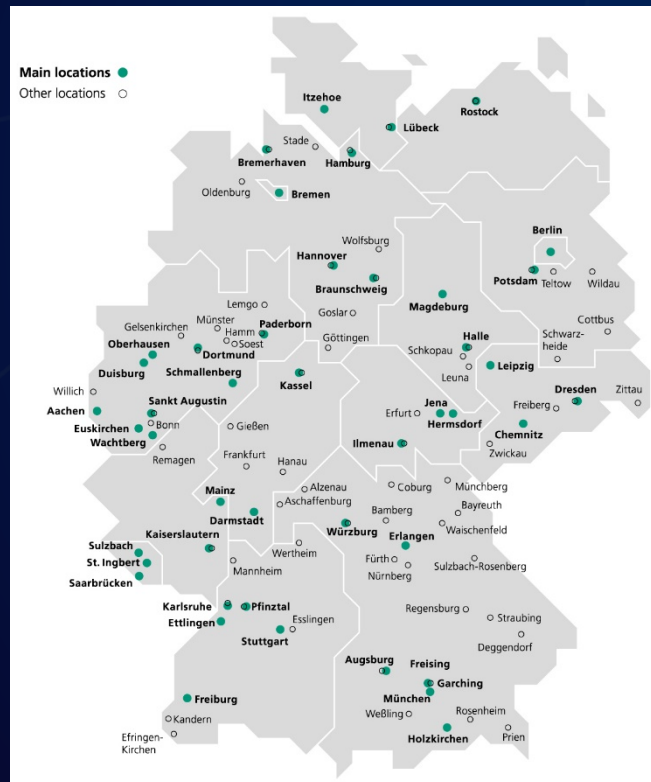
Armin Ritter, Fraunhofer Academy, June 24, 2021

Fraunhofer Gesellschaft

The Fraunhofer-Gesellschaft undertakes applied research of direct utility to private and public enterprise and of wide benefit to society.


29,000 staff


75 institutes and research units



Fields of research [& education]

Health and Environment

Mobility and Transport

Communication and Knowledge



Energy and Resources



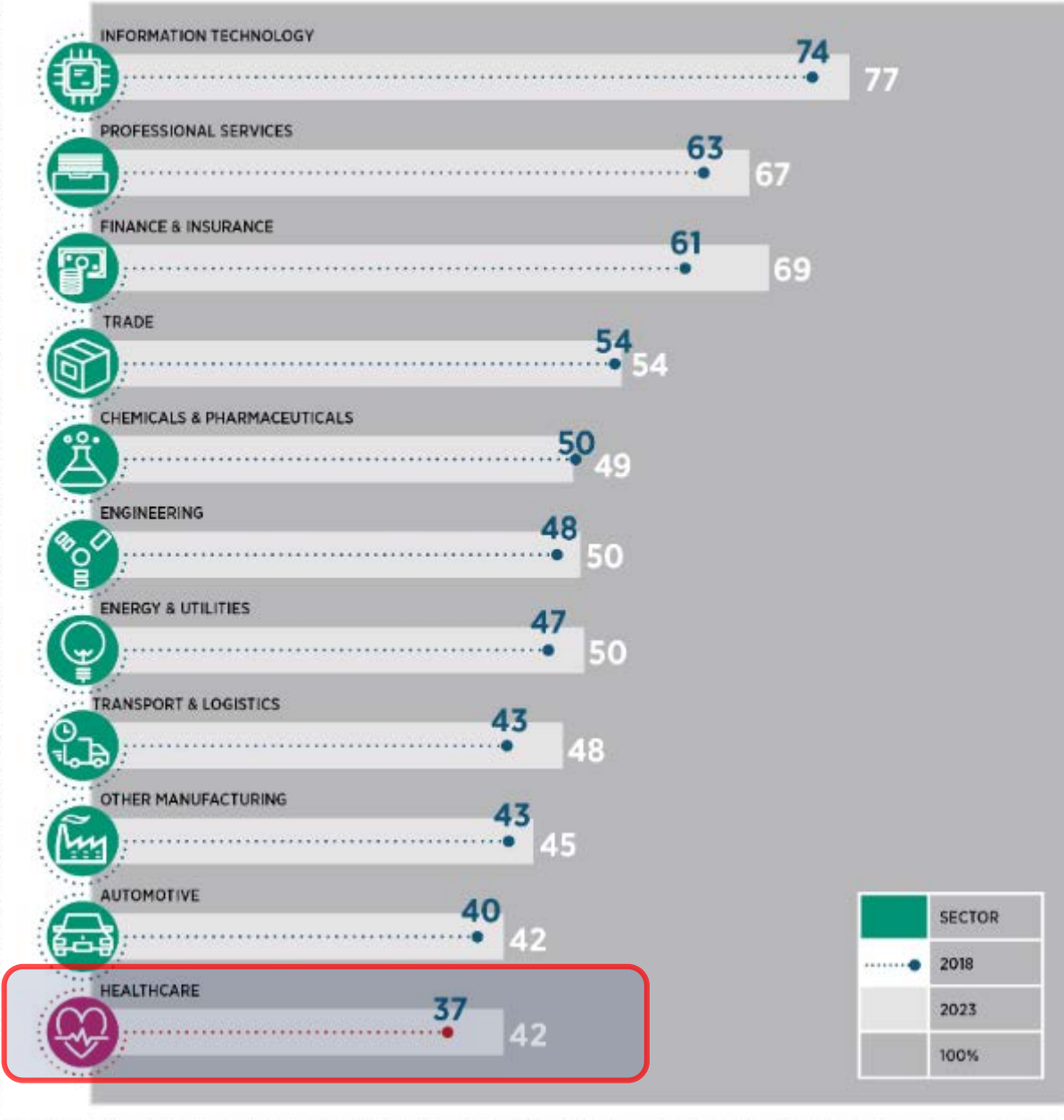
Security and Protection



Production and Supply of Services



Index of digital adoption by sector in Germany: 2018 to 2023



Why Transformative Digitals Skills for Healthcare Program?

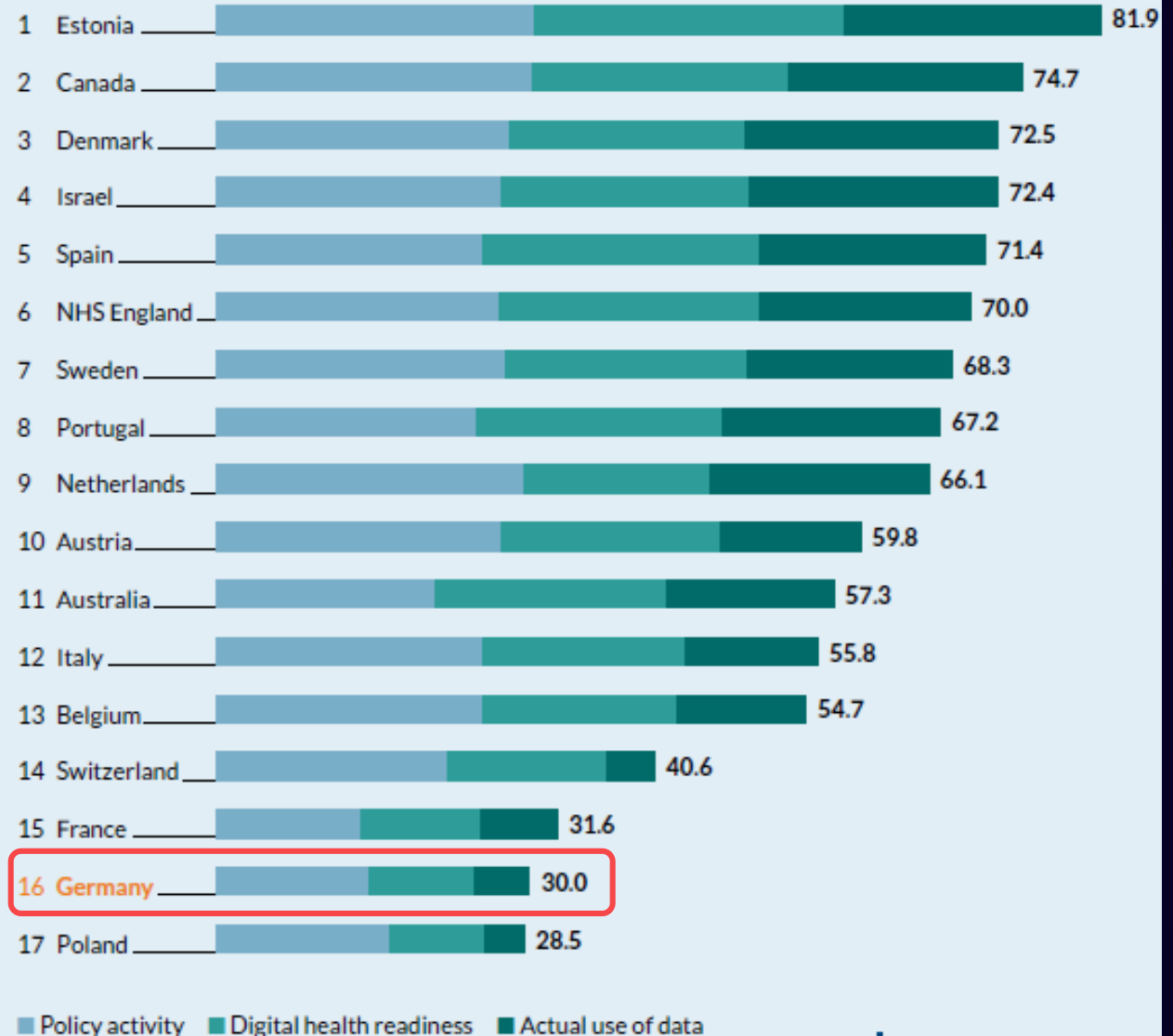
Health organizations
remain largely
unprepared to
benefit from
digital innovations

Germany trails far behind several other countries

... potential for quality and efficiency remains untapped

Digital Health Index with sub-indices

Legend: The three sub-indices of the Digital Health Index are represented as bars. The bars include each sub-index, which are represented by different colors and placed horizontally, side-by-side. The overall index value is obtained by dividing the total length of the bars by three.



Economic Forces

Global healthcare spending will fall by 1.1% in 2020 but will recover and rise by **5.5% in 2021** and by **5% annually till 2023**.⁵

GDP is expected to contract in most G20 markets, but healthcare spending as a share of GDP will rise sharply.⁶

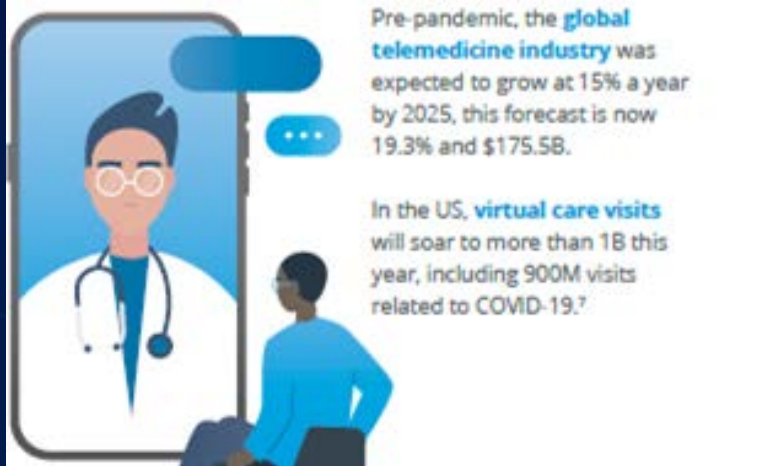


+ 5% p.a.

HC spending as share of GDP

Pre-pandemic, the **global telemedicine industry** was expected to grow at 15% a year by 2025, this forecast is now 19.3% and \$175.5B.

In the US, **virtual care visits** will soar to more than 1B this year, including 900M visits related to COVID-19.⁷



+ 19% p.a.

Telemedicine industry

The **global virtual diagnostics** market is projected to grow annually by about 15.5% during 2019-2030, from US\$425.6M in 2018.⁸

By 2023, annual spending in the **global geriatric care market** (home health, remote patient monitoring, etc.) will exceed US\$1.4T.¹⁰



+ 15% p.a.

Virtual diagnostics & home care

Current Challenge:

Acceleration in digital transformation

Healthcare systems are under pressure

Gap between demand and supply

4.1 Mio. Healthcare Professionals shortage till 2030



Social Forces

Increasing demand

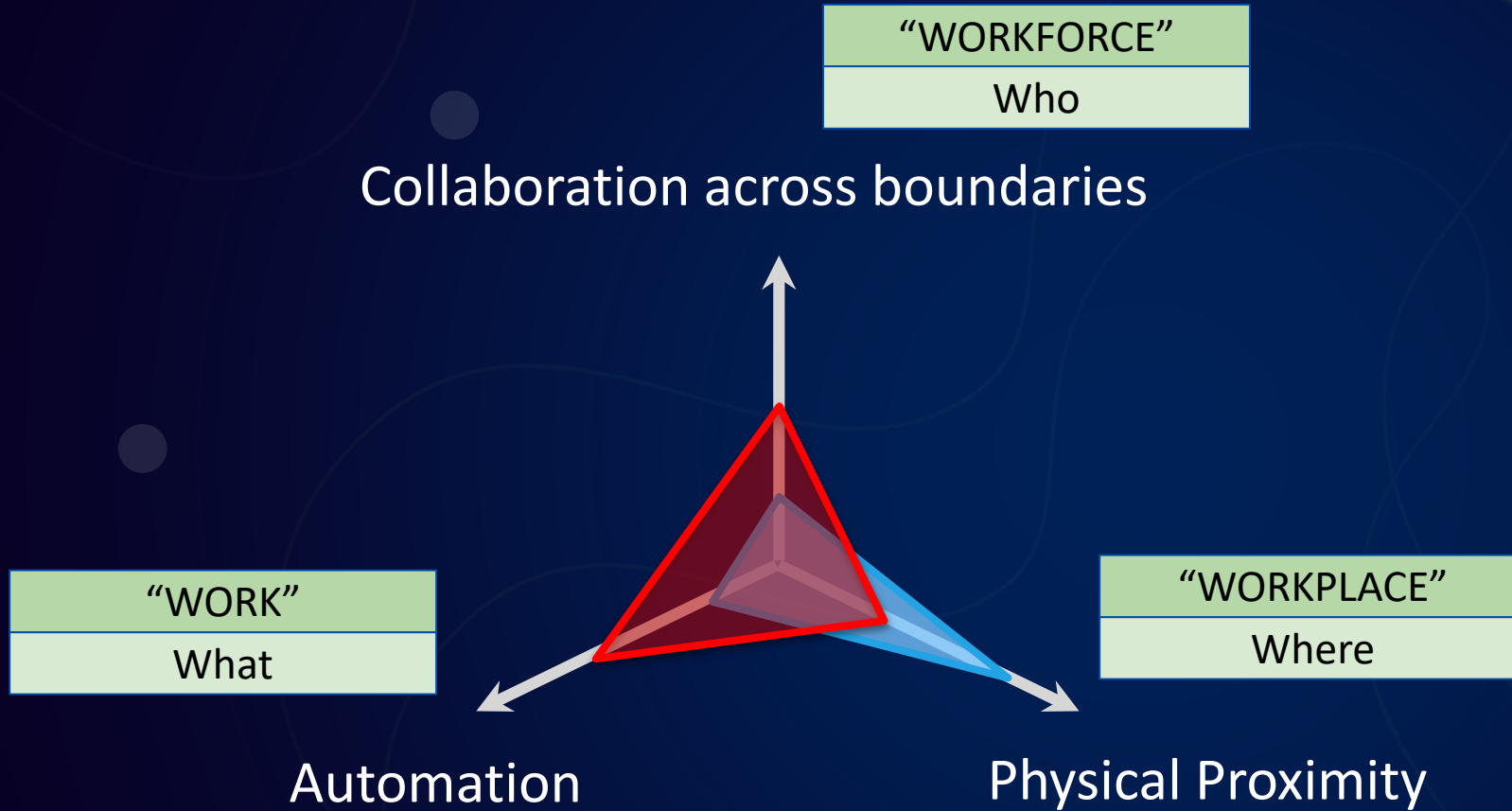
Scale and complexity of HC needs
Personalized & convenient services



Decreasing capacity

Constrained resources
Gap between supply and demand

Technology Forces



The who, what, where and how of work are re-architected

■ Current work options ■ Future work options

The three driving forces of HC transformation



Economy

High growth in the digital HC market



Increased healthcare spending

Society

Healthcare systems are under pressure



Gap between supply and demand

Technology

Re-architecting work and workplace



Increased healthcare Productivity




Unique opportunity:
Digital Transformation is vital to
shape the future of healthcare

... and is key to
closing the gap
between
supply and demand
in healthcare

**mHealth:
400 billion cost
savings in 5-
year period**

Digital
Technologies allow
efficiencies
at a lower cost

A group of healthcare professionals, including nurses in blue scrubs and doctors in white coats, are seated around a white conference table. Some are looking at laptops, while others are looking towards the center of the table. The background is a bright, modern office setting with large windows.










The problem:
Digital technologies are
useless without
skills to match

Urgent need to
provide Healthcare
Professionals with
digital skills to drive
digital innovations

... and close the
gap between
supply and
demand in
healthcare

Top 3 challenges

Europe

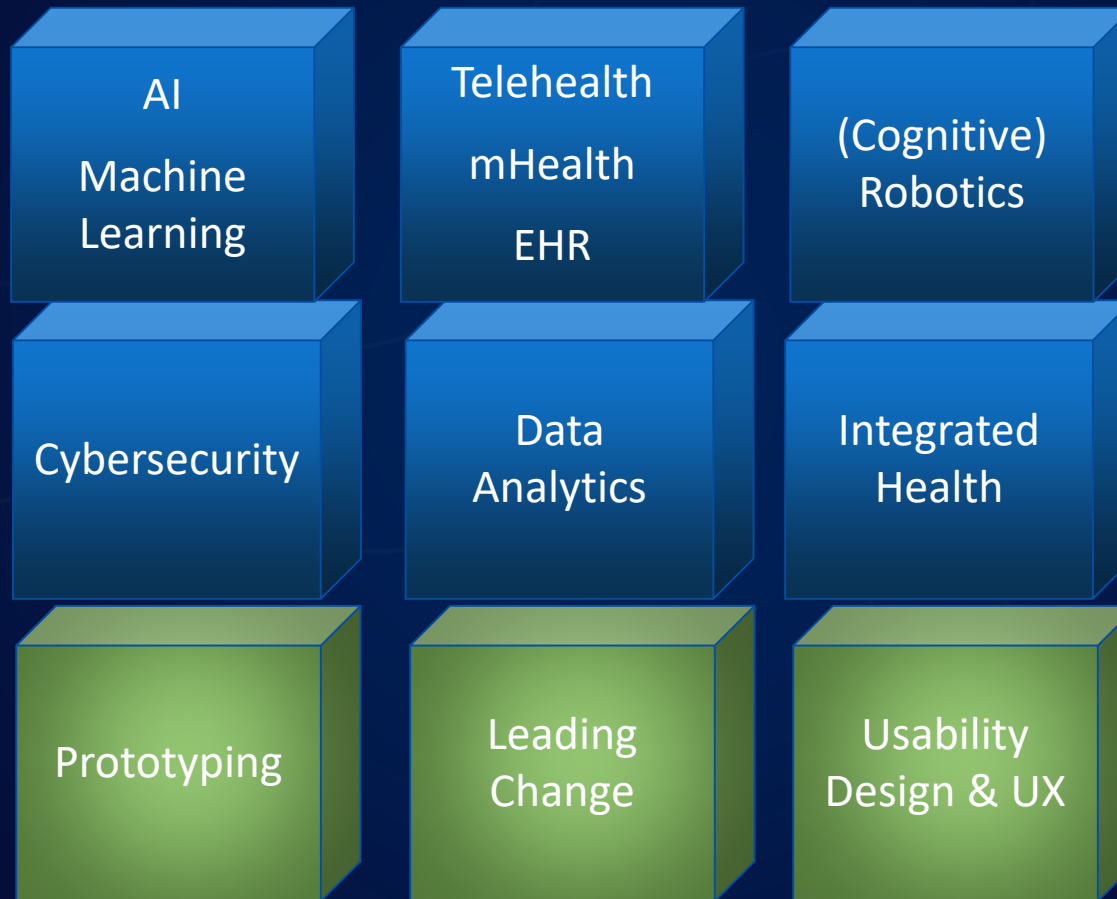
- 1  **Bureaucracy in healthcare (57.4%)**
- 2  **Cost of technology (50.3%)**
- 3  **Finding the right technologies (49.0%)**
- 4  **Training staff to adequately use technology (35.8%)**
- 5  **Complexity of technology (28.9%)**
- 6  **Challenges in sharing patient data (27.7%)**
- 7  **Convincing staff of the benefits of technology (20.5%)**
- 8  **Scaling up the use cases of technologies (16.1%)**
- 9  **Existence of evidence of outcomes (12.5%)**





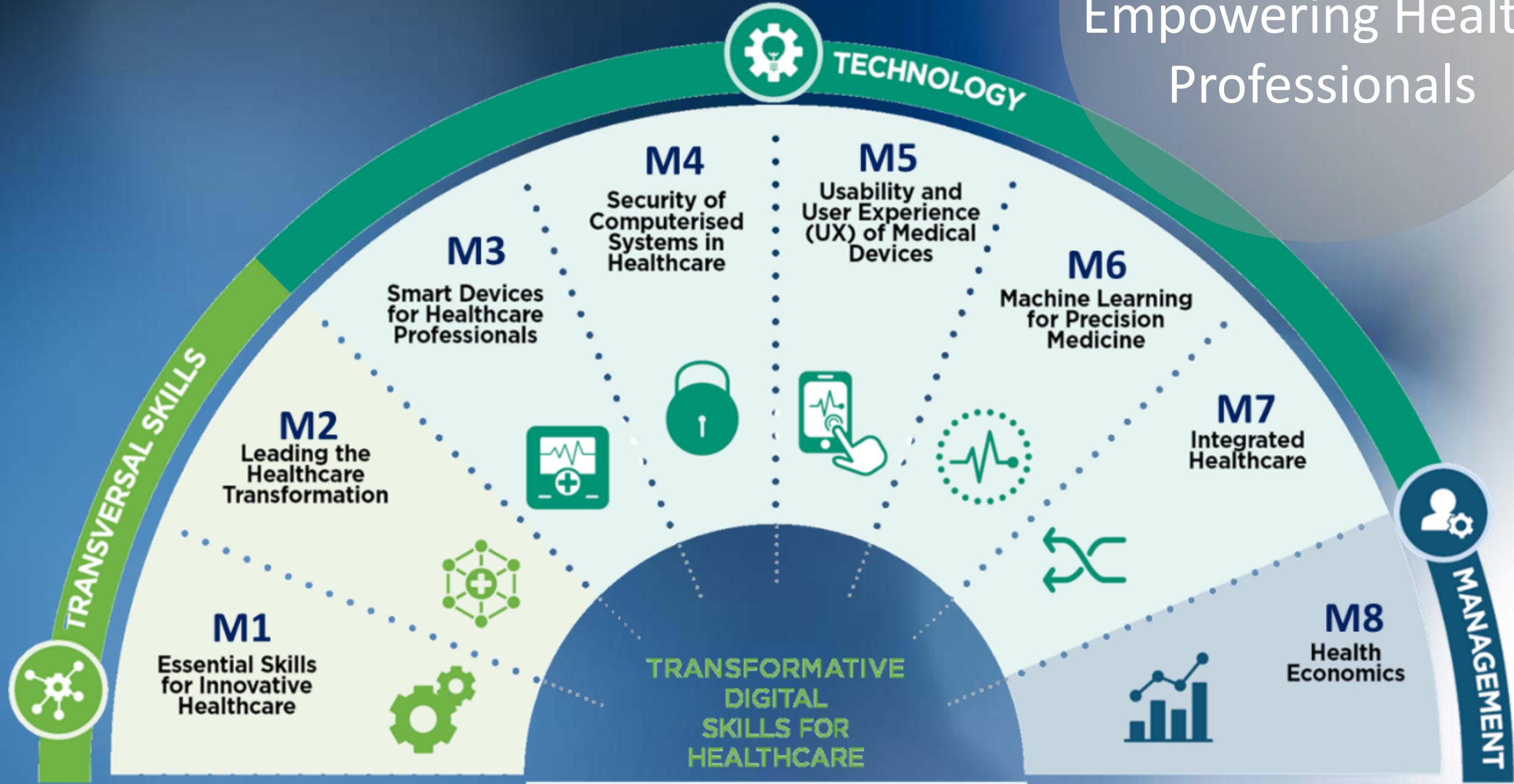
Unmet educational needs
Professionals from the entire
healthcare ecosystem

Digital Skills



Technologies
Methodologies

Empowering Health Professionals



Online Training Program

Benefits for Healthcare System

Increased Productivity

Operational Efficiency

Redefined care delivery

Automation and robotics for care and hospital logistic services

“Air traffic control” command centres to better manage patient capacity

More allocation of nurse/ physicians time to patients treatment

Interoperable data from different sources for improved decision making

Exemplary use cases

Use Cases for the
hospital of the future

Video Interviews

Expert Interviews Series

at Oxford University Hospitals NHS Foundation Trust (OUH)



International Program

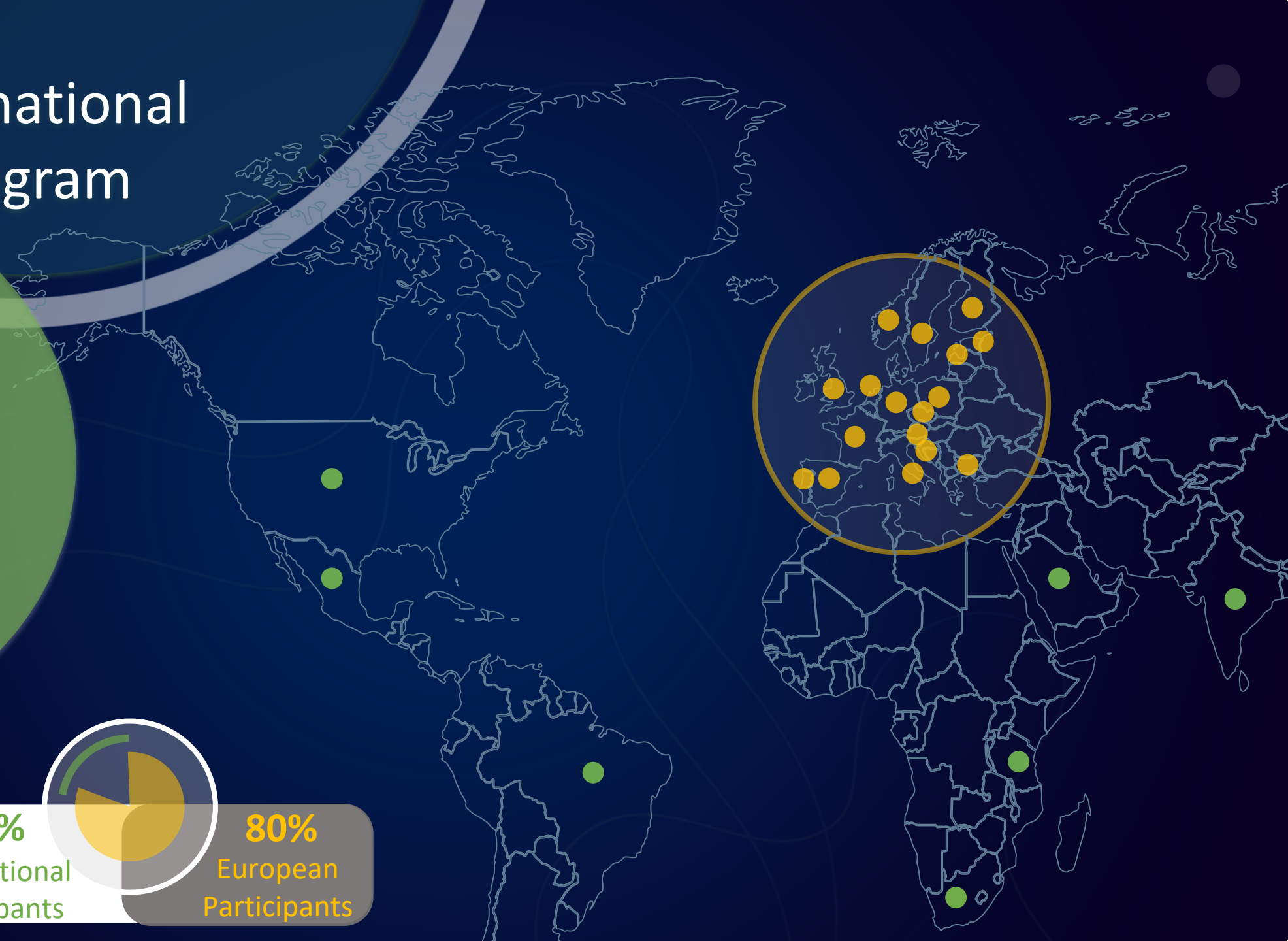
New perspectives
and insights from
around the world

Status
2020

20%
International
participants



80%
European
Participants



Time investment & Certification

- On average, a module last 4-5 weeks, one week per learning unit
- Average learning effort is between 15 and 20 hours for a module
 - 2/3 self-paced learning with individual and team work
 - 1/3 virtual life sessions
- Certification of completion



Participants journeys towards the TDS Program

Healthcare Transformation Champion Certificate

All 8 modules

Healthcare Technology Certificate

2 Technology Modules
M1 Essential Skills
M2 Leading Change

Healthcare Transformation Certificate

M1 Essential Skills
M2 Leading Change
M8 Health Economics

Selection of individual module(s)

The Team



THE HILL



Oxford University Hospitals
NHS Foundation Trust



Fraunhofer



UNIVERSITAT DE
BARCELONA

Solving big healthcare challenges
Clinical use cases and validation

Leading-edge Technology
Experts in Learning

Driving data science &
Human-Computer-Interaction in Health



Start your digital transformation journey

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<https://s.fhg.de/transformativedigitalskills>



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Oxford University Hospitals
NHS Foundation Trust

