

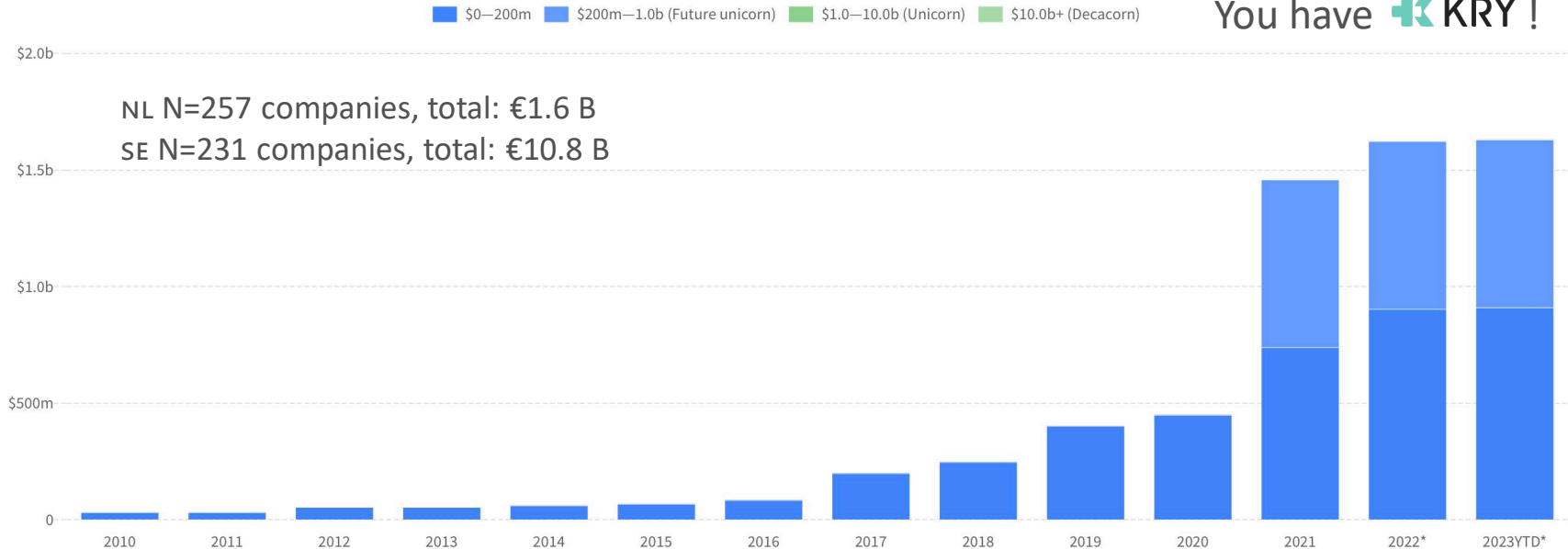
**THINK
INNOVATION
THINC.
HEALTHCARE**

Valorizing digital health in NL

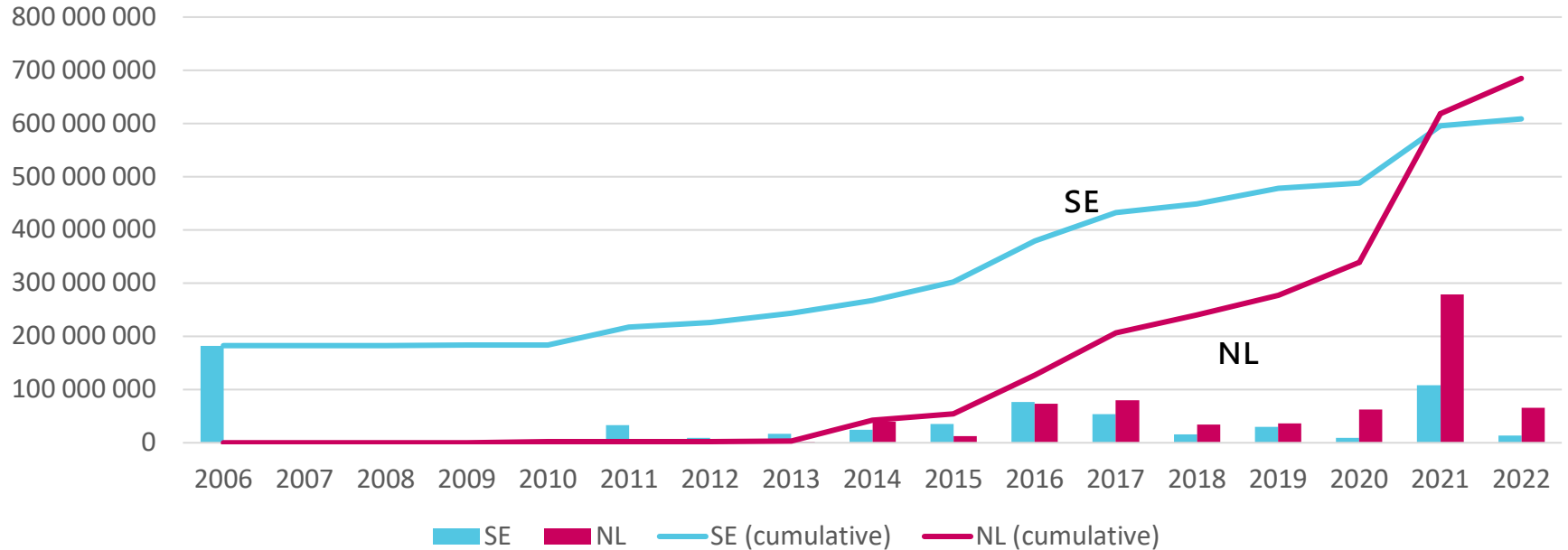


Digital health – NL market size

It's not fair...
You have  KRY !



Digital health – Investments



Digital health taxonomy



1.0 CLIENTS

1.1 TARGETED CLIENT COMMUNICATION	1.3 CLIENT TO CLIENT COMMUNICATION	1.6 ON-DEMAND INFORMATION SERVICES TO CLIENTS
1.1.1 Transmit health event alerts to specific population group(s)	1.3.1 Peer group for clients	1.6.1 Client look-up of health information
1.1.2 Transmit targeted health information to client(s) based on health status or demographics	1.4 PERSONAL HEALTH TRACKING	1.7 CLIENT FINANCIAL TRANSACTIONS
1.1.3 Transmit targeted alerts and reminders to client(s)	1.4.1 Access by client to own medical records	1.7.1 Transmit or manage out of pocket payments by client(s)
1.1.4 Transmit diagnostics result, or availability of result, to client(s)	1.4.2 Self monitoring of health or diagnostic data by client	1.7.2 Transmit or manage vouchers to client(s) for health services
1.2 UNTARGETED CLIENT COMMUNICATION	1.5 CITIZEN BASED REPORTING	1.7.3 Transmit or manage incentives to client(s) for health services
1.2.1 Transmit untargeted health information to an undefined population	1.5.1 Reporting of health system feedback by clients	
1.2.2 Transmit untargeted health event alerts to undefined group	1.5.2 Reporting of public health events by clients	



2.0 HEALTHCARE PROVIDERS

2.1 CLIENT IDENTIFICATION AND REGISTRATION	2.5 HEALTHCARE PROVIDER COMMUNICATION	2.8 HEALTHCARE PROVIDER TRAINING
2.1.1 Verify client unique identity	2.5.1 Communication from healthcare provider(s) to supervisor	2.8.1 Provide training content to healthcare provider(s)
2.1.2 Enroll client for health services/clinical care plan	2.5.2 Communication and performance feedback to healthcare provider(s)	2.8.2 Assess capacity of healthcare provider(s)
2.2 CLIENT HEALTH RECORDS	2.5.3 Transmit routine news and workflow notifications to healthcare provider(s)	2.9 PRESCRIPTION AND MEDICATION MANAGEMENT
2.2.1 Longitudinal tracking of client's health status and services	2.5.4 Transmit non-routine health event alerts to healthcare provider(s)	2.9.1 Transmit or track prescription orders
2.2.2 Manage client's structured clinical records	2.5.5 Peer group for healthcare providers	2.9.2 Track client's medication consumption
2.2.3 Manage client's unstructured clinical records	2.6 REFERRAL COORDINATION	2.9.3 Report adverse drug events
2.2.4 Routine health indicator data collection and management	2.6.1 Coordinate emergency response and transport	2.10 LABORATORY AND DIAGNOSTICS IMAGING MANAGEMENT
2.3 HEALTHCARE PROVIDER DECISION SUPPORT	2.6.2 Manage referrals between points of service within health sector	2.10.1 Transmit diagnostic result to healthcare provider
2.3.1 Provide prompts and alerts based according to protocol	2.6.3 Manage referrals between health and other sectors	2.10.2 Transmit and track diagnostic orders
2.3.2 Provide checklist according to protocol	2.7 HEALTH WORKER ACTIVITY PLANNING AND SCHEDULING	2.10.3 Capture diagnostic results from digital devices
2.3.3 Screen clients by risk or other health status	2.7.1 Identify client(s) in need of services	2.10.4 Track biological specimens
2.4 TELEMEDICINE	2.7.2 Schedule healthcare provider's activities	
2.4.1 Consultations between remote client and healthcare provider		
2.4.2 Remote monitoring of client health or diagnostic data by provider		
2.4.3 Transmission of medical data to healthcare provider		
2.4.4 Consultations for case management between healthcare provider(s)		



3.0 HEALTH SYSTEM MANAGERS

3.1 HUMAN RESOURCE MANAGEMENT	3.3 PUBLIC HEALTH EVENT NOTIFICATION	3.6 EQUIPMENT AND ASSET MANAGEMENT
3.1.1 List health workforce cadres and related identification information	3.3.1 Notification of public health events from point of diagnosis	3.6.1 Monitor status of health equipment
3.1.2 Monitor performance of healthcare provider(s)	3.4 CIVIL REGISTRATION AND VITAL STATISTIC	3.6.2 Track regulation and licensing of medical equipment
3.1.3 Manage certification/registration of healthcare provider(s)	3.4.1 Notify birth event	3.7 FACILITY MANAGEMENT
3.1.4 Record training credentials of healthcare provider(s)	3.4.2 Register birth event	3.7.1 List health facilities and related information
3.2 SUPPLY CHAIN MANAGEMENT	3.4.3 Certify birth event	3.7.2 Assess health facilities
3.2.1 Manage inventory and distribution of health commodities	3.4.4 Notify death event	
3.2.2 Notify stock levels of health commodities	3.4.5 Register death event	
3.2.3 Monitor cold-chain sensitive commodities	3.4.6 Certify death event	
3.2.4 Register licensed drugs and health commodities	3.5 HEALTH FINANCING	
3.2.5 Manage procurement of commodities	3.5.1 Register and verify client insurance membership	
3.2.6 Report counterfeit or substandard drugs by clients	3.5.2 Track insurance billing and claims submission	
	3.5.3 Track and manage insurance reimbursement	
	3.5.4 Transmit routine payroll payment to healthcare provider(s)	
	3.5.5 Transmit or manage incentives to healthcare provider(s)	
	3.5.6 Manage budget and expenditures	

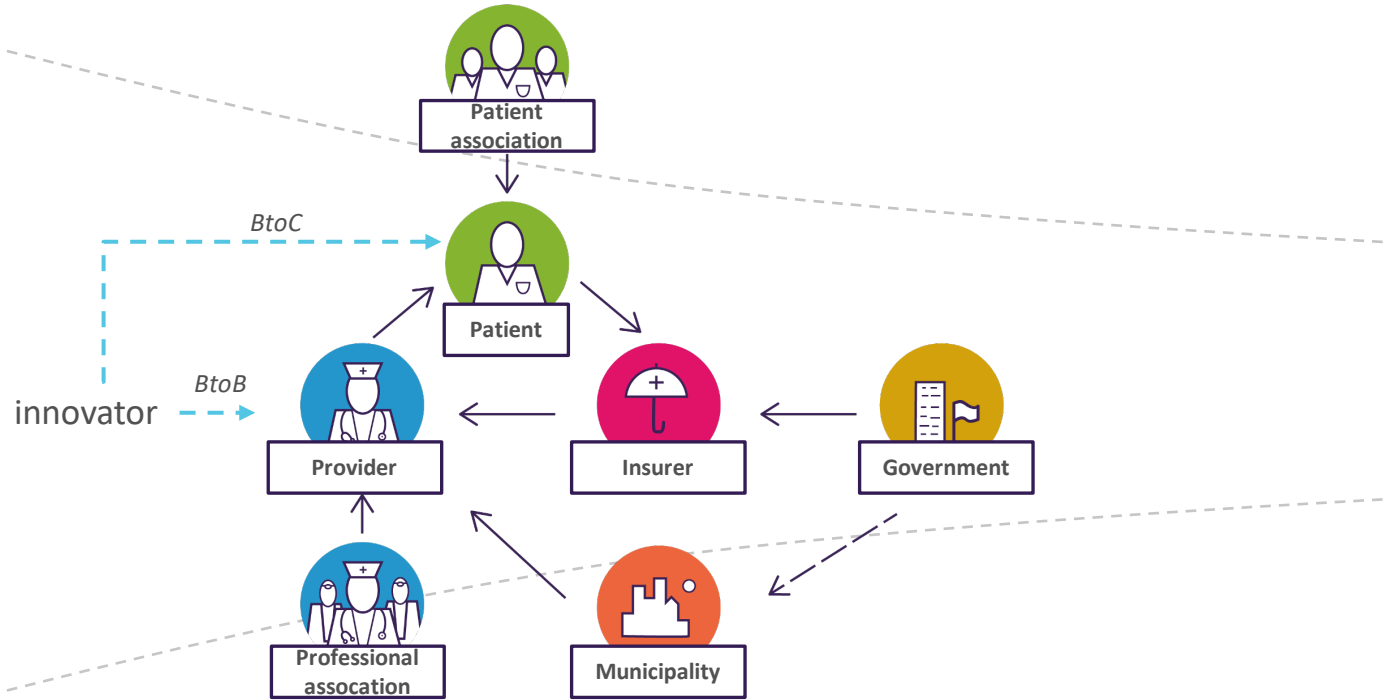


4.0 DATA SERVICES

4.1 DATA COLLECTION, MANAGEMENT, AND USE	4.2 DATA CODING	4.3 LOCATION MAPPING
4.1.1 Non-routine data collection and management	4.2.1 Parse unstructured data into structured data	4.3.1 Map location of health facilities/structures
4.1.2 Data storage and aggregation	4.2.2 Merge, de-duplicate, and curate coded datasets or terminologies	4.3.2 Map location of health events
4.1.3 Data synthesis and visualization	4.2.3 Classify disease codes or cause of mortality	4.3.3 Map location of clients and households
4.1.4 Automated analysis of data to generate new information or predictions on future events		4.3.4 Map location of healthcare providers
		4.4 DATA EXCHANGE AND INTEROPERABILITY
		4.4.1 Data exchange across systems



Innovation ('market') routes



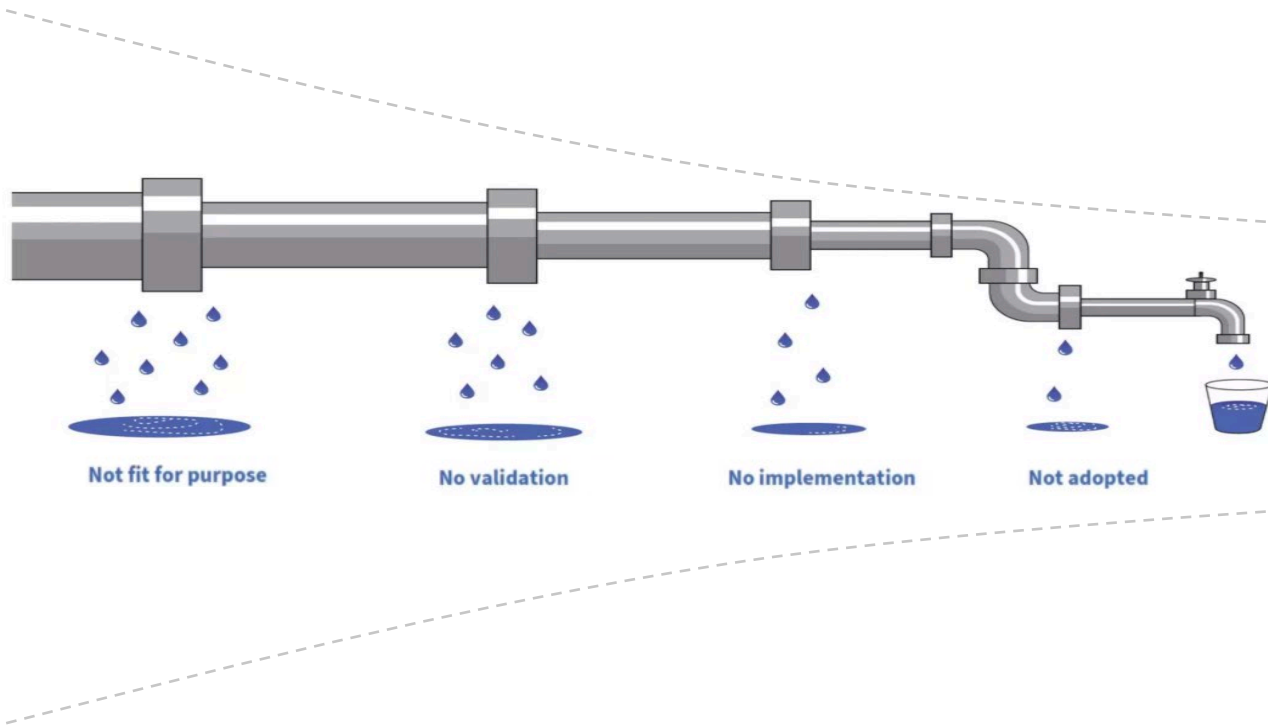
Value is created only when...

Innovation process →



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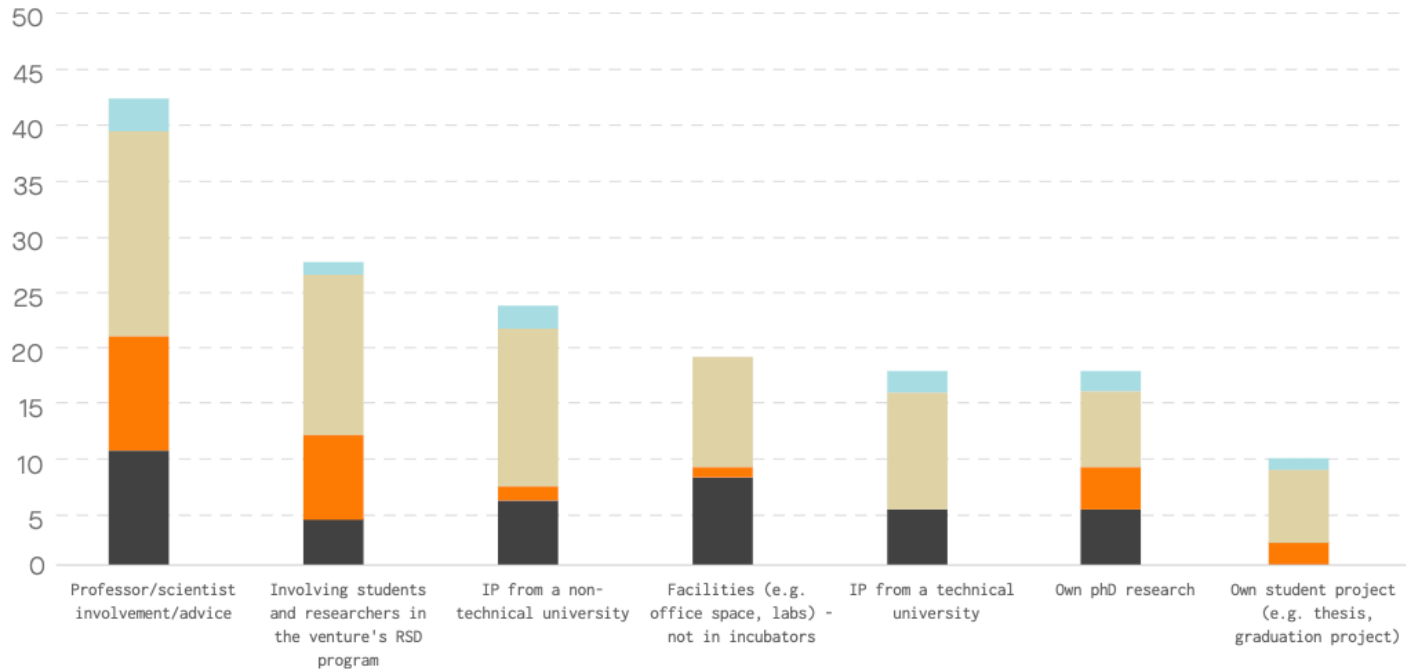
Pipeline of digital health failure



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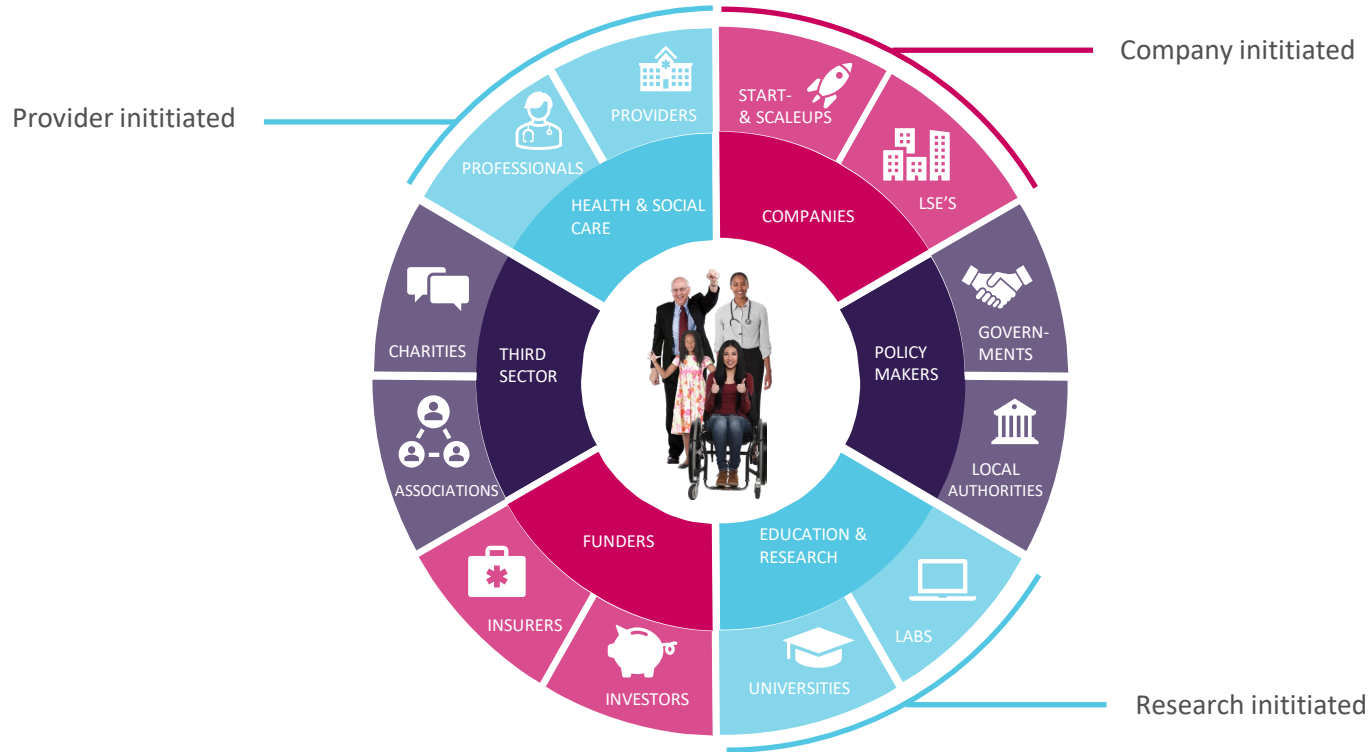
Knowledge sources (start-ups)



■ Biotechnology ■ Health Platforms ■ Medical devices ■ Pharmaceuticals



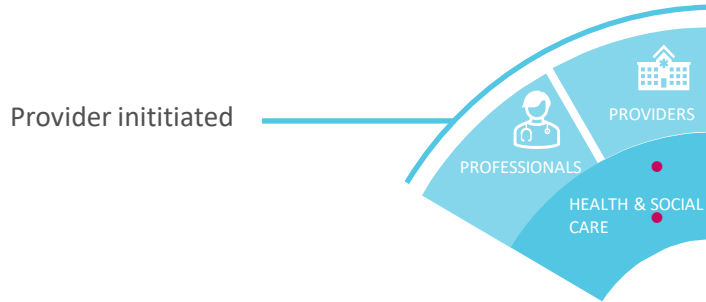
Digital health innovation ecosystem



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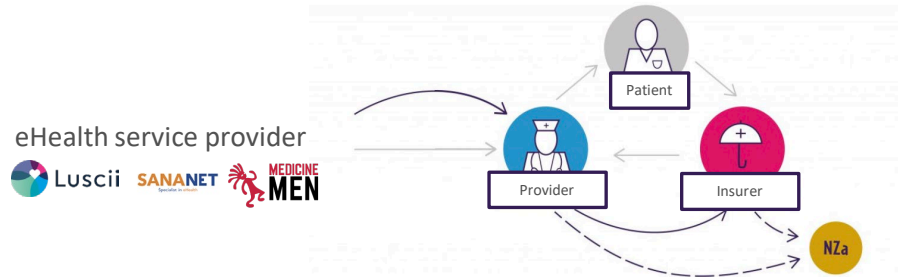
Commercialisation: provider initiated



System/workflow/EHR services

Post-pandemic: 'digital unless'

- *I.e. teleconsultation / videoconferencing*
- *Patient portals*
- Digital supported care-pathways (+ telemedicine)
 - *Early discharge*
 - *Hospital@home*



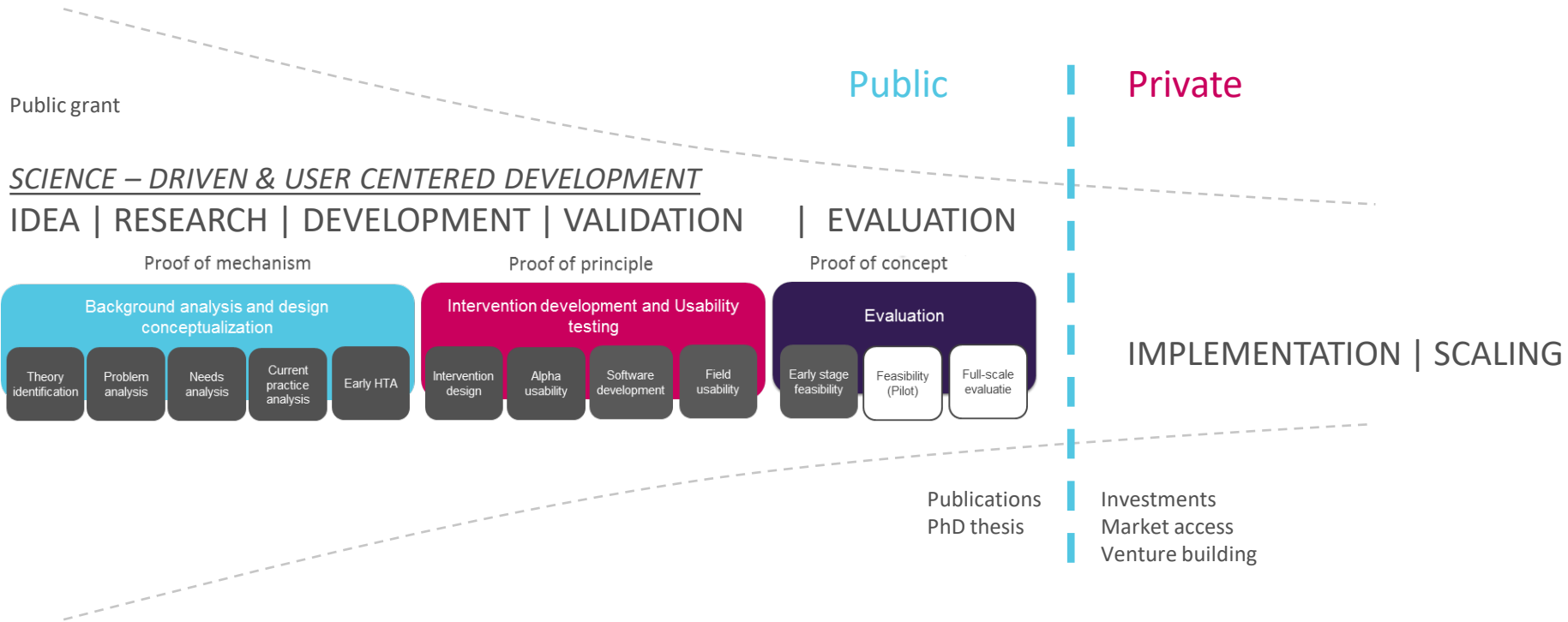
Commercialisation: researcher initiated



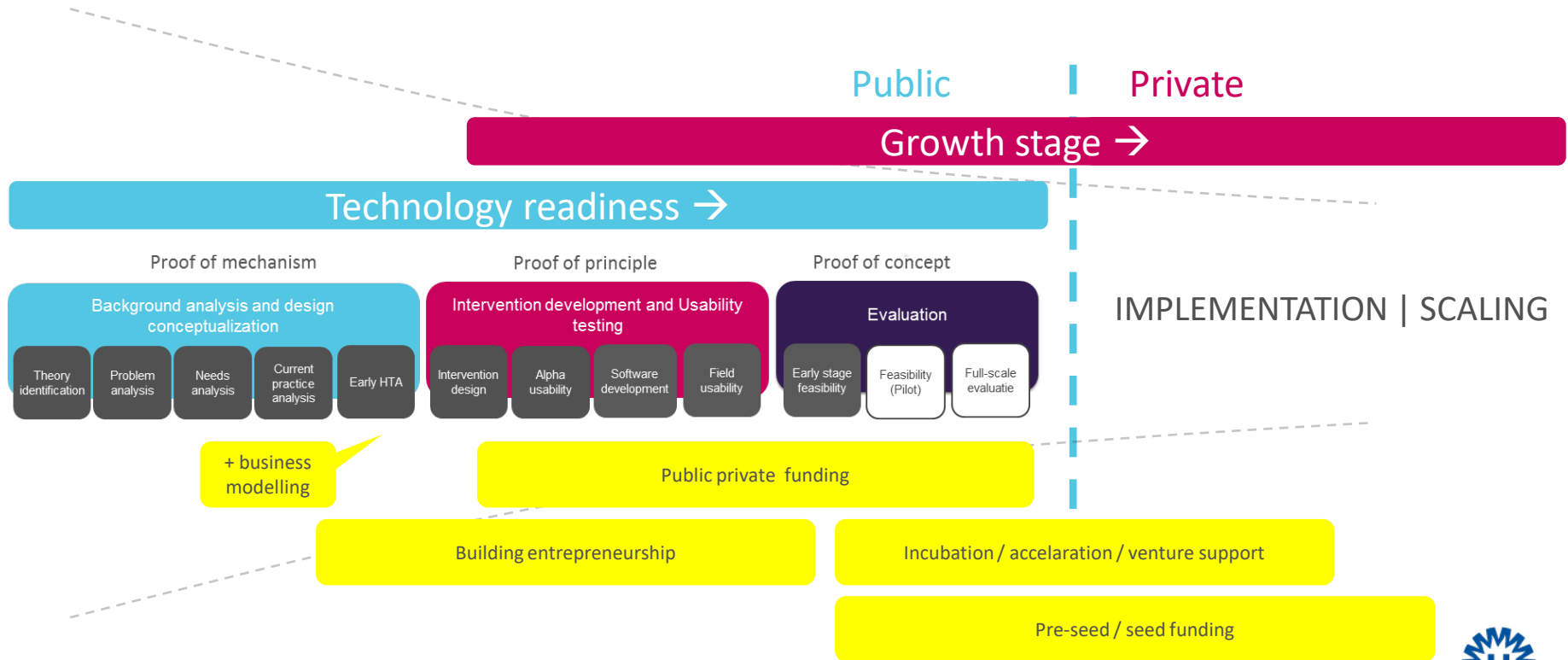
Research initiated



Commercialisation: researcher initiated

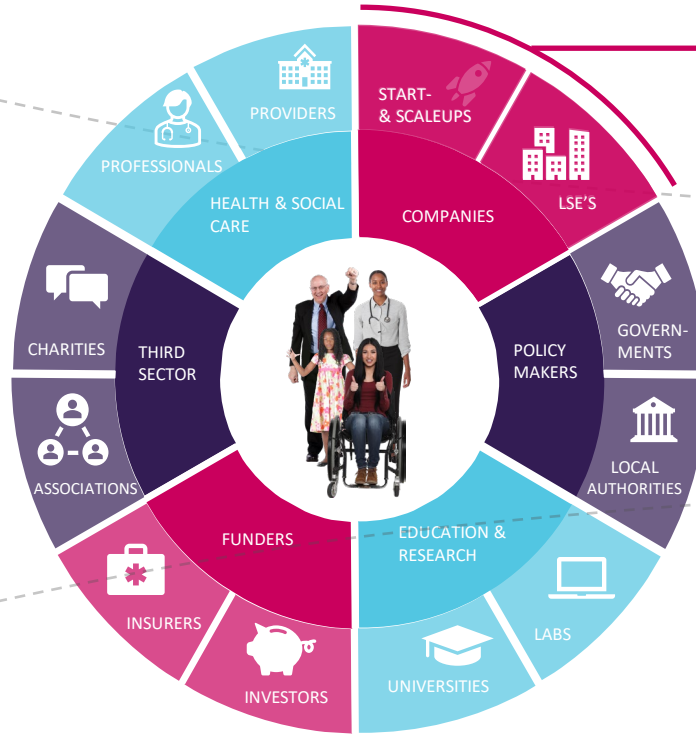


Commercialisation: researcher initiated

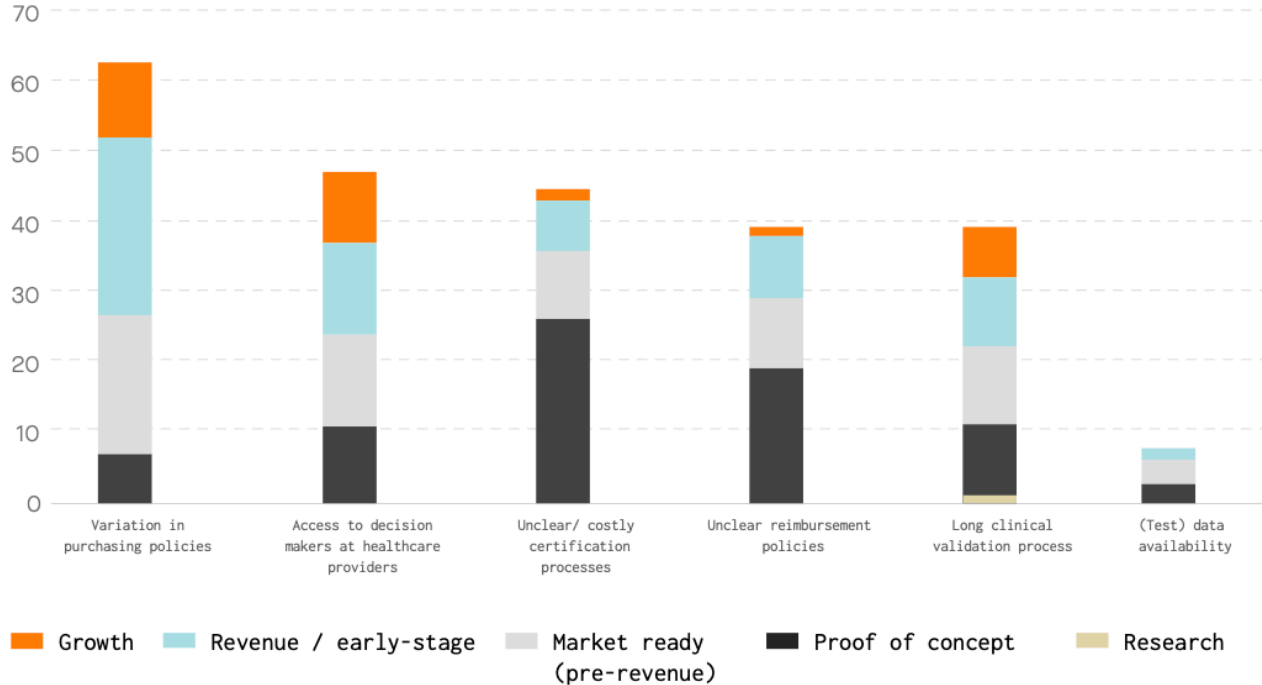


Commercialisation: company initiated

Company initiated



Challenges: ehealth startups



Commercialization: company initiated

Private

Access to knowledge

Access to data

Access to validation / evaluation labs + methodology

IDEA | RESEARCH | DEVELOPMENT | VALIDATION | EVALUATION | IMPLEMENTATION | SCALING

Access to patients & professionals

Access to funding | Pre-seed investments | Seed investments | etc.



THINK
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HEALTHCARE

THINC.

THE HEALTHCARE INNOVATION CENTER



THINC. - At your service

Mission

To investigate the potential impact of healthcare innovations – as early, efficient, and close to practice as possible.

How ?

This objective is met by making our expertise and scientific services available to innovators.

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Innovation is a bumpy road

- Is your product safe (CE)?
- Does your product perform?



Technical readiness

Clinical readiness

Market readiness



- Does your product create value ? And for whom?
- Is there a solid business case / market route / reimbursement ?
- Are key stakeholders convinced (buy, use, reimburse, invest)?



- Does the product work?
- Does the product meet a need?
- Is your claim supported?
- Is your product better than the current standard?

Traditional science is unfit to meet the needs of innovators

Example



Digital therapeutic to reduce cancer-related fatigue

Question:

- Which stakeholders to convince?
- What knowledge/validation is needed



THINC. *Science-as-a-service*

Access to:

- flexible methodology and scientific services
- knowledge, users and data (through research)

Tailored services and deliverables in each phase of innovation process:

- Agile (highly efficient) project management
- Multidisciplinary team (epidemiologist, methodologists, health economists, health scientists, UX-researchers etc.)
- Contract research



Our services



THINC. First

- Claim specification
- Evaluation roadmap
- Problem analysis
- Stakeholder / context analysis
- Needs assessment
- Patient journey



Methodological support

- Study design
- Protocol development
- Literature review
- Project management



Scientific engineering

- Design conceptualization
- Prototyping
- Usability testing
- Licensing (MDR / FDA)



Economic evaluation

- Value specification
- Cost-effectiveness (HTA / eHTA)
- Reimbursement strategies



Clinical evaluation

- Feasibility studies
- Diagnostic accuracy studies
- Effectiveness studies / trials
- Implementation studies
- Post-market surveillance

Selection of companies we currently work for

 Oncode Institute	 Tired of Cancer	 Haermonics	 tover purposeful play	 olvg een santeon ziekenhuis	 medicinfo
 Regenexx [®] Las Vegas	 PHOENIX DIAGNOSTICS	 UMC Utrecht	 PHILIPS	 DigiDok	 PCaVision
 spatium medical	 JINSHAN	 bilihome	 minddistrict	 ggz CENTraal	 PROLIRA

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Some playful statistics

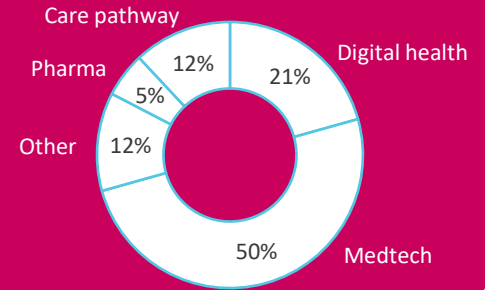
Since 2017

> **100**
supported companies

SIZE

Start-up	31%
SME	21%
LSE	12%
Public	36%

TYPE



TIMING



Healthcare
innovations with
lasting impact



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