



HDHC
Hellenic Digital Health Cluster

Accessing Synthetic Health Data for SMEs: A Greek Perspective

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Health Data Thematic Innovation Ecosystem | Accessing
Synthetic Health Data for SMEs | 19.04.2023 11:00-13:00 CET

Hellenic Digital Health Cluster | Vision and Objectives

Vision

To strengthen the Greek digital health ecosystem and include Greece among the leading countries in the field worldwide

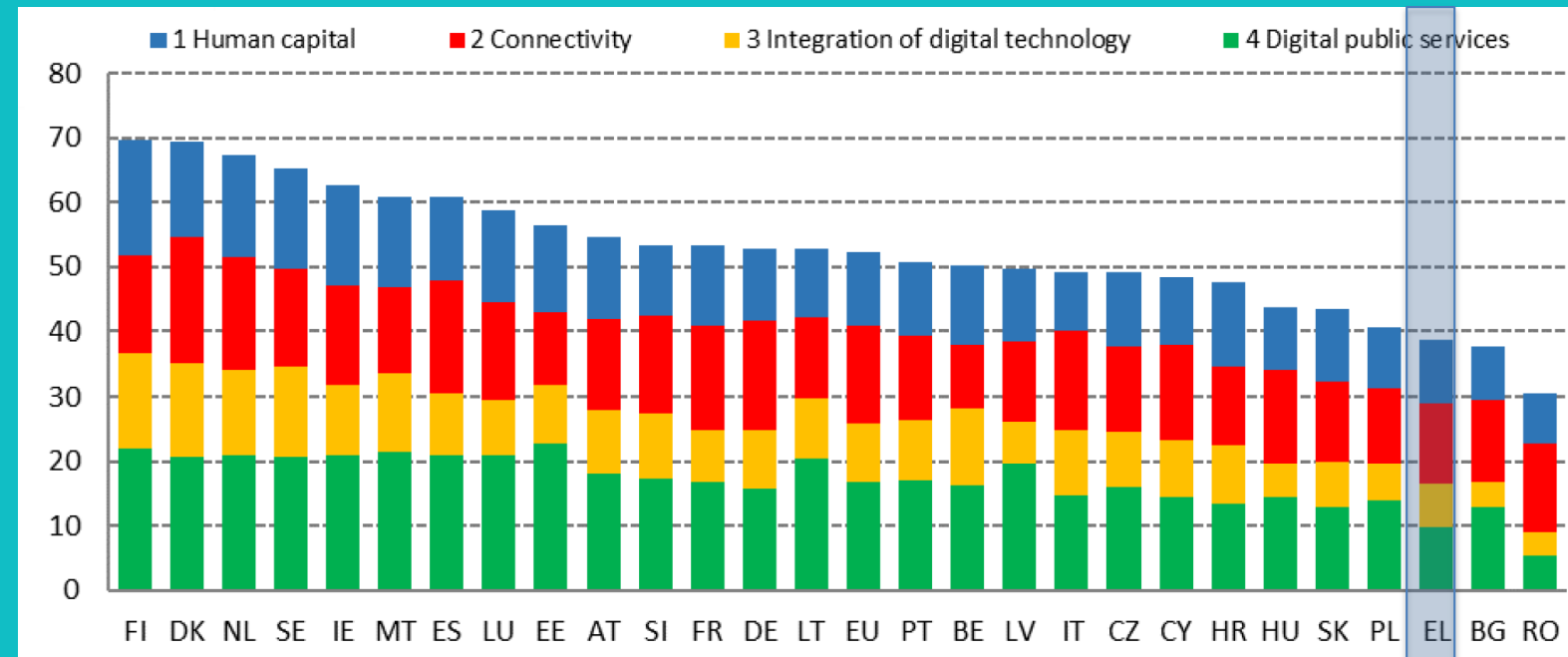
Objectives

1. Fostering cooperation, development of synergies and complementary partnerships
2. Networking among key stakeholders in the field of digital health
3. Supporting companies to attract funding
4. Promoting collaboration with national and international clusters and organizations active in the field of digital health
5. Supporting the development of a national digital health strategy

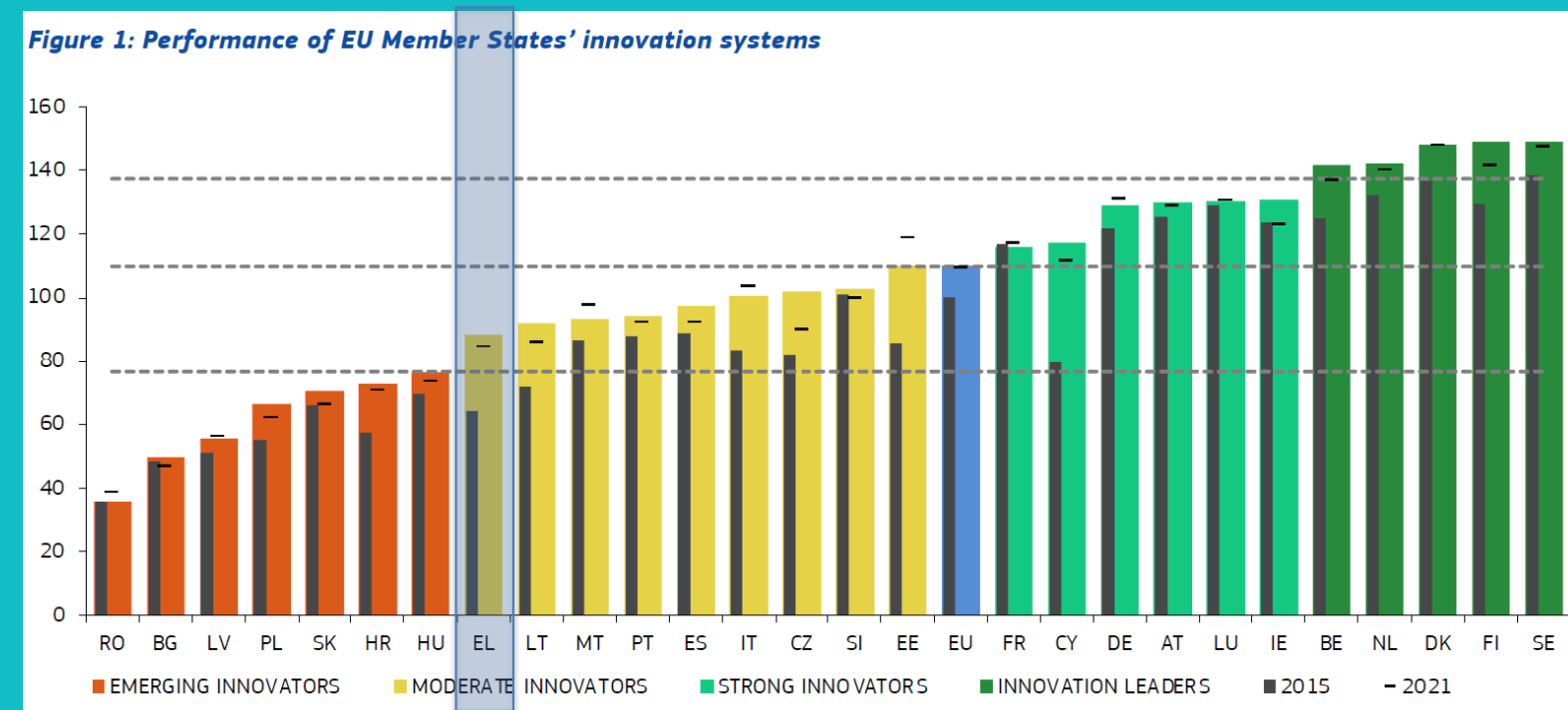


Co-financed by Greece and the European Union

Greek Ecosystem | How it is evaluated

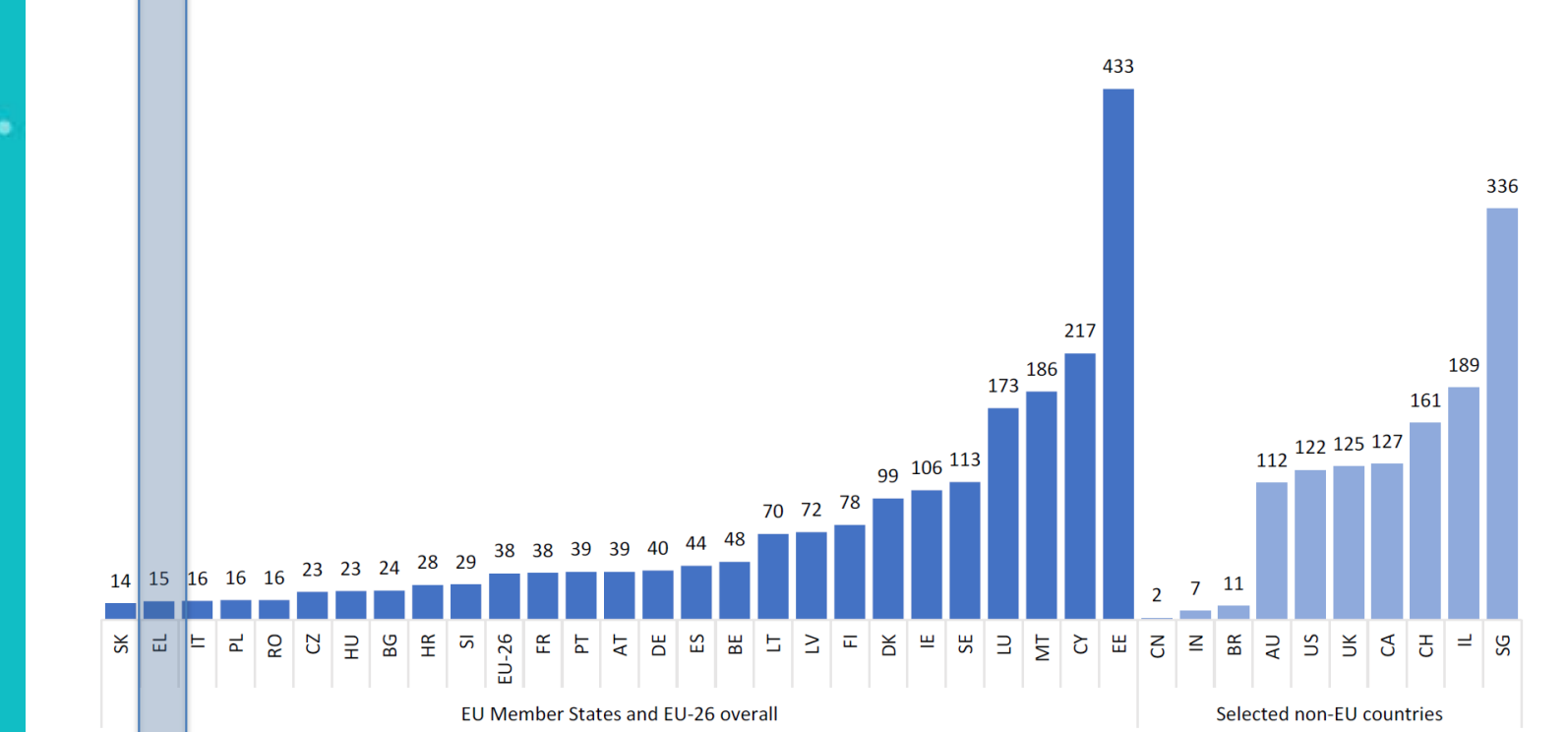


SOURCE: Digital Economy and Society Index (DESI) 2022, European Commission

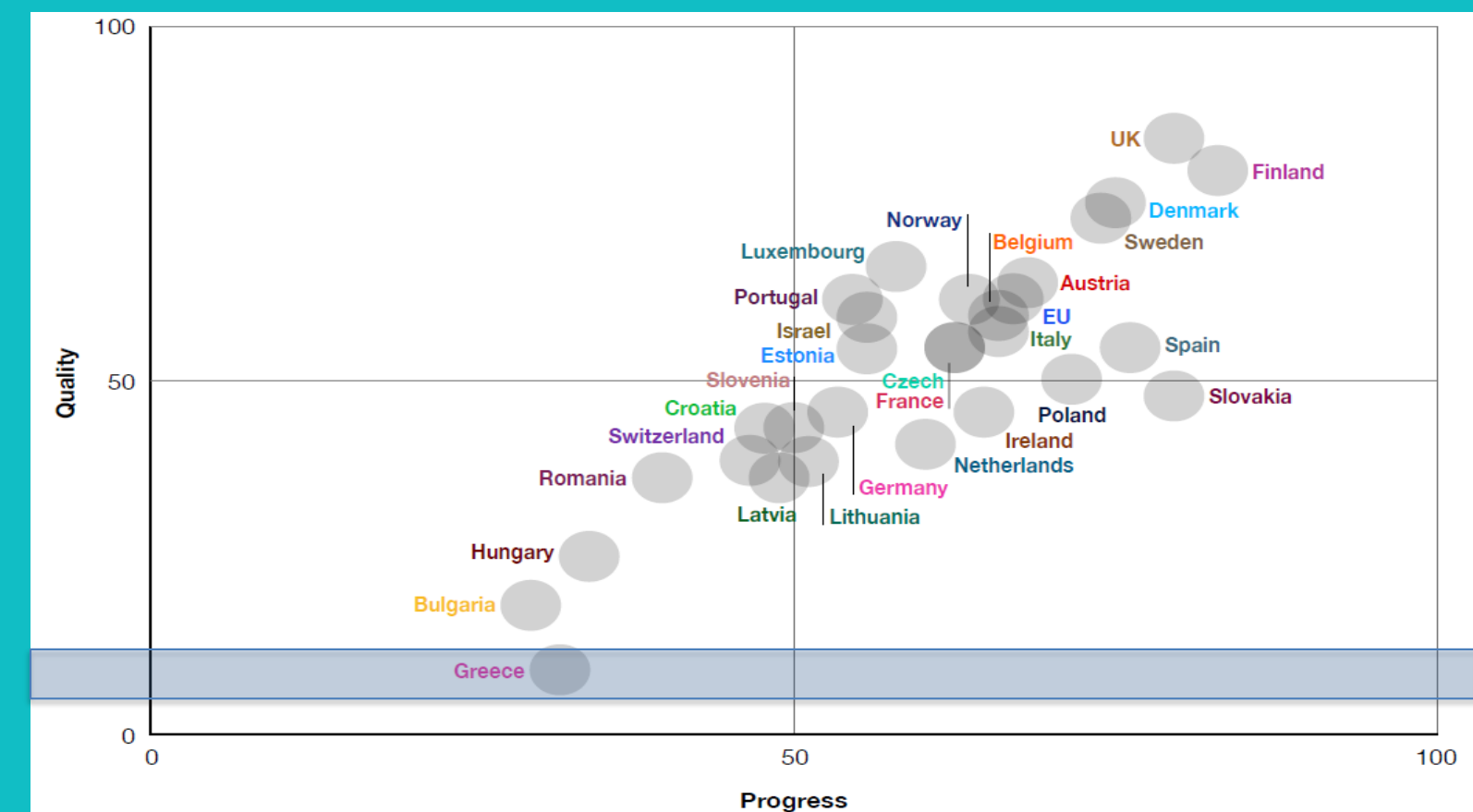


SOURCE: European Innovation Scoreboard 2022, European Commission

Figure 33: SME startups per 1 million population (2020 estimates) - EU-26 Member States, the EU-26 and selected non-EU countries in December 2021



SOURCE: Annual Report on European SMEs 2021/2022, European Commission



SOURCE: Open Data Institute, Secondary use of health data in Europe. 2021.

Greek Ecosystem | Services available for health and welfare

National Initiatives

- **E-Services IDIKA** (COVID-19 registry and vaccination, e-prescribing, Atlas, e-booking, citizen EHR, κλπ)
- **E-Services EOPYY** (admission/ discharge notification, eDAPY, hemodialysis, radiotherapy, disease registries, etc.)
- **E-Services grnet** (Harmoni, user directory for hospitals, etc.)
- **Ministry of Health BI System** (Bi-Health)
- **Hospitals** (public and private)
- **Diagnostic Centres**
- **Telematics Applications**
- **Regional Health Authorities' Initiatives**
- **Private Initiatives**
- **Research projects** (non-clinical applications, e.g. for clinical trials)
- **Cross-Border Services** (CEF, eHDSI, etc)



Health and welfare

Benefits

Child/housing allowance, social dividend, heating oil allowance, etc.

Coronavirus COVID-19

Free checks, date for vaccination, certificate of vaccination.

Health professionals

Electronic prescribing, electronic pre-authorisation of medicines, EOPY benefits, etc.

Healthcare

Drug search, contracted providers with EOPYY, High Cost Medicines, Atlas health etc.

Hospital visits and hospitalisation

Availability of appointments with EOPYY doctors, Individual Electronic Health File (AHFY) for citizens

Medical file

Immaterial prescribing, National Blood Donor Register, registration with a personal doctor, etc.

Persons with disabilities and chronic illnesses

KEPA request management, free fare ATH.ENA card, multimodal digital library AMELib etc.

Greek Ecosystem | Startups in MedTech, HealthTech, BioTech

Needs and Challenges

- More than 50% of the startups are related to **digital health** solutions mainly for disease management, telemedicine and wellness. (investments + expertise)
- More than 65% of companies are in the initial stages of development (**seed funding round**)
- 57% look for mentors and advisors.
- 40% of companies consider that **state**

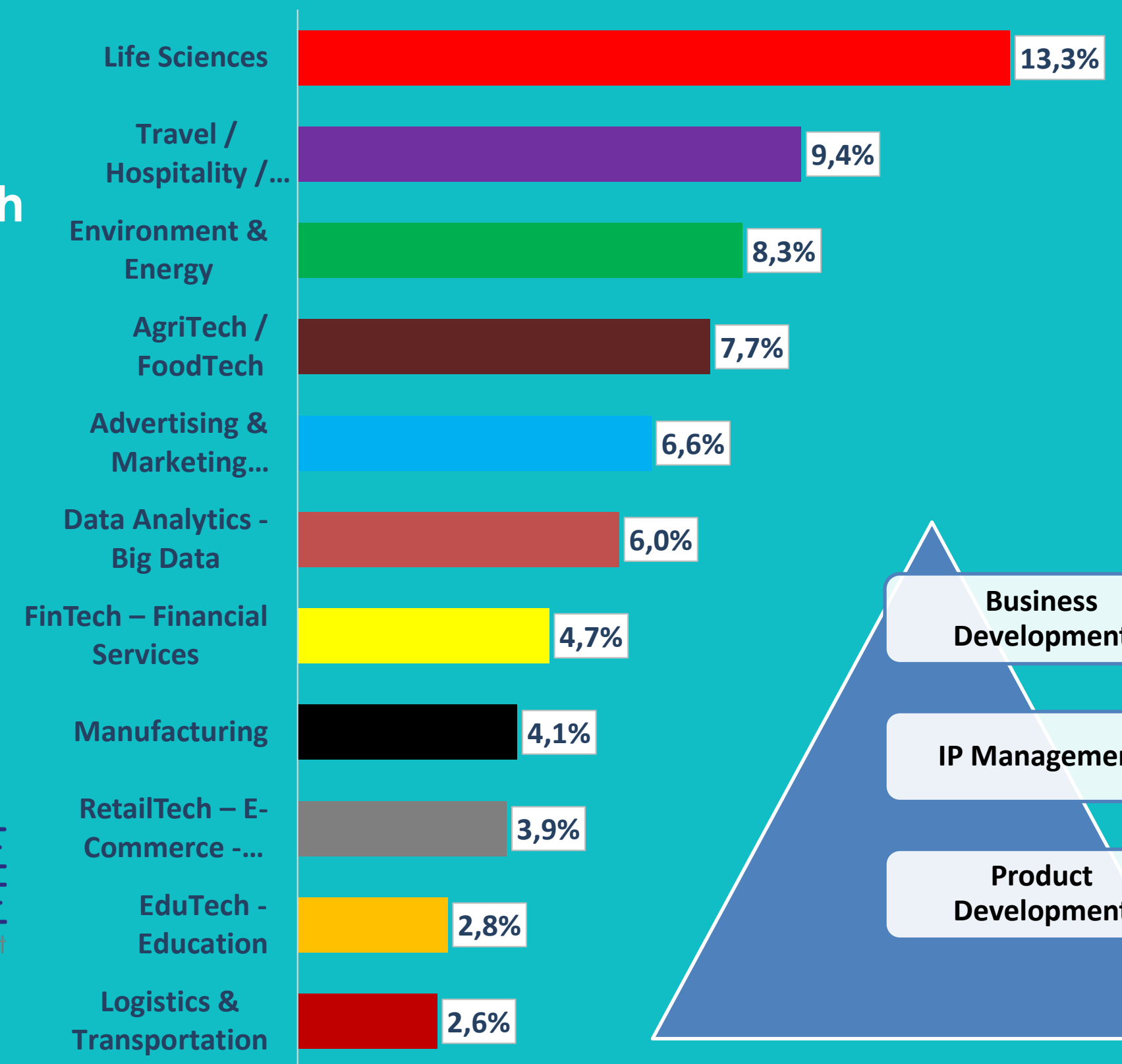
intervention is needed:

- improving access to government funding programs
- facilitation of clinical trials.

ELEVATE
GREECE
national startup point



SOURCE: SEV, Hellenic Federation of Enterprises, 2022

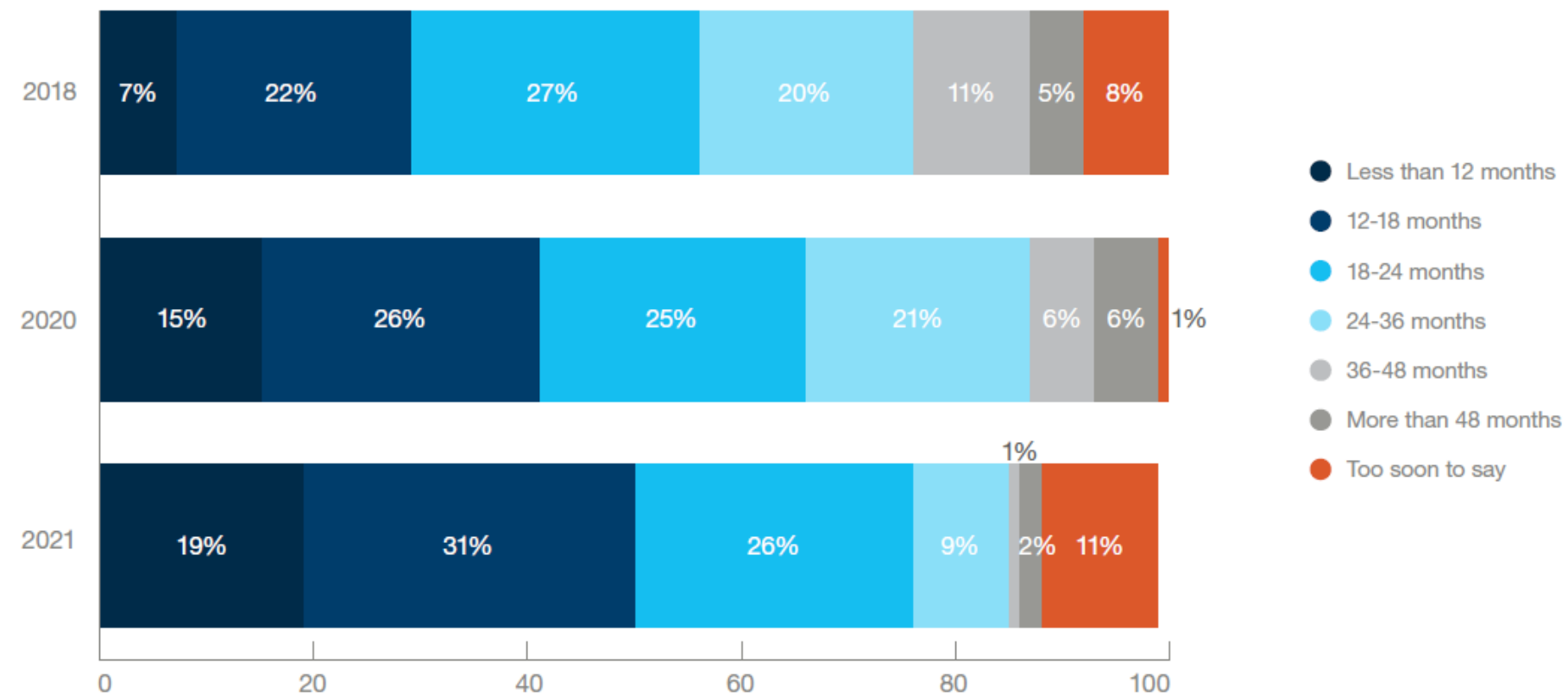


SOURCE: Elevate Greece. 1st report, June 2022

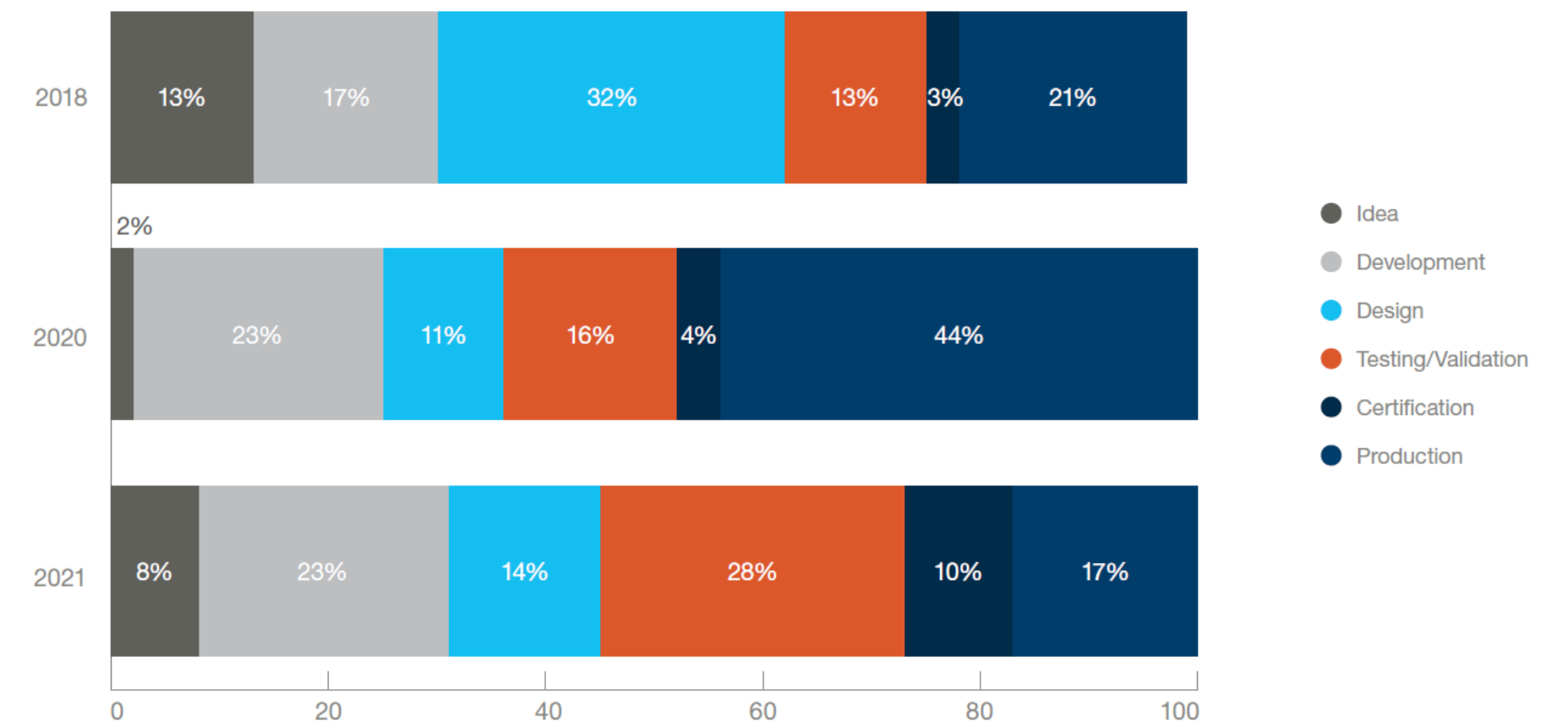
Digital Health Solutions | International Trends

Evolution of situation / speed of development in the period 2018-2021

On average, how long is your company's product development and launch cycle for digital healthcare solutions?



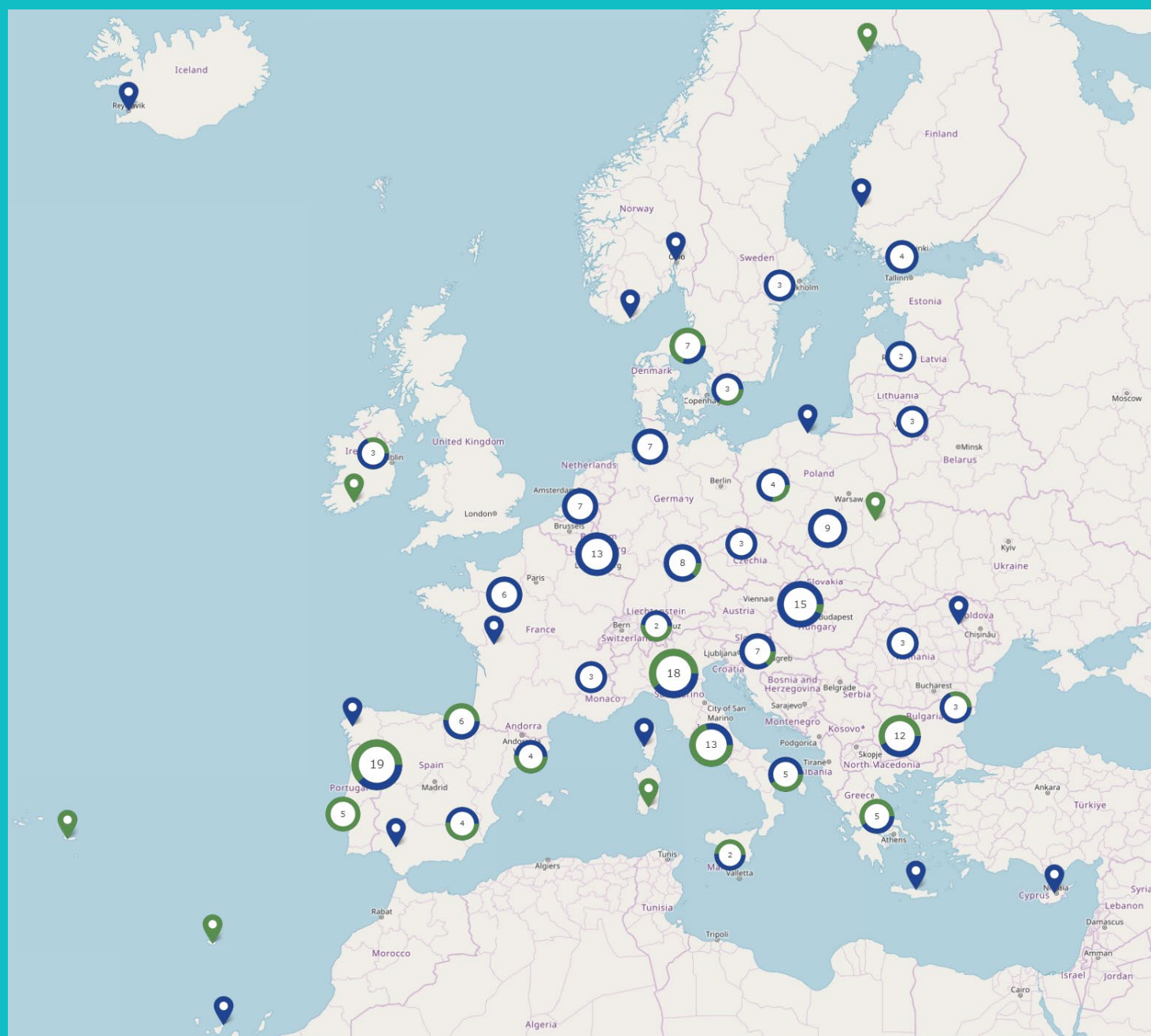
What is the status of your company's development of digital healthcare solutions?



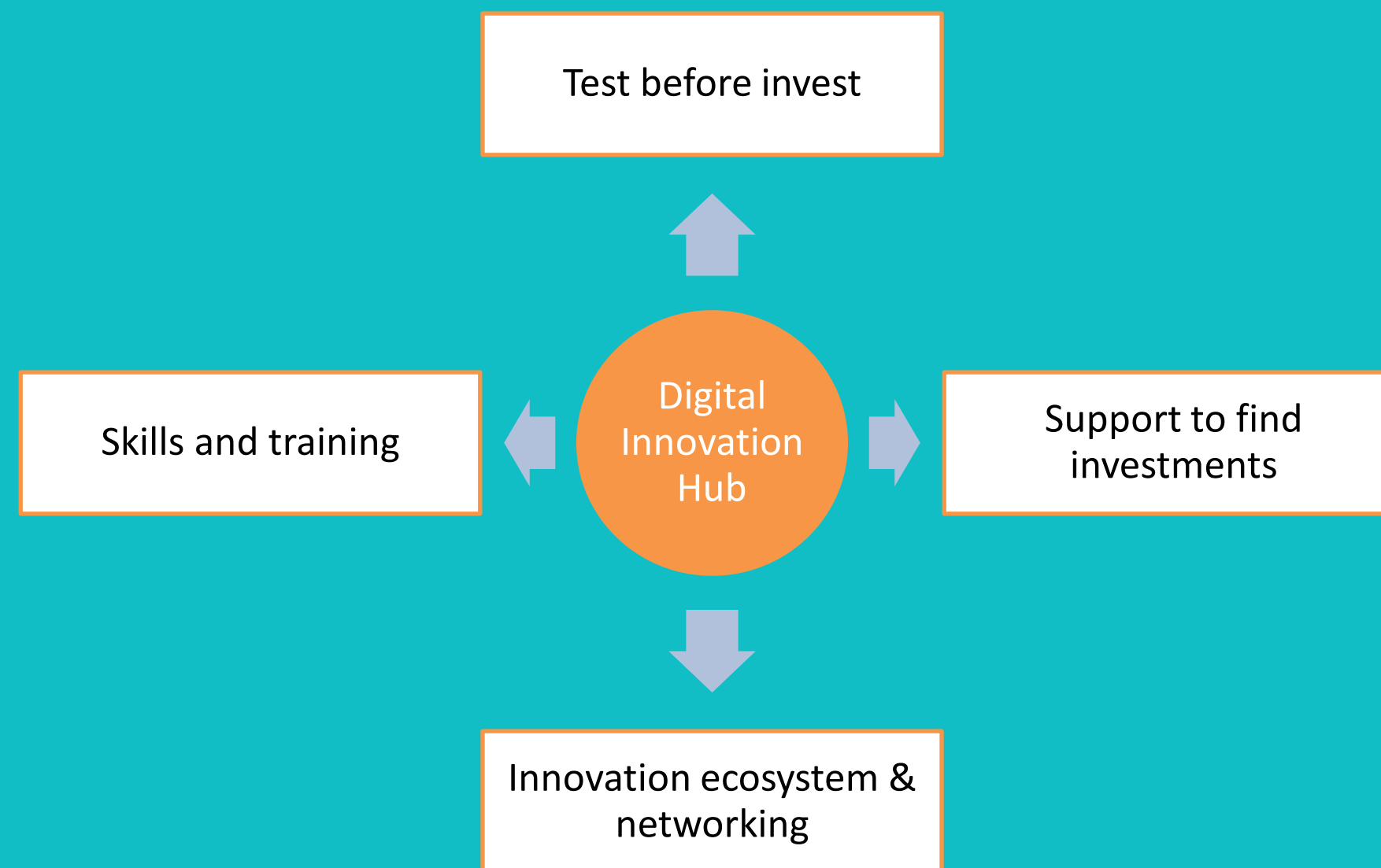
SOURCE: JABIL, Digital health technology trends. A Survey of Digital Healthcare Decision-Makers. September 2021.

European Digital Innovation Hubs | Services Offered

One-stop shops for digital transformation



SOURCE: <https://european-digital-innovation-hubs.ec.europa.eu/>




High-Performance Computing


Artificial Intelligence


Cyber security


Advanced Digital Skills

EDIH
European Digital Innovation Hubs Network

smartHEALTH
EDIH

digiGOV
innoHUB

Smart Attica
European Digital Innovation Hub

DIGI AGR FOOD
European Digital Innovation Hub
Hellas



Co-funded by the European Union

European Digital Innovation Hubs | DMA framework for SMEs

Digital Maturity

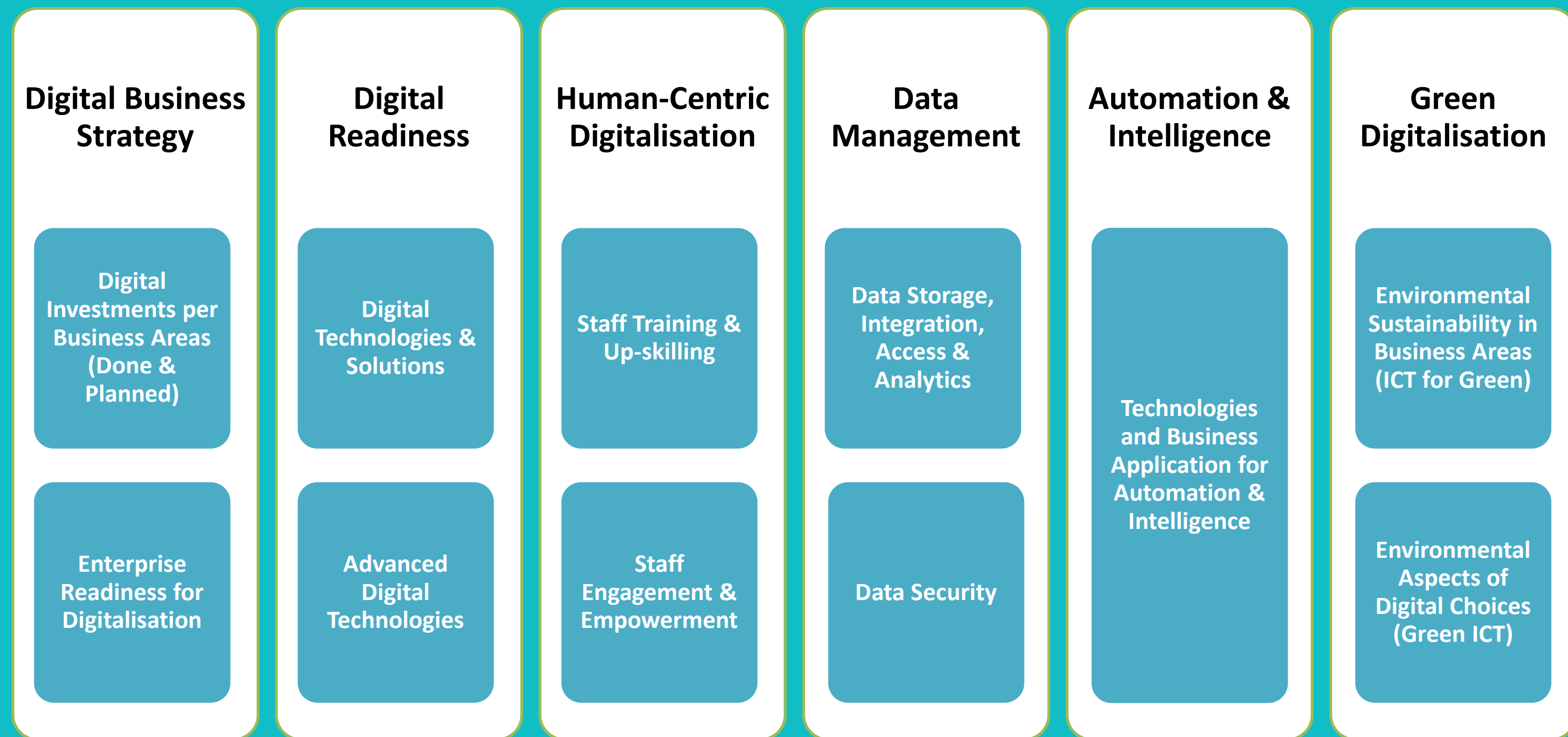
BUSINESSES USING ONE OR MORE

Cloud computing services
NOW 34%
TARGET 75%

Big data
NOW 14%
TARGET 75%

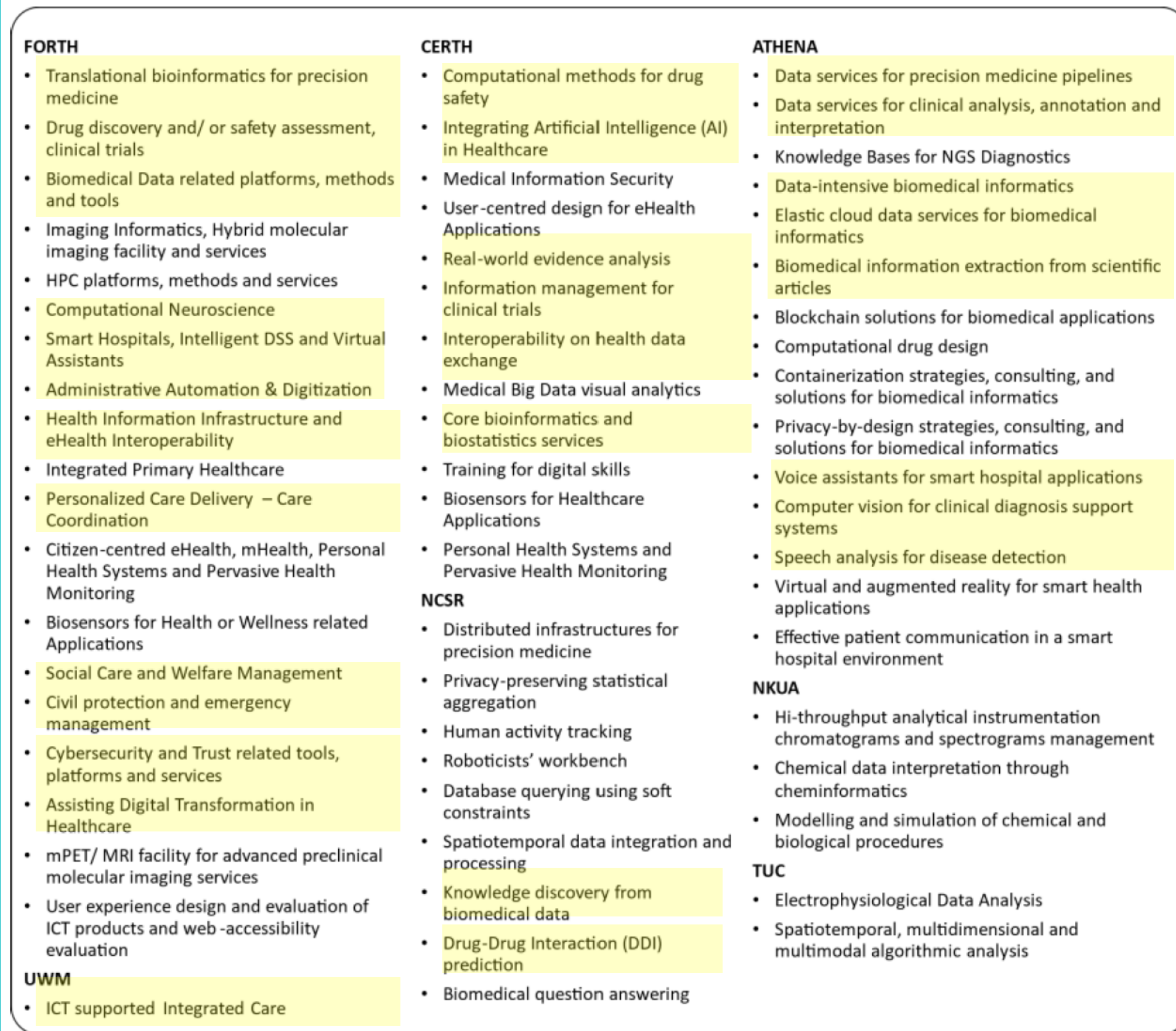
Artificial Intelligence
NOW 8%
TARGET 75%

SOURCE: European Commission, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS, 2030 Digital Compass: the European way for the Digital Decade, COM(2021) 118 final, Brussels, 9.3.2021



SOURCE: <https://european-digital-innovation-hubs.ec.europa.eu/events/deep-dive-dma-tool>

Data Sources



SOURCE: Innovation at the Intersection of Clinical Trials and Real-World Data Science to Advance Patient Care, Clinical Translational Sci, Vol. 11, Issue 5, Pages 450-460, First published: 16 May 2018, DOI: (10.1111/cts.12559)

SOURCE: www.smarthealth-edih.eu

Synthetic Data Uses

In health care, synthetic data could be an electronic health record (EHR) dataset with patient identifiable information and other sensitive information replaced with fake data to avoid reidentification.

SOURCE: Gonzales A, Guruswamy G, Smith SR (2023) Synthetic data in health care: A narrative review. PLOS Digit Health 2(1): e0000082.

Data Sharing and Data Access

- Hackathons and data competitions
- Software testing
- Machine learning
- Statistical model development
- Education & training

Data Amplification and Data Augmentation

- Scaling up small datasets
- Correct bias



SOURCE: this-person-does-not-exist.com

Conclusions & Challenges | Towards accelerating growth

The introduction of applications and tools to support integrated health and care services is expected to have a significant impact on the quality of life, innovation-based competitiveness and the sustainability of care for individuals, businesses and the society

Advantages of synthetic data:

- overcome regulatory restrictions
- easier to access
- streamline simulation
- avoid statistical problems
- facilitate AI/ML training

... still not a complete replacement for RWD



Thank you for your Attention!!!



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