

Valorisation ^{Compass}

From academic knowledge
to societal impact

2024-2025

Preface



Amsterdam UMC continuously develops new knowledge and expertise in healthcare, research, and education. The process of transforming knowledge and expertise into practical applications for society is called valorisation. Alongside healthcare, research, and education & training, valorisation is one of Amsterdam UMC's core tasks.

To valorise is not just a verb, it's a vital daily activity for all Amsterdam UMC staff. It means creating societal impact. While Amsterdam UMC staff 'care' for health and healing, and also 'teach' and/or 'conduct research', we 'valorise' using our shared knowledge and skills to create societal impact.

In 2023, Amsterdam UMC published a paper outlining its position on this core task: ['Valorisation. From academic knowledge to societal impact.'](#) (position paper, Amsterdam UMC). Following this position paper, which first described Amsterdam UMC's vision on valorisation as a core task, it's now time to move to the implementation phase and operationalize the valorisation process in terms of organization-wide policy [\(1\)](#).

To this end, the Amsterdam Valorisation Board (AVB), commissioned by the Board of Directors, in collaboration with the Innovation Exchange Amsterdam (IXA) and others, has created this Valorisation Compass as a tool to further roll out the new policy. The Compass contains various tools and instruments aimed at turning our vision into concrete actions. To support Amsterdam UMC staff, the organization is investing in four areas to foster a valorisation-friendly environment: (i) culture, (ii)

support and personnel, (iii) facilities and methods, and (iv) ecosystem and entrepreneurship. The Compass can be seen as a supporting document to achieve societal impact across the full spectrum of the valorisation process. It doesn't need to be read in full or linearly, but can also be used as a reference guide or handbook.

The first chapter provides a current overview of the four valorisation strategies previously described in the 2023 position paper: 'inside-out', 'outside-in', 'partnerships' and 'societal outreach' [\(1\)](#). Chapters 2 through 5 then provide an up-to-date and detailed overview of the instruments that can be used to implement the various valorisation strategies. These instruments are divided into the themes: [Culture](#), [Support and Personnel](#), [Facilities and Methods](#) and [Ecosystem and Entrepreneurship](#). For each of these four themes, each chapter clearly presents all the prerequisites, tools, resources, and other forms of support currently offered by Amsterdam UMC to carry out the various valorisation strategies.

Using this Compass helps Amsterdam UMC employees to identify and develop successful valorisation activities. Besides providing the necessary tools and instruments, the Compass also offers insight into the valorisation process. By better understanding this process, Amsterdam UMC employees can increase their impact on society.

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Abbreviations



ACS	= Amsterdam Cardiovascular Science	PoP	= Proof-of-Principle
AGEM	= Amsterdam Gastroenterology & Metabolism	PPS	= Public-Private partnerships
AI	= Artificial Intelligence	R&D	= Research & Development
AI&I	= Amsterdam Infection & Immunity	RI	= Research Institute
ALSD	= Amsterdam Life Science District	RvA	= Advisory Board
AMS	= Amsterdam Movement Sciences	RvB	= Executive Board
AmsCIS	= Amsterdam Center for Implementation Science	SAC	= Social Advisory Council
ANS	= Amsterdam Neuroscience	S&I	= Strategy and Innovation
APH	= Amsterdam Public Health	TRL	= Technology Readiness Levels
ARB	= Amsterdam Research Board	TTT	= Thematic Technology Transfer
AR&D	= Amsterdam Reproduction & Development	TKI-PPP	= Top Consortium for Knowledge and Innovation - Public Private Partnerships
AVB	= Amsterdam Valorisation Board	UD	= Assistant Professor
CCA	= Cancer Center Amsterdam	UHD	= Associate Professor
CTU	= Clinical Trial Unit	UvA	= University of Amsterdam
dbAVB	= Daily Board Amsterdam Valorisation Board	UNL	= Universities of the Netherlands (formerly
BD	= (Dedicated) Business developer	VSNU	= Association of Cooperating Dutch Universities)
(d)ID	= (Dedicated) Impact developer	VU	= Vrije Universiteit
HRM	= Human Resource Management	ZonMw	= Netherlands Organisation for Health Research and Development (MW) of NWO
HID	= Health Innovation District		
HvA	= Amsterdam University of Applied Sciences		
IP	= Intellectual Property		
IXA	= Innovation Exchange Amsterdam		
KNAW	= Royal Netherlands Academy of Arts and Sciences		
KTO	= Knowledge Transfer Office		
NFU	= Netherlands Federation of University Medical Centers		
NWO	= Netherlands Organisation for Scientific Research		
PE	= Principal Educator		
PI	= Principal Investigator		
PoC	= Proof-of-Concept		

Amsterdam Valorisation Board



Valorisation is one of the four core legal tasks of Amsterdam UMC, alongside healthcare, research, and education & training. To better shape valorisation as a core task within Amsterdam UMC, the Amsterdam Valorisation Board (AVB) was established. The AVB was officially launched in January 2021. It was tasked with developing proposals leading to optimal implementation and execution of the valorisation policy across Amsterdam UMC. Additionally, the AVB serves as a sounding board for policy advice, for example, regarding pan-Amsterdam and (international) collaborations in the field of valorisation.

The AVB consists of 16 regular *valorisation (translational and medical)* officers, two from each research institute (RI), supplemented with wild-cards in Imaging, AI, and data-driven work, both vice-deans of education, the head of Innovation Exchange Amsterdam (IXA), and three staff advisors from the IXA and Strategy & Innovation (S&I) departments. The regular AVB members are the points of contact for valorisation within the RIs, through which PIs can pose policy questions to the AVB. The AVB members work together with IXA's dedicated business developers (dBDs) and dedicated impact developers (dIDs). IXA supports

the conversion of results and knowledge into innovations and societal applications. The AVB is chaired by the vice-dean of valorisation and meets 8-10 times a year. The agenda is developed by the AVB's daily board (dbAVB), which includes 2 AVB members and several staff advisors.

In the fall of 2023, the Valorisation position paper was published, and the AVB was also positioned as an independent advisory board to the Board of Directors, officially confirming valorisation as a core task, alongside healthcare, research, and education within Amsterdam UMC.

A key next step taken in early 2024 was the appointment of a *Future Generations Commissioner* for Amsterdam UMC, who also serves as vice-chair of the AVB. The collaboration between this Commissioner and the vice-dean of valorisation ensures that Amsterdam UMC's valorisation policy is balanced and that the institution not only benefits patients, students, and the scientific community but also adds value to society and the health of current and future generations.

To complete this process, a Social Advisory Council

(SAC) was established at the start of the 2024-2025 academic year. This SAC is meant to provide a mirror for Amsterdam UMC and be explicitly involved in co-creating our valorisation policy. This allows for better articulation of end-user needs in (public-private) partnerships (PPPs) and optimal use of societal experience and involvement of healthcare providers in primary and secondary care, in consultation with their patients. The SAC consists of a representative selection of 10-12 external experts and representatives from various patient groups, government, society, and business sectors. The SAC will be appointed in the fall of 2024 and will be consulted 2-3 times per year.

1

Introduction



Amsterdam UMC views valorisation as the process of enabling societal impact. Referring to the 2023 Valorisation position paper and in translating vision into explicit policy choices, it is helpful to have an overview of the right conditions and support for our valorisation policy [\(1\)](#).

In the previously published position paper on Valorisation, four strategies were outlined: *inside-out*, *out-side-in*, *partnerships* and *societal out-reach* [\(1\)](#). The current Valorisation Compass describes how each of these strategies can be implemented now and in the near future at Amsterdam UMC, and which policy instruments can be used to support them.

Chapter 1 provides an overview of the different types of policy instruments and support that can be used for each valorisation strategy, referring to Chapters 2 through 5. The subsequent chapters then elaborate on [Culture, Support and Personnel, Facilities and Methods](#) and [Ecosystem and Entrepreneurship](#). It's important to note that support for the various valorisation strategies may overlap. This is particularly true for HR policies and partly for support from IXA, as well as for further policy development on the AVB agenda.

1.1 Inside out

Strategy description

The inside-out strategy primarily follows the classic technology transfer route for innovation: ideas and/or results from healthcare, research, and/or education form the basis for a (patentable) invention (or service, or advice) that can then be developed into a usable product by a spin-off or existing company (potentially resulting in business activity). Advice to the government proposing system innovations and/or societal transformations often also stems from an inside-out strategy. In this approach, Amsterdam UMC's intellectual property (IP) is protected by a patent and made public, after which licensing agreements can be established for third-party use.

When a discovery from healthcare, research, or education is new, inventive, and industrially applicable, it can be patented. It's crucial that the researcher(s) are closely involved and that sufficient scientific data is available to increase the chances of patent application approval. In some cases, additional experiments may be necessary before an invention can be patented. An IXA *business developer* and/or patent attorney provides support and guidance to researchers in setting up these experiments and throughout the patent process.

What's already available?

To achieve successful inside-out valorisation, we've developed a route from research result/idea to impact. Additionally, an overview of common funding opportunities for valorisation has been created.

The table below shows which tools and instruments can be used to apply the inside-out strategy in practice. These instruments are included in this Compass and will be further explained in the following chapters.

What will become available in the short term?

To promote inside-out valorisation, it's crucial to create explicit space for valorisation as a core task in both the culture and use of Amsterdam UMC's core facilities. This means valorisation should become an integral part of Human Resource Management (HRM) policy, and academic entrepreneurship should be facilitated by offering Amsterdam UMC researchers easy access to core facilities for the (technical) development and clinical validation of their findings.

Additionally, Amsterdam UMC will focus on encouraging researchers to follow the path from research to impact. By guiding more innovations to market, we aim to contribute to overall healthcare progress as an organization. As a nice bonus, the licensing agreements we sign with our spin-offs or existing companies also generate income.

Inside out

What have we done / what can you find in this compass?	
Culture	Establishing valorisation as part of the HRM Qualification Portfolio (see chapter 2)
Support and Personnel	Support from IXA central (see chapter 3)
Facilities and Methods	Internal infrastructure for translation of research to product and patents (see chapter 4)
Ecosystem and Entrepreneurship	Support from IXA central (see chapter 5)




Table 1: Available tools and instruments per category for inside-out-valorisation

1.2 Outside in

Strategy description

The outside-in strategy involves research collaborations and contract research for preclinical, translational, clinical, and/or public health studies in partnership with external clients, such as biotech, pharmaceutical, and medtech companies. Amsterdam UMC supports these parties in developing their products or services. Key assets of Amsterdam UMC in these collaborations include our biomarker and biobank infrastructure, patient cohorts, clinical trial capacity, and diagnostics and imaging capabilities. The intellectual property of the results doesn't always belong to Amsterdam UMC, but value is added to third-party products or services, which can benefit patients at Amsterdam UMC and the surrounding area. The outside-in strategy also includes requests or assignments from the government and public partners regarding expertise and advisory reports.

What's already available?

As mentioned earlier, all four valorisation strategies require explicit space for valorisation as a core task in both Amsterdam UMC's culture and use of core facilities. For the outside-in strategy, this means fostering a culture that promotes collaborations between Amsterdam UMC and industry, as well as facilities for academic entrepreneurship. This involves ensuring sufficient resources to support these collaborations. Adequate support, including dedicated business developers and legal, financial, and administrative staff, is crucial to ensure smooth,

business-like, and transparent establishment and handling of industry collaborations.

The table below shows which tools and instruments can be used to apply the outside-in strategy in practice. These instruments are included in this Compass and will be further explained in the following chapters.

What will be available in the short term?

To promote outside-in valorisation and further facilitate collaborations with external parties, Amsterdam UMC will focus on setting up effective contracting teams,

achieving shorter contract turnaround times, and establishing a central and decentralized Clinical Trial Unit (CTU) in the near future. A CTU will lead to more efficient management of drug studies and make Amsterdam UMC more attractive to researchers and pharmaceutical companies seeking collaboration in drug research. This concept is further elaborated in [section 4.3](#). There will also be an increasing use of dedicated business developers appointed to support the research institutes in establishing collaborations with third parties.

Outside in

What have we done / what can you find in this compass?	
Culture	Contract research, clinical trials and consultancy will be included in the HRM Qualification Portfolio (see chapter 2)
Support and Personnel	Support from IXA decentral: Dedicated Business & Impact Development in the matrix of Research Institutes and divisions (see chapter 3)
Facilities and Methods	Centraal CTU policy (see chapter 4) Overview of knowledge centers and/or keypoints of valorisation (see chapter 4)
Ecosystem and Entrepreneurship	Support from IXA central (see chapter 5)



Table 2: Available tools and instruments per category for outside-in-valorisation.

1.3 Partnerships

Strategy description

The partnership strategy primarily focuses on open innovation, research collaborations, and consortia where knowledge is jointly created, potentially leading to new products, services, and interventions. For these collaborations, co-creation and involving all relevant stakeholders, such as patients and healthcare providers from primary and secondary care, is crucial for success. The resulting innovation stems from collective efforts. This includes regional collaborations like IZA, CumuluZ, Amsterdam Vitaal & Gezond, or partnerships with umbrella organizations like the Jeroen Pit Huis, involving multiple partners. Other examples include collaborations with other NFU hospitals or regional secondary care hospitals. Innovation here arises through co-creation, potentially resulting in joint patents. Developing clinical and other guidelines, healthcare evaluation, creating a knowledge agenda in line with the Knowledge Institute of the Federation of Medical Specialists (FMS), and reducing research waste also fall within this strategy (2,2).

What's already available?

To promote successful partnerships for valorisation, it's essential to create a culture that views public-private collaborations as valuable opportunities for system innovations. Crucially, adequate support and access to facilities must be available to enable these collaborations.

The table below shows which tools and instruments can be used to apply the partnership strategy in practice. These instruments are included in this Compass and will be further explained in the following chapters.

Partnerships

What have we done / what can you find in this compass?	
Culture	Public-private partnerships are an important opportunity to achieve system innovations (see chapter 2)
Support and Personnel	Formal support for TKI grants, setting up public-private partnerships and policy for EU grants (see chapter 3)
Facilities and Methods	Support from dbAVB (see chapter 4) Overview of knowledge institutes and key points of research and valorisation (see chapter 4)
Ecosystem and Entrepreneurship	Matchmaking and organisation by leaders of large consortia (see chapter 5)



Table 3: Available tools and instruments per category for partnership-valorisation.

What will be available in the short term?

To further promote and facilitate valorisation through partnerships, Amsterdam UMC will continue to invest in the aforementioned collaborative initiatives. Additionally, in the coming period, there will be a proactive search for more public-private partnership projects, such as Digital United Training for Healthcare (DUTCH), a National Growth Fund project awarded in June 2023 with Amsterdam UMC as the lead applicant. Each year, the AVB conducts a cross-research institute triage to identify potential Public-Private Partnerships of (inter)national importance. From 2021-2024, the AVB did this for subsidy instruments like the National Growth Fund. While this particular instrument is temporarily unavailable from 2024, the AVB continues to support TKI subsidies via Health~Holland and/or international opportunities through EU funding. In such cases, the AVB makes a selection based on criteria, resulting in advice to the Board of Directors. By actively participating in these projects, Amsterdam UMC demonstrates its commitment to continuous improvement and maintaining a leading position in healthcare innovation.

1.4 Societal outreach

Strategy description

Societal outreach valorisation encompasses all contributions to public discourse and societal benefit. This ranges from healthcare professionals giving interviews to explain scientific innovations, to delivering public lectures or writing books. It also includes other forms of service to groups typically lacking access, such as through media or education. Our existing prevention activities with and for the region are part of this valorisation strategy as well. For instance, we have an ongoing collaboration with GGD Amsterdam, focusing on research into smoking prevention and the shift from systems thinking to systems doing. We also work with Amsterdam's Work, Participation and Income department on reintegrating people at the bottom of the labour market. In this way, Amsterdam UMC fulfils its social responsibility as a catalyst for cooperation with regional partners in developing, testing, and evaluating new innovative interventions, as well as researching sustainable implementation.

What's already available?

To achieve successful societal outreach valorisation, it's crucial to foster a culture that encourages involving community partners and prioritizes social impact. Essential to this is adequate support for realizing impact, including assistance from dedicated impact developers. Additionally, the board of directors has appointed a Social Advisory Council (SAC) to provide Amsterdam UMC with external perspective and involve society in co-creating our valorisation policy. This approach helps better articulate end-user needs in public-private partnerships and optimally utilizes societal experience and involvement of primary and secondary care providers, in consultation with their patients. The SAC includes entrepreneurs, industry organizations, health insurers, citizen representatives, and local, provincial, and national government officials.

The table below shows tools and instruments that can be used to apply the societal outreach strategy in practice. These instruments are included in this Compass and will be further explained in the following chapters.

What will be available in the short term?

Amsterdam UMC has developed a 6-step model for its researchers, guiding them through the impact process and addressing all relevant aspects of a successful impact initiative (see section 4.4). This model is a suitable instrument for executing societal outreach valorisation. To further promote and facilitate this valorisation strategy, the 6-step model will be more widely implemented in the organization, and its use will be encouraged.

Societal outreach

What have we done / what can you find in this compass?	
Culture	Appointment of a Future Generations Commissioner and establishment of the Societal Advisory Board (see chapter 4)
Support and Personnel	Support from IXA decentral: Dedicated Business & Impact Development in the matrix of Research Institutes and divisions (see chapter 3)
Facilities and Methods	6-steps model as formal route to achieve societal impact (see chapter 4)
Ecosystem and Entrepreneurship	Canon of use-cases on the Amsterdam UMC today website (see chapter 5)



Table 4: Available tools and instruments per category for societal-outreach-valorisation.

2

Culture



To promote valorisation within Amsterdam UMC, it's crucial to create a culture that fosters valorisation activities and actively encourages employees to engage in them. Integrating valorisation as a core task in HR policy and aligning career paths and profiles accordingly are tools used within Amsterdam UMC to bring about this cultural change. These tools are further explained in this chapter.

2.1 Focus on societal impact in HR policy

In recent years, there has been a shift towards a new, innovative way of recognizing and valuing scientists. Traditional assessment methods no longer align with the qualities and contributions expected from scientists in the current zeitgeist. One of these changes is the growing focus on societal impact. In November 2019, a position paper was published by the Association of Cooperating Dutch Universities (VSNU, now Universities of the Netherlands, UNL), the Netherlands Federation of University Medical Centers (NFU), the Royal Netherlands Academy of Arts and Sciences (KNAW), the Netherlands Organization for Scientific Research (NWO), and ZonMw. The title of this position paper was 'Room for everyone's talent: towards a new balance in recognizing and valuing scientists'. (4) In early 2020, a national program was launched in which the NFU collaborates with the aforementioned institutions. The national program 'Recognition and Rewards' is developing a vision for this cultural change. (5) This movement will also need to be implemented in Amsterdam UMC's HR policy.

The NFU emphasizes the importance of research results contributing to new insights and a healthier, more prosperous society. An NFU report shows that NFU hospitals perform well in biomedical impact compared to other European universities. (6) University Medical Centers (UMCs) are increasingly taking on a societal role by stimulating research and innovation in their regions. As Amsterdam UMC, we must fully embrace this role. (7)

This shift has led Amsterdam UMC to revise its qualification portfolio for appointing associate professors and professors, allowing for greater diversity in career paths and profiles. The new portfolio distinguishes between education, research, leadership, clinical work, and valorisation domains. It's now possible to become a valorisation professor.

2.2 Valorisation as a core task in career paths and profiles

At Amsterdam UMC, the Committee Talent & Appointments (CTA), appointed by the board of directors, is responsible for shaping talent policy for scientific staff and advising deans on mid-career and top academic appointments. The CTA has established criteria for appointing or promoting associate and full professors.

The proposed policy regarding appointments with an explicit valorisation profile in Amsterdam UMC as currently proposed by the CTA and that will be further determined by the board of directors in the course of 2024-2025 is as follows:

All candidates seeking appointment/promotion based on Valorisation must demonstrate excellence in either research (Principal Investigator, PI) or education (Principal Educator, PE). Additionally, they must excel in valorisation, potentially complemented by another domain. In practice, this means a clinician pursuing a valorisation career profile must also excel in research or education, while a non-clinician often excels in both research and education, and can further develop as a valoriser.

For research, education, and clinical work, clear distinctions have been made for different ranks (Assistant Professor, Associate

Professor, Professor). For leadership and valorisation, this is less defined due to the diversity of activities and because development in these domains can be independent of an academic trajectory.

Candidates aiming to prove substantial qualification in valorisation must clearly demonstrate a vision for measurably advancing the direct impact of their work. This impact can be achieved through all four valorisation strategies: establishing businesses, products, tools, or other routes (as described in the Valorisation position paper) and is not limited to private sector commercialization.

3

Support and Personnel



The involvement, expertise, and support of staff form the backbone of successful valorisation activities within Amsterdam UMC. To facilitate employees in these valorisation activities as much as possible, various instruments are available, which are explained in this chapter.

3.1 IXA for research and education & training

Amsterdam UMC, Amsterdam University of Applied Sciences (AUAS), University of Amsterdam (UvA), and Vrije Universiteit (VU) each have a Knowledge Transfer Office (KTO). These offices together form Innovation Exchange Amsterdam (IXA) as a collaborative network for innovation and societal impact ([see also: website IXA](#)).

IXA's mission is "Partnering science for societal impact". Together with researchers, IXA aims to:

1. Make research results, knowledge, and technologies available and suitable for innovation with societal impact.
2. Strengthen researchers' valorisation skills and entrepreneurship.
3. Initiate collaborations focused on scientific and/or societal challenges.
4. Generate resources for valorisation and research.
5. Position Amsterdam as a scientific knowledge and innovation region.

IXA is the cornerstone for implementing the innovation and impact policies of the knowledge institutions. Originally established as a traditional Technology Transfer Office, IXA has evolved into a service organization in the field of innovation and impact of research from the knowledge institutions in a broad sense.

IXA of Amsterdam UMC is the center of expertise for all four valorisation strategies: inside-out, outside-in, partnerships, and societal outreach. IXA can assist with establishing spin-offs and facilitating public-private collaborations, as well as business development, intellectual property advice, legal support (handled by Legal Research Support within Amsterdam UMC), grant expertise (handled by Research Grant Support within Amsterdam UMC), education, and training.

3.2 Appointment of *dedicated business developers and impact officers*

In addition to the existing business developers at IXA, nine new dedicated business developers (dBBDs) and impact developers (dIDs) were appointed in mid-2022 to support the research institutes (RIs). Their job titles depend on the valorisation strategies the RIs want to focus on in the coming years. For Amsterdam Neuroscience (ANS), Amsterdam Cardiovascular Sciences (ACS), Amsterdam Gastroenterology Endocrinology Metabolism (AGEM), Amsterdam Infection & Immunity (AI&I), and Amsterdam Movement Sciences (AMS), the dBBDs will mainly focus on establishing more collaboration contracts with industry. For the Cancer Center Amsterdam (CCA), they will also work on generating innovations and increasing 'valorisation awareness'. Amsterdam Reproduction & Development (AR&D) and Amsterdam Public Health (APH) will primarily focus on partnerships and societal outreach.

Depending on the specific RI, the BDs/IDs usually have a particular focus, but they can support all four valorisation strategies. Additionally, IXA provides Amsterdam UMC-wide business development support in medical technology innovations and artificial intelligence (AI and data-driven work).

The diagrams below ([Figures 1 en 2](#)) provide an overview of how dedicated business and impact development is distributed across the matrix of divisions and RIs within Amsterdam UMC. The matrix shows, among other things, the distribution of PIs within Amsterdam UMC. The idea behind this matrix is that care is mainly provided within the various divisions, while research takes place in the research institutes. This diagram shows how these two aspects come together and how IXA can support PIs in this process.

Dedicated Business & Impact Development in the matrix of RIs and divisions

	Division 1	Division 2	Division 3	Division 4	Division 5	Division 6	Division 7	Division 8	Division 9	Division 10	Business Developers (BD'ers)
Amsterdam Neuroscience (ANS)	3	0	0	10	70	1	13	0	21	0	Prisca Leferink, Mark Mizze, Andrea Soto, Anna Bennis, Pieter van Bokhoven, Sasja Heetveld
Amsterdam Gastroenterology & Metabolism (AGEM)	40	13	0	16	0	0	3	0	35	1	Ric van Tol, Sanne Stembert
Cancer Center Amsterdam (CCA)	33	16	0	7	16	1	18	0	45	9	Marianka van der Tol, Timo Smets
Amsterdam Reproduction & Development AR&D)	1	1	0	51	6	0	0	0	21	7	Eline van Dulmen
Amsterdam Infection & Immunity (All)	62	8	0	21	14	12	8	0	69	2	Dilek Yusuf, Wim Meijberg, Pieter Slijkerman
Amsterdam Public Health (APH)	23	5	0	15	48	5	1	0	5	97	Diane Scholler
Amsterdam Cardiovascular Science (ACS)	34	6	33	10	7	12	9	0	33	13	Steven van Huiden, Pieter Slijkerman, Sander Scholten
Amsterdam Movement Sciences (AMS)	10	10	0	2	20	0	5	0	5	3	Maaïke Alderliesten, Michelle Meeks, Chris Ashbrook
Total number of PI's	206	59	33	132	181	31	57	0	234	132	
Total number of PI's deduplicated	140	36	42	76	132	17	53	0	150	105	
Business Developers (BD'ers)	Marianka van der Tol, Wim Meijberg, Sanne Stembert, Pieter Slijkerman, Steven van Huiden, Ric van Tol	Michelle Meeks, Maaïke Alderliesten, Ric van Tol	Steven van Huiden, Pieter Slijkerman, Sander Scholten	Eline van Dulmen	Andrea Soto, Anna Bennis, Prisca Leferink, Timo Smets, Pieter van Bokhoven, Sasja Heetveld	Michelle Meeks, Maaïke Alderliesten	Michelle Meeks, Maaïke Alderliesten		Pieter Slijkerman, Steven van Huiden, Timo Smets, Wim Meijberg	Diane Scholler, Vacature	
BD'ers Data / AI	Ruben Boyd, Tom Stirrop										

Figure 1. Dedicated Business & Impact Development in the matrix of RIs and divisions: This figure shows an overview of Amsterdam UMC's dedicated business/impact developers and business/impact developers. Dedicated Business/impact developers can provide support across all four valorisation strategies. For RIs, this often means dedicated business developers mainly support the outside-in strategy, while dedicated impact developers focus on partnerships and societal outreach. For divisions, Business Developers primarily support the inside-out strategy. The overview also shows the distribution (in numbers) of PI's from divisions across different research institutes. A PI can join one or more RIs.

Dedicated Business & Impact Development in the matrix of Ris and divisions

	Division 1	Division 2	Division 3	Division 4	Division 5	Division 6	Division 7	Division 8	Division 9	Division 10	Business Developers (BD'ers)
Amsterdam Neuroscience (ANS)	1%	0%	0%	8%	39%	3%	23%	0%	9%	0%	Prisca Leferink, Mark Mizze, Andrea Soto, Anna Bennis, Pieter van Bokhoven, Sasja Heetveld
Amsterdam Gastroenterology & Metabolism (AGEM)	19%	22%	0%	12%	0%	0%	5%	0%	15%	1%	Ric van Tol, Sanne Stembert
Cancer Center Amsterdam (CCA)	16%	27%	0%	5%	9%	3%	32%	0%	19%	7%	Marianka van der Tol, Timo Smets
Amsterdam Reproduction & Development AR&D)	0%	2%	0%	39%	3%	0%	0%	0%	9%	5%	Eline van Dulmen
Amsterdam Infection & Immunity (All)	30%	14%	0%	16%	8%	39%	14%	0%	29%	2%	Dilek Yusuf, Wim Meijberg, Pieter Slijkerman
Amsterdam Public Health (APH)	11%	8%	0%	11%	27%	16%	2%	0%	2%	73%	Diane Scholler
Amsterdam Cardiovascular Science (ACS)	17%	10%	100%	8%	4%	39%	16%	0%	14%	10%	Steven van Huiden, Pieter Slijkerman, Sander Scholten
Amsterdam Movement Sciences (AMS)	5%	17%	0%	2%	11%	0%	9%	0%	2%	2%	Maaïke Alderliesten, Michelle Meeks, Chris Ashbrook
Business Developers (BD'ers)	Marianka van der Tol, Wim Meijberg, Sanne Stembert, Pieter Slijkerman, Steven van Huiden, Ric van Tol	Michelle Meeks, Maaïke Alderliesten, Ric van Tol	Steven van Huiden, Pieter Slijkerman, Sander Scholten	Eline van Dulmen	Andrea Soto, Anna Bennis, Prisca Leferink, Timo Smets, Pieter van Bokhoven, Sasja Heetveld	Michelle Meeks, Maaïke Alderliesten	Michelle Meeks, Maaïke Alderliesten		Pieter Slijkerman, Steven van Huiden, Timo Smets, Wim Meijberg	Diane Scholler, Vacature	
BD'ers Data / AI	Ruben Boyd, Tom Stirrop										

Figure 2. **Dedicated Business & Impact Development in the matrix of RIs and divisions:** This figure presents an overview of Amsterdam UMC's dedicated business/impact developers and business/impact developers. Dedicated Business/impact developers can offer support across all four valorisation strategies. For RIs, this typically means dedicated business developers mainly assist with the outside-in strategy, while dedicated impact developers more often focus on partnerships and societal outreach. For divisions, Business Developers primarily support the inside-out strategy. The overview also displays the distribution (in percentages) of PIs from divisions across various research institutes. A PI can affiliate with one or more RIs. A PI can join one or more RIs.

Two trends in drug research

Trend 1: Traditionally, IXA's support was focused on valorising internal knowledge and expertise (inside-out valorisation). However, in the past 15 years, a new form of bi-directional technology transfer known as 'open innovation' has emerged. Additionally, a third way of collaborating with private partners, focused on 'market pull', works from outside to inside (outside-in valorisation). This collaboration type involves, for example, validating the effectiveness of new drugs in the lab or clinic. Inside-out and outside-in valorisation are different but compatible routes. Inside-out valorisation primarily aims to make internal knowledge/inventions available to society. These trajectories are often long (up to 15 years) and may provide significant but irregular income to fund new research. Outside-in valorisation focuses on further developing new interventions

from external parties (in paid collaboration) and logically accounts for about 90% of our fourth money stream income.

Trend 2: A second recent trend in the pharmaceutical sector is the rise of virtual Research & Development (R&D) companies. These companies aim to minimize overhead costs through a compact organizational structure. They maintain essential internal expertise while outsourcing research activities that require significant infrastructure. This approach reduces internal complexity, focuses resources on core competencies to gain competitive advantage faster, lowers investment risks, and relies on collaboration with academic partners and contract research organizations. While initially successful in the biotech industry, larger

pharmaceutical companies are now increasingly adopting this strategy. This trend offers good opportunities for outside-in valorisation, as these biotech companies usually outsource their scientific research to contract research organizations and academic medical centers.

3.3 Future-oriented services within Amsterdam UMC

The rise of virtual R&D biotech companies (see Info-box ("[Two trends in Drug Research](#)") has led to a situation over the past 15 years where the big pharma industry has withdrawn from pre-competitive R&D and increasingly from [phase 1](#) and [phase 2 clinical studies](#). As a result, university medical centers are increasingly approached for their research expertise, available capacity, and access to patients. In recent years, the majority (60-80%) of all clinical research worldwide is sponsored by virtual biotech companies rather than big pharma. This presents an opportunity for Amsterdam UMC but also requires skill in conducting contract negotiations and establishing collaborations. A patient-centered approach, better consideration of the societal impact of collaborations with companies, increased internationalization, and professional support for these collaborations are essential conditions for success.

In the field of outside-in valorisation and partnerships, the (teams of) Principal Investigators (PIs) from Amsterdam UMC's various Research Institutes are our 'star players'. Knowledge centers (and focus areas) see figure 3 that have emerged around these teams offer good opportunities for a targeted partnership valorisation strategy. For this type of valorisation, the focus of the IXA organization and Research Support in Amsterdam UMC should primarily be on these (teams of) PIs who, often in collaboration, have built up all the knowledge, skills, and infrastructure (including large

patient or study cohorts) - all three essential factors in public-private partnerships (PPP).

3.4 The ideal deal team for fourth stream funding acquisition

To optimally support the aforementioned contract and clinical trial research, the proposal is to form a 'contract team' for each new agreement Amsterdam UMC signs with external partners, starting in 2024-2025. This team will consist of at least:

- a) one or more Principal Investigators (PIs) who are ultimately responsible for the content and scientific quality of the project plan and its later execution.
- b) a dedicated business developer responsible for guiding the process from initial exploration to a signed contract. This includes: finding companies with interesting research questions that align with internal interests and expertise, facilitating the creation of a project plan, coordinating the budget with the project controller and PI, and negotiating the external budget and contract with the external party.
- c) back office support team consisting of 1) a financial officer or project controller who prepares the budget, sets up the project, and later manages it, and 2) a dedicated legal advisor specializing in setting up contract research.
- d) when the project involves a clinical trial, a clinical trial startup manager will support the budgeting (which often takes considerable time and needs to be expedited), setup, and initiation of the project.

With this composition of the contract team, we aim to make this process faster and more efficient. Virtual biotech companies have short funding cycles and will only want to collaborate when it can be done efficiently. This will only work well if we structure our support accordingly. Currently, the teams within IXA are already being organized for this, and Amsterdam UMC intends to also structure other supporting teams within Research Support, particularly LRS and project control at the Research BV, to align with this approach.

The principle that investments in protecting our intellectual property and dedicating research capacity in collaboration with external stakeholders must have clear added value for our patients should always be the starting point. The ultimate responsibility for this lies with PI(s) and dedicated business developers. This new way of collaborating with established working relationships between departments and Research Institutes will hopefully lead to a smooth, businesslike, and transparent process, which is essential for both researchers at Amsterdam UMC and external stakeholders.

3.5 Skills training in the field of valorisation

To apply valorisation in practice, it's important that employees possess certain skills. Amsterdam UMC offers various skills training programs in the field of valorisation that align with this need. Below is an overview of the different programs:

- [Learning Path Valorisation and Impact – IXA](#)

The 'Learning Path Valorisation and Impact' is designed for researchers (particularly late-stage PhDs and postdocs) who want to become proficient in valorising their research. The learning path aims to inspire researchers and make them aware of the power inherent in creating value and impact with research. The learning path consists of 3 modules and is offered in a hybrid format.

- [Impact Program – IXA](#)

The 'Impact Program' by IXA is designed for researchers aiming to enhance their impact-making skills. This training targets mid-career assistant and associate professors from UvA, VU, and Amsterdam UMC who already have some experience in creating impact. Ideally, participants have a project or idea they wish to develop further. The program spans 6 days over 6 months.

- **Media Training and Press Advice – Communication Department**

- [Media Training \(comprehensive, external\)](#) – The Communication Department's media training is for anyone dealing with media. Participants are typically medical professionals, researchers, and scientists preparing for TV, radio, or newspaper interviews. Occasionally, managers from support services are also approached by media. This training aims to teach participants how to communicate effectively and confidently with media, including concisely and persuasively conveying their message, handling difficult questions, and maintaining focus on their key points. The training lasts 1 day with a maximum of 4 participants per session. For more information and registration, visit: pers@amsterdamumc.nl.

- [Media Training \(mini\)](#) – Amsterdam UMC's press officers also provide one-on-one mini media training. This training aims to prepare staff for specific appearances on radio, TV, and in print media, enabling them to confidently address the press about their subject. This training lasts up to 1 hour. For more information and registration, contact: pers@amsterdamumc.nl.

- [Workshop on Media Relations](#) – The English-language media workshop aims to equip researchers with tools to make their work appealing to the media. Participants gain knowledge and skills on how media operate and how to translate scientific topics into engaging narratives for a general audience (both in writing and interviews). This workshop is also available in English and is suitable for larger groups (10-25 people). For more information and registration, contact: pers@amsterdamumc.nl.
- [Approached by a Journalist?](#)
When researchers receive a media request, they should always inform the Amsterdam UMC Communications Department via: pers@amsterdamumc.nl or call 020 444 344 of 020 566 2421.

4

Facilities & Methods



High-quality facilities and established methods form the infrastructure necessary to support valorisation efforts and enable the transition from academic knowledge to societal impact. This chapter outlines some of the available facilities and methods within Amsterdam UMC in this field.

4.1 Knowledge Centers

To promote research collaborations within Amsterdam UMC, many research institutes have designated various knowledge centers based on specific criteria ([“see Infobox “Knowledge Center Criteria”](#)) and in consultation with the deans, vice dean of research, and the Amsterdam Research Board (ARB). These centers were established in 2021 and updated in 2024. An overview is shown in [Figure 3](#) and can serve as a guide for forging collaborations within and between different Research Institutes and divisions, or for dialogue with external parties. The knowledge centers are essentially the nodes in the matrix of Amsterdam UMC’s divisions and research institutes: this is where patient care is integrated with our academic research.

Overview of knowledge centers (and focus areas of research and valorisation)



Figure 3. Overview of knowledge centers (and focus areas of research and valorisation: This figure shows an overview of knowledge centers within the research institutes.

*Due to the large number of knowledge and expertise centers within AI&I, this figure displays overarching focus areas (instead of knowledge centers) for this research institute.

**The Emma Center for Personalized Medicine is affiliated with two research institutes and has cross-connections with the research institutes ANS, ACS, and APH.

Note: This overview is subject to changes and will be regularly updated in the future.

Knowledge Center Criteria

The knowledge centers were established according to the following criteria:

- a) In most cases there is a unique patient cohort that provides deep retrospective and prospective insights into disease onset and progression (enabling intervention studies);
- b) There is an undisputed scientific track record that Amsterdam UMC is willing to invest in through professorships and infrastructure;
- c) The knowledge center serves as a crucial hub for researchers, specialists (including referrers), students, and patients on a national and international level;
- d) The knowledge center also acts as a focal point in the matrix for research strategy, branding strategy, and prioritization in the field of valorisation.

Knowledge centers focus on specific themes or diseases and vary in how they integrate care, research, and education around these topics. Some centers are visible to the outside world as a point of contact for patient care, where interaction occurs between healthcare providers and patients. This is where patients can ask all their questions to the care provider. It's also where providers can ask questions in return and assess whether the care and research conducted are truly beneficial. This interaction offers an excellent opportunity for valorisation, as it helps bridge the gap between theoretical research knowledge and practical implementation.

Knowledge centers are Amsterdam UMC's focal points where clinicians and scientists collaborate on healthcare innovation (diagnostic, interventional, and preventive), providing an ideal ecosystem for valorisation.

4.2 Internal infrastructure for translating research into products and patents

The path from research results to actual impact can be long and complex. Figure 4 outlines the most common route from a research result/idea to spin-off and ultimately impact, showing the steps researchers must follow, their sequence, and associated requirements.

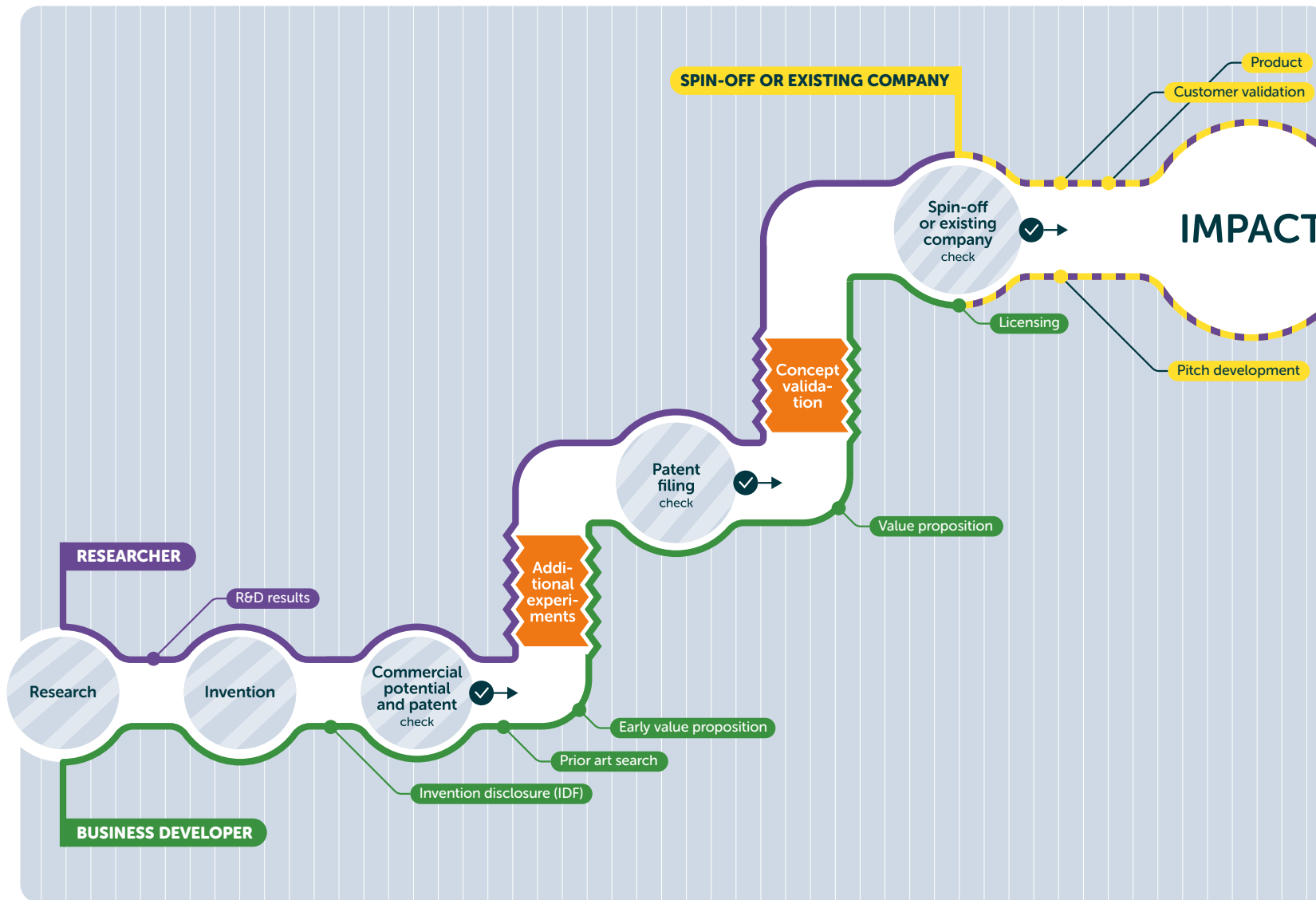


Figure 4. Path from Research Findings to Spin-off: This figure illustrates the most common route for transforming a research result/idea into a spin-off. The researcher and business developer collaborate to navigate this path.

Explanation of Figure 4:

Until recently, publishing research results was often the sole aim of research. Nowadays, researchers are increasingly encouraged to consider turning their findings into inventions that can lead to valuable products or services for patients or society, such as new drugs, medical devices, diagnostic biomarkers, AI tools, or questionnaires. To increase the chances of a project resulting in a valuable discovery, researchers are advised to seek help from an IXA business developer early in their research project. These professionals have a broader view of potential applications and knowledge of what's needed to protect an invention, for example through a patent application. Researchers can reach IXA via ixa-st@amsterdamumc.nl.

Start route: the path from research to invention

- **Research:**
The route begins with conducting research, hopefully leading to interesting results.
- **Invention:**
Sometimes research directly leads to a protectable invention with commercial potential. However, this is usually not the case, and an extra development step in the form of additional research is needed to arrive at a valuable invention. Consider the following examples:
 - When a disease process or drug target is discovered, a drug screen will need to be performed to develop a (patentable) medicine.

- When a new biomarker is discovered, an assay will need to be developed to bring it to market.

To take this step, collaboration often needs to be sought with other internal capacity groups and external parties with expertise in drug screening or assay development. An example of such an internal capacity group is the CANDIDATE Center of Amsterdam Neuroscience. The CANDIDATE center is further elaborated in [paragraaf 5.4](#).

Decision Points

Figure 4 shows several decision points, represented by large circles with checkmarks. The first two circles address whether an invention offers sufficient commercial opportunities and if it can be patented. It's crucial that both the researcher and business developer support the decisions made in these steps. For example, they might choose to proceed without applying for a patent (perhaps because the invention has already been disclosed and is no longer novel - a key patentability requirement), if good commercial opportunities still exist.

- **Commercial potential and patent – Check:**
This step investigates whether a) the invention has commercial potential and b) the invention is patentable.

Commercial potential:

It's important to assess the market applicability of the invention early on, as this is crucial for attracting investors or licensing partners later. At this stage, a well-considered choice is made based on network knowledge, desktop research, and the researchers' own insights. Questions to consider include:

- What problem does the invention solve?
- What are the potential applications?
- How large is the potential market for the intended product?
- Can the product be manufactured profitably?
- Are there factors that could hinder commercialization?
- Is a potential patent enforceable, i.e., can action be taken against infringing parties?

This step also determines if it's commercially viable to apply for a patent, given the significant investment required.

Patentability:

To be patentable, an invention must meet these criteria:

1. **Novelty:** The invention must be new and not previously disclosed.
2. **Inventive step:** The invention shouldn't be obvious to experts in the field.
3. **Industrial applicability:** The invention must have practical use and be capable of industrial application.

Amsterdam UMC's internal patent attorney evaluates the invention's patentability based on these criteria. It's crucial that no posters, presentations, or publications about the invention have been shared, as these count as 'public disclosure' and can harm the invention's novelty.

- **Patent – Filing – Check:**

If an invention meets all criteria and seems commercially promising, the decision to file a patent application is typically made. Patent rights begin immediately after filing. There's a one-year window to add data (including additional experiments), and the patent is published after 18 months. A patent is valid for 21 years from filing, including the first year.

A patent grants exclusive ownership rights to an invention, allowing the applicant to prevent others from using the patented item for commercial purposes (or to permit use through licensing).

Finally, a definitive choice is made between two routes:

1. Existing company:

Amsterdam UMC may opt to have an existing company further develop their invention, especially if the company is well-equipped to bring it to market and scale up quickly. This approach might lead to immediate income and lower risks, but it also means less control over the invention's development, production, and commercialization.

IXA plays a crucial role in finding a suitable company with the right expertise and resources. This requires having enough promotional material to share with potential partners, such as slide decks and publications. A strong collaboration between the researcher and the company can be a key success factor for this route. Therefore, it's beneficial for the inventor and the company to have good communication about the invention before licensing.

Once a company interested in licensing the invention is found, IXA takes responsibility for negotiating and finalizing a licensing agreement, in close consultation with the researcher(s). After this, the company can begin further developing the intended product.

2. Spin-off:

When researchers make a significant discovery, they can choose to develop it further by setting up a spin-off company, working with IXA and Amsterdam UMC Ventures. Amsterdam UMC Ventures is the holding company that manages Amsterdam UMC's shares in spin-offs, which it receives in exchange for intellectual

property (IP) rights and can also invest in. Choosing the spin-off route allows researchers to stay more involved in their invention's development compared to licensing it to an external company. However, creating a spin-off also comes with risks. IXA and the holding company provide support with organizational, financial, and legal aspects. If a researcher opts for a spin-off, the new company must seek seed funding to develop the idea into a viable business model. Various funding options are available for this purpose. More information about some of these investment tools can be found in the overview of [funding instruments in Chapter 5](#).

Challenging steps

The journey from discovery to a start-up or external company sometimes requires additional experiments to validate the concept. Researchers may find this step challenging, as these experiments are often not the most scientifically exciting.

- **Additional experiments:**

Sometimes, extra experiments are needed before a discovery can be patented, for example, if there's insufficient evidence to support the claims. For these additional experiments, researchers can apply for Proof-of-Principle funding through IXA ([see Appendix I](#)).

- **Concept validation:**

To prove that an invention has real potential, it's crucial to validate it. This often means expanding the initial study, testing in a different model, or repeating the test

at another location. While this may not be the most exciting part scientifically, it's often very important for those looking to invest further in the project.

Business Developer / Researcher:

The process steps needed to achieve impact are described below. For each step, we indicate whether it belongs to the business developer's tasks, the researcher's tasks, or both.

- **IDF:** *The Invention Disclosure Form (IDF)* serves as the basis for a patent application and records in detail who invented what and when. This form captures a lot of background information about the invention/knowledge/innovation. It also describes the clinical need and market potential, among other things. This mainly requires input from the researcher; the business developer primarily acts as an editor here.
- **Prior art search:** This refers to a search for all information already in the public domain before filing a patent application (existing inventions, publications, abstracts, posters, lectures, etc.). It serves as a basis for assessing the criteria a patent must meet. IXA's internal patent attorney is responsible for this, with the business developer and researcher also providing input when needed.
- **Freedom to operate:** Having your own patent position doesn't necessarily mean that products based on it can be brought to market without restrictions. They may still depend on other patented technologies, requiring a license. Whether this is the case is the subject of a freedom

to operate search, which we at Amsterdam UMC never do, as it's expensive and we see it as the responsibility of the party licensing our invention.

- **(Early) value proposition:** With an early value proposition, we aim to describe the added value of the invention for potential customers or users. The value proposition is developed early in the process, focusing on the customer's benefit. Why should customers choose this product? What problem does the invention solve? What advantages does it offer? How does it outperform competing alternatives? This responsibility falls to the business developer, with input from the researcher.
- **Licensing:** In practice, Amsterdam UMC won't develop an invention into a final product itself. We typically choose to grant another party the right to use the intellectual property under pre-set conditions (e.g., financial compensation and ensuring affordable availability in low-and-middle-income countries). This is officially documented in an agreement (with an external company or spin-off). The business developer handles this step.
- **Pitch development:** It's crucial to create a strong pitch for the product, especially for securing investment. Investors often seek products with high commercial potential, so a compelling pitch is vital. For spin-offs, this task mainly falls to the researcher and business developer. For licensing to an existing company, this effort is limited. The business developer and researcher are more involved when setting up a spin-off compared to licensing to an existing company.

Spin-off or Existing Company:

- Depending on whether a spin-off or an existing company is chosen, this affects the involvement level of a business developer and researcher. For both options, tasks are transferred to the new party (spin-off or existing company). The involvement of a business developer and researcher remains greater with a spin-off than with a mature company. During the process, it's important to determine if and how the researcher can stay involved and if further scientific research can be facilitated (for example, based on data obtained). How this involvement is structured is part of the valorisation process. Any agreements made must comply with established rules (side activities/spin-off policy).
- **Customer validation:** If there's a (first version of a) product, it's crucial to test it with potential customers.
- **Product:** Eventually, after further development within the spin-off or existing company, a real product emerges that can make an impact.

Impact:

Ultimately, the product may result in positive changes and improvements in society: Impact!

4.3 Clinical Trial Units

In late 2023, the board of directors decided to establish a steering committee and a working group 'Clinical Trial Unit (CTU) organization' to better organize and position the setup and support of clinical research in decentralized and at least one or two central CTUs. A steering committee and a working group will be formed for this purpose. The steering committee includes the chair of division 1, the chair of the Good Research Practice (GRP) committee, and the vice dean of valorisation. Support is explicitly offered for both industry-sponsored and investigator-initiated studies.

The short-term goal is to propose a plan to improve central support for CTU research (e.g., digital planning system, METC approval) and coordinate with supporting clinical departments (e.g., extra capacity for pharmacy, biostatistics, and methodology). This plan will also address career prospects for nurses and the business case for phase 1 and early phase 2 studies.

The longer-term goal (Q4 2024) is to enhance communication and positioning of a hybrid network of CTUs and activities at Amsterdam UMC, in collaboration with IXA. This aims to increase focus on phase 1 and (early) phase 2 biotech, pharma, and medtech studies in Amsterdam UMC's acquisition policy. More fourth-stream funding means more research money for Amsterdam UMC, ultimately benefiting patients. It's crucial to optimize patient access to trials while conducting them efficiently and sustainably to minimize patient burden and environmental impact.

A comprehensive, up-to-date overview of various trials at Amsterdam UMC is available on the Business Intelligence dashboard (accessible only via Amsterdam UMC intranet). This dashboard includes information on the total number of studies within Amsterdam UMC, and the number of studies per phase and type.

4.4 6-step model

Successful impact initiatives stem from researchers' creativity, curiosity, and intrinsic motivation. Researchers navigating the impact process often begin by asking with what, with whom, for whom, when, and how to start. These open questions need to be answered throughout this process to ensure success. Amsterdam UMC has developed an impact model for its researchers to guide them through the process of creating impact. This model addresses all relevant aspects for a successful impact initiative. A compact version of this model is shown in [Figure 5](#), with a more detailed version in [Figure 6](#).

6-Step Impact Model

The model outlines the impact process in six steps, starting from the initial point. Each step includes relevant components. This model and its elements can be applied to all four valorisation strategies. The model is circular and iterative, mirroring the nature of impact creation. The order of actions may vary, sometimes requiring a return to an earlier step or simultaneous execution of steps. While there's no single correct way to navigate the impact process, all steps mentioned in the model are crucial for success. Experienced researchers at Amsterdam UMC have tested and found the model very useful. It's also based on models developed by national and international funding bodies and policymakers (see the checks & tools in the extended version of the model in [Figure 6](#) for further details and sources).

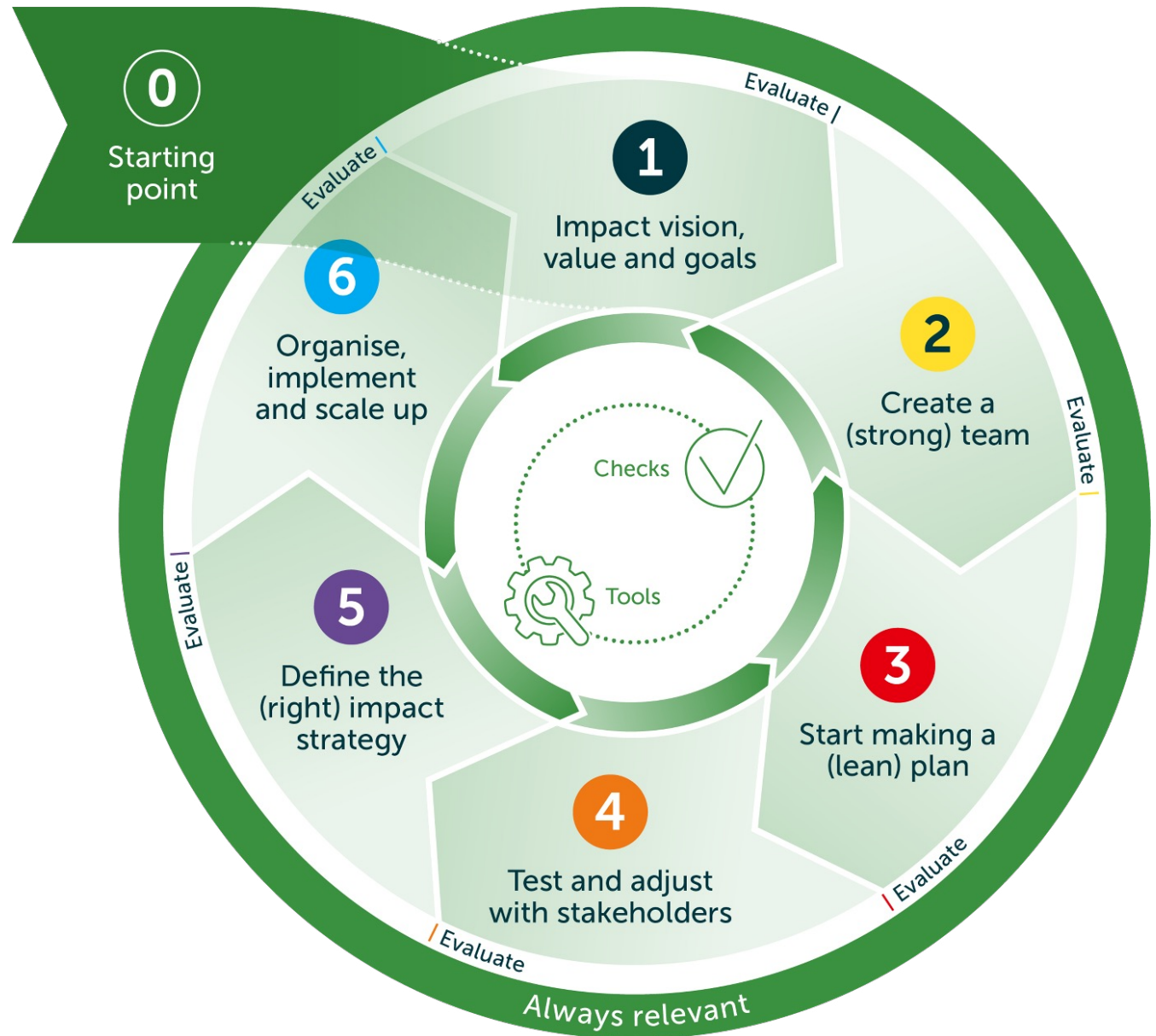


Figure 5. 6-Step Impact Model: This model demonstrates in 6 steps how a researcher can achieve impact. The model is circular and iterative, offering support, checks, and tools throughout the impact process.

Creating societal impact in healthcare and public health

More information?

Diane Schöller (d.scholler@amsterdamumc.nl)

6-Steps Impact Model Amsterdam UMC

0 Starting point & always relevant	1 Impact vision, value and goals	2 Create a (strong) team	3 Start making a (lean) plan	4 Test and adjust with stakeholders	5 Define the (right) impact strategy	6 Organise, implement and scale up
<p>Your commitment.</p> <p>Find the right support.</p> <p>Talk, network and ask for feedback. Internal and external.</p> <p>Be flexible and work on your skills.</p> <p>Team & relationships are key.</p> <p>You need passion, drive and perseverance.</p> <p>Evaluate every step you take.</p> <p>Build in go/ no-go decisions and make adjustments.</p> <p>Do not forget to have fun!</p>	<p>Which contribution to (innovation in) solving to-day's urgent and important issues in healthcare or public health are you going to make? Based upon your research?</p> <p>What societal impact are you going to make? What is the value?</p> <p>For whom are you making a difference and why? Is there a need?</p> <p>What is your impact vision? And what are your goals?</p> <p>What drives you?</p> <p>Is your vision shared by others?</p>	<p>Your commitment. Who do you need in your team to execute your vision and reach your goals? In terms of skills, (internal and external) capacity and commitment?</p> <p>Are you able to take the role of role model? Which position do you want to take and what skills do you need to improve?</p> <p>Be clear and open on your vision, goals, interests, tasks, responsibilities, incentives for the team and roles.</p> <p>Organize regular team meetings and updates, communicate progress, doubts and risks.</p>	<p>Develop a concrete, simple, realistic and lean plan and write everything down on a piece of paper (max 2 A4).</p> <p>In what ways is your impact vision unique?</p> <p>For whom exactly are you making a difference and why is it important?</p> <p>How and when do you want to execute your plan? What is your timeline?</p> <p>What resources do you need (team, materials, organization, investments)?</p>	<p>With whom do you need to collaborate to be able to execute your vision? Who are your stakeholders (internal and external)?</p> <p>What are the interests and ambitions of your stakeholders? How do these match yours?</p> <p>How important are these stakeholders to execute your vision? How can they support or block your efforts? Do you speak each other's language?</p> <p>Start engaging in conversations with your stakeholders and test your vision and plan.</p>	<p>The 4 impact strategies Amsterdam UMC developed are the inside-out, outside-in, partnerships and public outreach strategy. Examples are academic workplace, postgraduate education, policies and guidelines, contract research, creating spin-offs.</p> <p>What is the best and most effective strategy to create societal impact and make your vision come true? Or is it a mix of strategies?</p> <p>Which strategy suits best for successful implementation and scaling up?</p>	<p>What is needed 'organization' wise to implement and scale up?</p> <p>Is it possible to imbed the rganization of your vision in your department or institute?</p> <p>Can you develop a sustainable financial model? What are the costs of organization and further development?</p> <p>Or is it possible or even better to outsource the rganization to a partner or one of the stakeholders? Or create a separate entity?</p>
<p>Checks & tools</p> <p>Training programs (IXA, APH Amsterdam Center for Implementation Science, NOW/ ZonMw) and IXA support.</p> <p>Models: J.P. Kotter, 8 steps for leading change Societal Readiness Levels Design thinking method Guido Vermeeren, Verandering; wat maakt het succes?</p>	<p>Checks & tools</p> <p>Ask for support from your business or impact developer (also for legal issues as IPR and relevant regulations as MDR).</p> <p>Is there support from your superiors and valorisation officers of your OZI?</p> <p>Desk research on your vision: what is already out there?</p>	<p>Checks & tools</p> <p>Figure out what your talents are and the talents of your team. And don't forget to check everyone's commitment.</p> <p>360-degree feedback</p> <p>Implementieplan ZonMw (see 'de invultool')</p>	<p>Checks & tools</p> <p>SWOT analysis Business model Canvas for the 21st century Research Impact Canvas Checklist Impact</p> <p>Calculate your costs and (possible) revenues.</p>	<p>Checks & tools</p> <p>Prepare if you engage in conversation. Checklists for networking meetings & successful collaboration. Stakeholder analysis and communication Legal: NDA/ CDA if necessary</p>	<p>Checks & tools</p> <p>Position Paper Valorisation Amsterdam UMC</p> <p>Amsterdam UMC use cases and APH Impact stories</p>	<p>Checks & tools</p> <p>Intervention Scalability Assessment tool (ISAT)</p> <p>Implementing successfully in 7 steps (Amsterdam UMC) and training programs AmsCIS</p>

Figuur 6. 6-Steps Impact Model Amsterdam UMC: This figure is an expanded version of the impact model. It elaborates on the steps in the impact process. Additionally, the model includes (links to) useful checks and tools that researchers can utilize during their journey to impact.

In addition to the 6 steps and starting point, the impact model includes supplementary checks & tools. It's advised to use these as well. Creating impact often involves "just starting and doing," but not without proper support and tools during the process. The model aims to inspire all four valorisation strategies and can be used practically to develop impact ideas within Amsterdam UMC. For further support and optimization of the impact process, researchers can contact the business developer or impact developer of their research institute or reach out via IXA.

4.5 Implementation support

One of the final steps in the impact process is implementation. Putting a new idea or concept into practice can often be complex and challenging. The following websites offer support during the implementation process.

The [Amsterdam Public Health \(APH\) Implementation Science Knowledge Hub](#) from the Amsterdam Center for Implementation Science (AmsCIS) provides tools, resources, and aids that can be useful in the initial stages of an implementation process or related research. The website features various articles and books, as well as information about courses, events, and helpful websites.

De SharePoint-page '[Succesvol implementatie](#)' outlines how to bring an idea into practice step-by-step and iteratively. This website contains comprehensive information about seven implementation steps with

detailed information for each step, including videos, tools, and templates.

4.6 Innovation Districts

The City of Amsterdam has designated eight [innovation districts](#) that collectively contribute to promoting a livable, healthy, and sustainable society. These are: (1) Amsterdam Science Park, (2) Knowledge Quarter (Innovation District Zuidas), (3) Marine Territory, (4) Knowledge Mile, (5) Roeterseiland Campus, (6) University Quarter, (7) Schinkel Quarter (Health & Innovation District), and (8) Amsterdam Life Sciences District (ALSD). The innovation districts offer opportunities for collaboration, pooling of resources, and better access to innovation and technology, making them ideal incubators for valorisation. Amsterdam UMC is part of two innovation districts: the Meibergdreef location is the engine of the Amsterdam Life Science District (ALSD), while the Boelelaan location, together with VU University, forms the heart of the Knowledge Quarter (Innovation District Zuidas).

To enhance Amsterdam's innovation capacity and address societal challenges, the City of Amsterdam published a Strategy for Innovation Districts Amsterdam in 2023 (8). Amsterdam UMC is in talks with the leaders of the Health Innovation Districts to create an implementation plan. In 2024, the Communication Department will work on developing an overarching brand for the innovation districts in life sciences and health.

4.7 Public Events

Amsterdam UMC organizes various public and patient events, both large and small-scale, with the common goal of connecting people and sharing knowledge.

First, there are large-scale events, with the Anatomical Lesson being a prime example. Each year, Amsterdam UMC hosts this medical public lecture at the intersection of medicine and society. An internationally renowned speaker in their field is invited annually. About 2000 people are invited to the concert hall for this lecture. Afterward, there's a reception for guests, making it an excellent opportunity for networking and knowledge exchange.

Additionally, there are smaller-scale public events; various centers within Amsterdam UMC organize their own days for the public and patients. These events generally focus on patients and their loved ones and are often intended to provide information and/or share research results. This event offers an informal way to connect patients/public with science.

Moreover, it provides patients with an opportunity to meet others in similar situations (fellow sufferers).

One example is the family day for sickle cell patients, organized every two years by both paediatric and adult care departments. The main goal of this day is to provide patients and their loved ones with an enjoyable experience, focusing on informal gatherings and knowledge sharing among patients (and their

parents/caregivers and families). The program starts with a buffet, followed by fun activities for children. For parents/caregivers, there's an expert panel and a room full of people with firsthand experience in sickle cell disease.

Another example is the public evening organized by the Knowledge and Care Center for Gender Dysphoria in late 2023. This event was open to anyone who had participated in research at the center or was interested in gender incongruence research and treatment. During this evening, key findings and research plans were presented.

Furthermore, Amsterdam UMC also takes part in national public day initiatives. The National MS Day is a good example of this. These existing public events can serve as inspiration for organizing new public days.

4.8 Communicatie

To increase Amsterdam UMC's impact on public debate and more explicitly and sustainably anchor valorisation as the fourth core task within the organization, a clear marketing and communication strategy is crucial. In collaboration with the Communication Department, a strategy is being developed using a communication frame. This method helps map out the right questions and various building blocks to develop a communication strategy. The communication frame consists of the following components: internal situation, vision, ambition, external situation, stakeholders, accountability, approach, and resources.

The Communication Department implemented this method alongside members of AVB and IXA. The resulting ambition was: 'Through communication, we aim to increase visibility of the core task of valorisation, emphasize its urgency, and foster a positive attitude towards the subject (showing our true colours as an organization).' Following the strategic communication frame, a communication plan will be developed. This plan will include specific actions and brief justifications for their selection. It will address questions like: *"What exactly needs to be done to realize the ambition? What is the goal/target audience? How can the goals be achieved? Who will take on this task? Which medium/channel/message will help us reach that target audience and goal?"*.

Meanwhile, work on a website is underway. [The Amsterdam UMC Today](#) website features a collection of use cases (practical examples) of research that has demonstrably created societal impact through valorisation. The ['Societal Impact'](#) section showcases examples that align with one or more of the four valorisation strategies.

Staff and researchers are asked to contact the Communication Department if they have a practical example of research that has led to demonstrable societal impact, such as a change in national guidelines or an example that has resulted in cost savings. This way, practical examples can be used in communications about the theme of valorisation. Researchers can submit their own practical examples

to Caroline Arps (c.arps@amsterdamumc.nl) en Aniek Büller (a.buller@amsterdamumc.nl). These will then be discussed and evaluated for placement by the communication department's editorial team.

5

Ecosystem and (academic) entrepreneurship



A well-functioning ecosystem of academic entrepreneurship provides fertile ground for valorization. To optimize the synergy between academic knowledge and entrepreneurship, Amsterdam UMC employs various instruments, which are presented in this chapter.

5.1 Amsterdam UMC Research BV

Amsterdam UMC has decided to establish a joint Research BV for both locations, effective August 2, 2024. This entity will house numerous temporarily (externally) funded research projects for both sites, as well as financial project management. The Research BV's organizational design aims to meet researchers' needs and interests, providing maximum support. Researchers can access (financial) advice and assistance throughout the entire project cycle, from grant application to accountability. As a wholly-owned subsidiary, the Research BV is an integral part of Amsterdam UMC. It's not a policy-maker or decision-maker pursuing its own course, but rather an operational entity housing temporarily externally funded researchers and managing research funds. Responsibility for all core tasks, including research, remains with the line organization, supported by Amsterdam UMC's Research BV. This support is based on transparency and collaboration rooted in trust.

De Research BV offers the flexibility needed to support the project-based nature of scientific research funding in terms of personnel policy, planning, and remuneration. Moreover, a separate research organization positively impacts the ability to attract funding, partly directly

through additional grant income and partly indirectly through lower implementation costs. By setting up a separate research organization, earmarked research funds are created, allowing benefits and reserves to be used as seed capital for new research. Finally, the Research BV ensures that research staff can be retained and offered prospects within Amsterdam UMC. With these financial and organizational advantages, the Amsterdam UMC Research BV helps Amsterdam UMC to conduct research efficiently and successfully.

5.2 Role Models

Amsterdam UMC already boasts many excellent examples of valorisation initiatives across all four valorisation strategies. For researchers looking to start their own ventures, leveraging existing use cases and successful valorisation initiatives is a valuable strategy. Role models, in the form of successful entrepreneurs and valorisation pioneers, serve as inspiring figures who provide concrete examples of how research and innovation can be effectively translated into societal impact.

By learning from and being inspired by others' experiences, researchers can gain valuable insights, tips, and tricks to help them set up and develop their own enterprises.

Familiarizing oneself with existing use cases allows researchers to:

- Find inspiration by seeing what's possible and what can be achieved through research valorisation.



- Gain insight into the practical application of research results and technological innovations in the market.
- Learn from the challenges, successes, and failures of previous ventures, helping them avoid pitfalls and seize opportunities.
- Connect with key individuals involved in these applications, enabling them to receive valuable mentorship and advice.
- Identify potential partners, investors, and stakeholders who can contribute to the success of their own ventures.

This approach highlights the importance of actively leveraging existing experiences and successes of role models as valuable sources of knowledge and inspiration.

The [Amsterdam UMC Today](#) website showcases a wide range of use cases, and inspiring examples of research generating impact through valorisation are regularly uploaded to [this IXA website](#). These IXA Stories contain videos where researchers share experiences from the impact path they've already travelled. They explain how they started, what their first big step was, what obstacles they encountered along the way, and how they overcame them. Additionally, they share what helped them transform their idea into a product or service, what made the difference for them, what success factors they had, how they dealt with setbacks, and most importantly, what it yielded for them. Other researchers can use these videos as

a source of inspiration.

Here are some additional examples of successful valorisation projects within Amsterdam UMC:

Use-cases

[StrokeViewer](#)

[Stroke-triage in de ambulance](#)

[Antilichaam tegen RS-virus](#)

[eHealth-app voor sneller herstel na operatie](#)

[HIV vaccin](#)

5.3 Matchmaking and organization by leaders of large consortia

The Amsterdam Valorisation Board (AVB) of Amsterdam UMC is a key advisory body for its researchers who initiate large consortia. The AVB offers strategic guidance and insights to optimize the formation and success of these often (inter)national collaborations. The AVB encourages collaboration by bringing together various stakeholders, facilitating knowledge exchange, and actively forming partnerships, sometimes with financial support, to ultimately achieve more impactful results. AVB members also play a crucial role in identifying and creating regional, national, and international funding opportunities for consortia, leveraging their extensive network and market knowledge. As trusted advisors, they aim to play a vital role in promoting knowledge and innovation for the benefit of our healthcare system and society.

5.4 Use cases van het ecosysteem

Beyond its role in matchmaking and organizing large consortia through the AVB, Amsterdam UMC also invests in expanding the ecosystem that nurtures valorisation activities. This includes cross-organisational partnerships (such as the CANDIDATE Center and the community for Principal Educators). These examples will be explained in the following paragraphs.

Amsterdam Prevention Network

Recently, the 'Amsterdam Prevention Network' was established. This network consists of researchers interested in disease prevention and health promotion. Initially, it began with researchers involved in the Prevention theme as part of the [Sector Plan 'Accelerating Health' \(NFU\)](#). Over time, the network will be expanded to include other researchers active in prevention within the Amsterdam region, as well as professionals working in health policy and health-care practice.

The network's mission is to strengthen knowledge about effective prevention and to ensure this knowledge is used to improve public health and reduce health disparities. This knowledge is being developed by the involved researchers in collaboration with partners from the field. The network acts as an 'outboard motor' that will increase the societal impact of research activities by fostering collaboration between researchers, practitioners, and policy-makers. The foundation for this is the visualization of a knowledge infrastructure, within which the knowledge generated by researchers flows, into prevention practice.



Figure 7. **Amsterdam Prevention Network Infrastructure:** This figure shows the different phases of the infrastructure:

- **Orange:** Generating (and combining) knowledge in public health.
- **Red:** Developing and evaluating solutions.
- **Light Purple:** Implementing knowledge in best practices, guidelines, and legislation.
- **Purple:** Integrating knowledge into education.
- **Blue:** Implementing evidence-based prevention in practice.
- **Green:** Monitoring the effects of evidence-based prevention. This infrastructure, and thus the network, will promote the progression of knowledge through this cycle. For example, it will encourage the creation of syntheses of available knowledge, which can then be incorporated into guidelines and education, ultimately forming the basis for prevention practices. Monitoring these practices subsequently leads to new research questions.

Amsterdam Institute of Sport Science

The Amsterdam Institute of Sport Science (AISS) is a network organization of experts and partners in sports science, education, healthcare, and sports practice. The network's main goal is to establish and strengthen the connection between practice and science, leading to a greater societal impact in the areas of sports, physical activity, and health. AISS serves as a hub for valorisation, where knowledge and expertise are transformed and directly applied to sports and health practices. Additionally, it gathers questions from the field and links them to the appropriate expertise within the network to conduct research.

AISS has a hub on the VU campus, which literally bridges the gap between practice and science, fostering connections. Here, collaborations with sports organizations, healthcare providers, and government agencies are formed, knowledge and networking events are organized, and educational programs and training courses are developed.

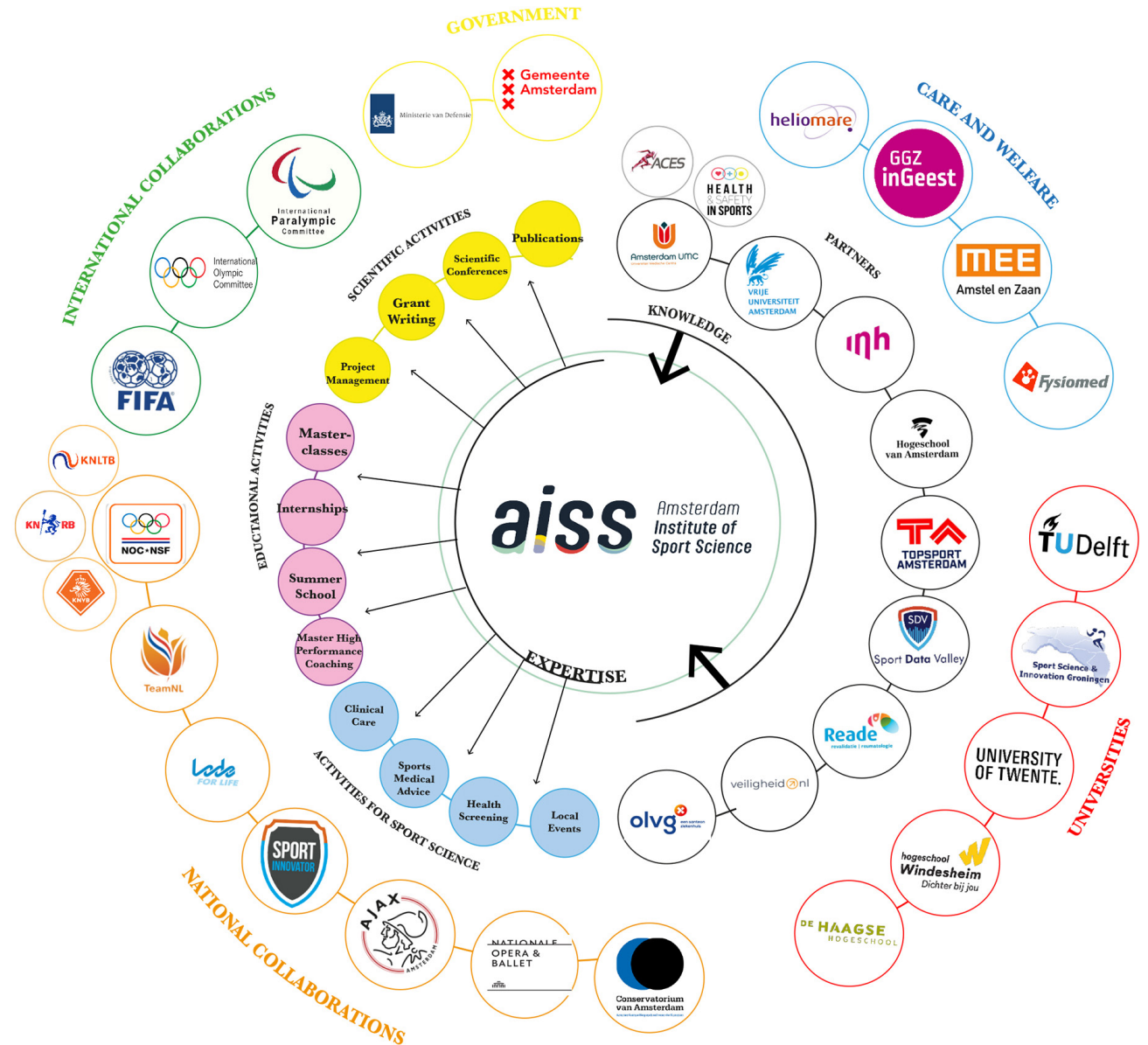


Figure 8. AISS Partners and Collaborations:

This figure shows AISS's partners and collaborations. More details can be found on the [AISS website](#).

The CANDIDATE Center: CNS target and drug discovery

The scientific quality and output of Amsterdam UMC's research institute Amsterdam Neuroscience are among world's best. Ideally, research results should also lead to the development and licensing of new medications. To bridge this gap, the CANDIDATE Center works closely with principal investigators to transform new insights into disease processes into drug development projects.

The CANDIDATE Center serves as a translational unit for new drug development within Amsterdam Neuroscience and is open to all principal investigators in the institute. It offers expertise and facilities for target discovery and drug development for neurological disorders. Researchers can approach the CANDIDATE Center with ideas about disease mechanisms or model systems that could serve as starting points for target or drug screens. Depending on the starting point, a project for target discovery/validation is initiated or

a drug screen is developed. This includes genetic CRISPR screens to identify new targets for a disease process, or the design, optimization, and execution of drug screens using enzymatic assays. The ultimate goal of these projects is to jointly generate new intellectual property in the form of molecular structures of new drugs. Additionally, each project begins with the development of a companion diagnostic related to the disease process or drug target. Figure 9 visually represents the CANDIDATE Center model.

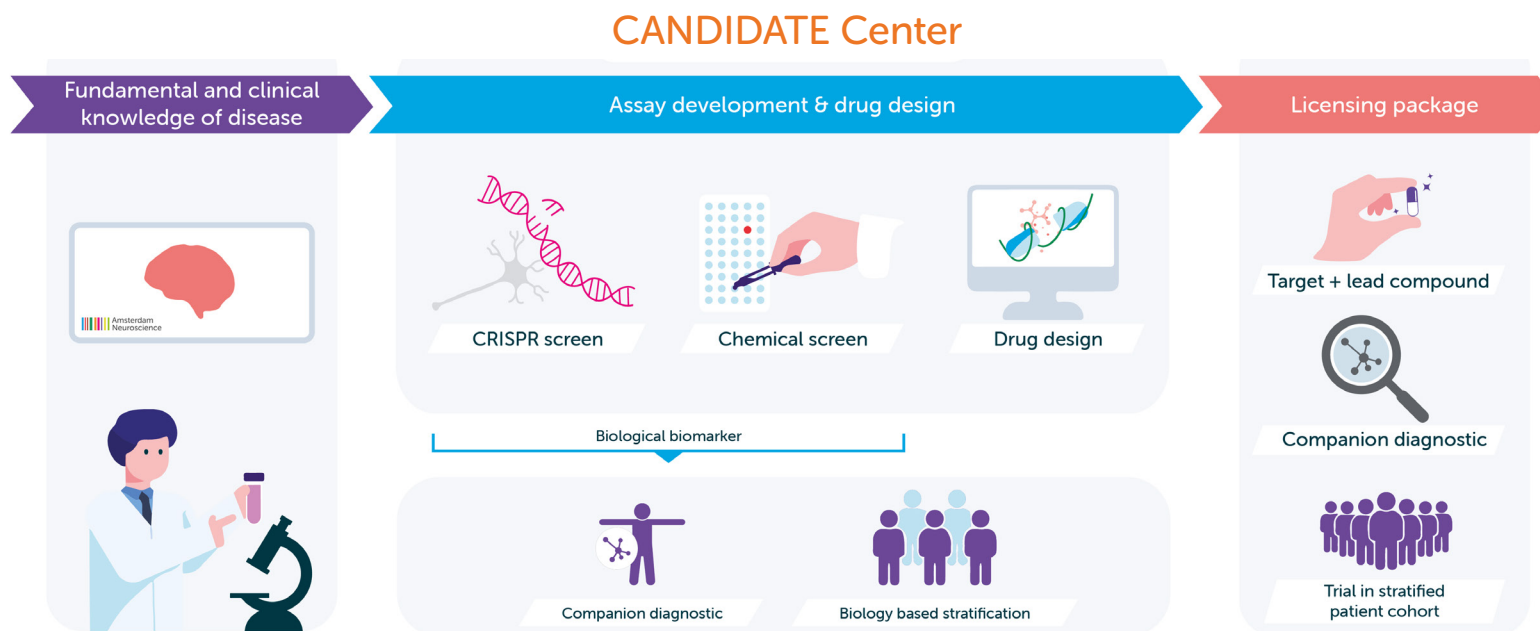


Figure 9. The Candidate Center model:

Is one way to bridge the gap between research results and patents/licenses. More details can be found on the [CANDIDATE center website](#).

Projects are always carried out as collaborations between the involved researcher(s) and the CANDIDATE Center. Researchers can approach the CANDIDATE Center directly, but the Center also proactively initiates discussions with researchers to explore ideas for drug development. Every six months, two new projects are selected to start. The selection is based on established criteria in consultation with a scientific advisory board. As part of the [ADORE project](#), the CANDIDATE Center's activities will be expanded to oncology in the coming years.

De Principal Educator community

In 2012, the board of directors of the former Academic Medical Center (AMC) introduced Principal Educators (PEs). This initiative followed the establishment of Principal Investigators (PIs), aiming to strengthen the position of education and training in the academic medical context, similar to research. The PE program offers participants a stimulation grant to benefit education and training.

The PE program operates under the Vice Dean of Education & Training, who is affiliated with the UvA Faculty of Medicine and is also responsible for quality assurance and professionalization of Medical Post-graduate Education (MPE). This means that teachers and trainers associated with one of the UvA Faculty of Medicine programs or MPE within Amsterdam UMC are eligible for the PE program. Since 2021, Amsterdam UMC, in collaboration with the Amsterdam University of Applied Sciences, has also been appointing Principal

Nurse Educators. These individuals have a nursing background, research experience, and are involved in education.

Teachers and trainers are the enthusiastic bearers of quality and innovation in education and training. By appointing some of them as PEs, based on their previous contributions to educational quality and their proposed projects, space is created to give a significant boost to educational and training ambitions.

The PE group, alongside individual projects and networks, collectively forms the PE community. This community develops a vision for education and training, fostering the exchange of expertise and enthusiasm in the field. PEs help shape this community, drawing inspiration from colleagues while acting as bridge-builders between the educational organization and their departments. They make education, training, and innovation visible both internally (within Amsterdam UMC) and externally (other UMCs, UvA, internationally).

PEs contribute to educating and training students and colleagues. They actively share knowledge and experiences at Education and Training Days, in teacher professionalization, and in broader (national or international) forums aligned with their healthcare education projects. Curriculum adjustments are ongoing, based on up-to-date insights in areas such as:

- Internationalization
- Diversity and inclusion
- Safe learning environment
- Self-regulated learning
- Lifestyle and prevention
- Technological solutions for remote learning
- Making choices in healthcare
- Sustainability
- Recruitment and selection of future specialists

Importantly, PEs are key links in the academic hospital's education and training component. As clinicians with proven track records in education, training, and research, PEs can engage, connect, and inspire broad groups of colleagues.

5.5 Housing for biotech and medtech businesses

Amsterdam UMC is also committed housing of knowledge from spin-off and spin-in companies by building incubator facilities. These are set up in various Innovation Districts focused on life sciences and health (see section 4.6) by organizations like Matrix (where Amsterdam UMC is a shareholder) and Kadans Science Partner.

A new addition is the Life Science Health (LSH) Incubator Building on Boelelaan, being built by VU in partnership with Amsterdam UMC. This sustainable, cutting-edge building, set to open in 2025, will offer offices and labs, providing an ideal space for biotech companies looking to collaborate with Amsterdam UMC.

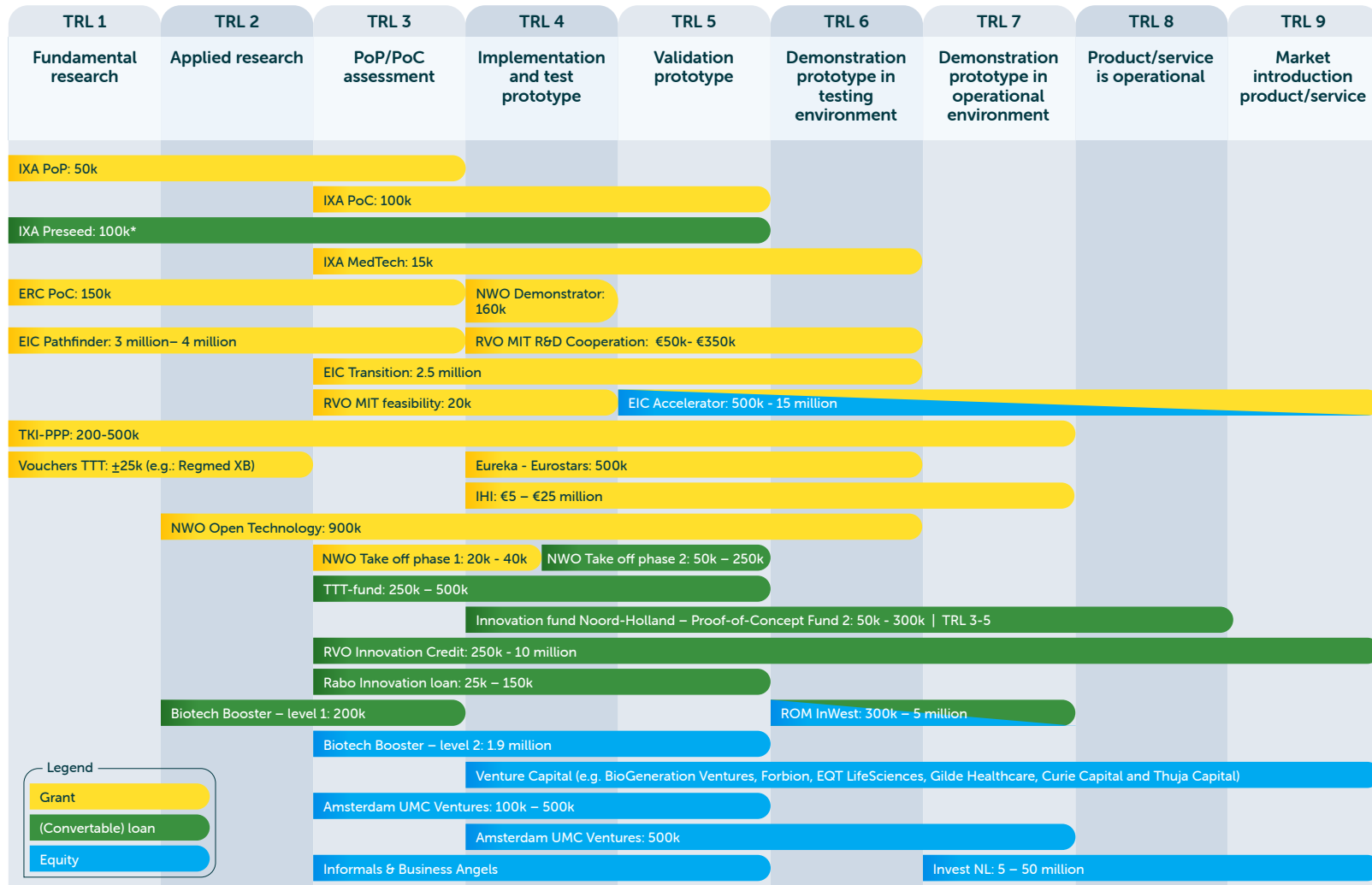
Another recent example is the Ultra-Plus building by Kadans Science Partner, newly opened at the Medical Business Park on Meibergdreef. This facility also offers office and lab spaces, mainly for innovative medtech companies.

5.6 Investment tools and funds

A wide range of investment tools (for spin-off companies) is available, from Proof-of-Concept and pre-seed funds to start-up financing through North Holland Innovation Fund, Regional Development Company (ROMinWest), InvestNL, and the Biotech Booster. [Figure 10](#) shows an overview of various investment tools at different Technology Readiness Levels (TRLs). [Appendix 1](#) provides more details on these tools. For more information about IXA's financing tools, researchers can contact IXA at ixa-st@amsterdamumc.nl; for grant information, they can reach out to Research Grant Support at rgs@amsterdamumc.nl.

The financing scheme mentions several investment funds, also known as venture capitals. These are large investment companies that provide risk capital to businesses and startups with high growth potential. They invest in early-stage companies in exchange for equity, enabling startups to grow, expand operations, and develop new products or services. [Appendix 2](#) provides an overview of six major healthcare investors.

Funding instruments for Amsterdam UMC spin-offs



* = no specific TRL defined, can be set up at any time depending on the nature of the invention and the character of the start-up.

Figure 10. Overview of funding instruments for Amsterdam UMC spin-offs: This figure presents various funding tools. It distinguishes between grants (yellow), loans (green), and equity (blue). Above the figure, funding options are broken down into different Technology Readiness Levels (TRLs). When a single amount is listed for funding, it indicates the maximum available. This maximum is often requested, but smaller amounts are possible. In some cases, the maximum amount may be the exception rather than the rule. For an explanation of Figure 10, see Appendix 1.

Afterword



Creating Value for Society Together!

Valorisation offers us a sharp focus to explicitly and purposefully increase our value to society in everything we do, actively contributing to the advancement of public health and a healthier society (1).

With this Valorisation Compass 2024-2025, we hope to have provided an overview of the tools available in 2024-2025 to realize the valorisation process. The aim is to equip all Amsterdam UMC employees with practical handles, tools, and insights to successfully tackle the challenges of valorisation. The Compass is thus a next step in fulfilling our valorisation mission. As many new insights and initiatives will emerge in the coming years, we expect to update the Compass regularly.

As stated in the Valorisation position paper (2023), Amsterdam UMC has explicitly committed to making all four valorisation strategies successful (1). We are communicating more visibly about what we already do in valorisation and better showcasing where Amsterdam UMC can make an extra contribution. Since last year, we've also been facilitating more targeted matchmaking between researchers, external stakeholders, and the social field through IXA's dedicated business and impact developers. And now, by publishing this Compass!

For practical and targeted questions about valorisation support, researchers can contact IXA at:
ixa-st@amsterdamumc.nl.

For policy inquiries and specific valorisation questions, researchers can reach out to AVB members (see colophon) associated with various research institutes, or contact the AVB chair and vice-chair at:
rvb-avb@amsterdamumc.nl.

References



1. Amsterdam UMC's 'Societal Impact' position paper, see [Valorisation_Societal impact_Position Paper_Amsterdam UMC_Digital_Sept 23.pdf](#)
2. See [Wat we doen – ZE&GG \(zorgevaluatiegepastgebruik.nl\)](#)
3. See [Kennisagenda's | Federatie Medisch Specialisten \(demedischspecialist.nl\)](#)
4. Position paper 'Recognition & Rewards' by the Netherlands Federation of University Medical Centers (NFU), see [Position paper - Room for everyone's talent - Recognition & Rewards \(recognitionrewards.nl\)](#)
5. See: [Erkennen en waarderen wetenschappers | NFU](#)
6. Iping et al. (2021) *Research Impact of the Dutch University Medical Centres*. Nederlandse Federatie Universitair Medische Centra. Accessed on March 28, 2024, from [210430_NFU_21.00442_CWTS_profileringsrapportage_2020_25_spreads.pdf](#)
7. See: [Onderzoek en innovatie in de regio | NFU](#)
8. Amsterdam Innovation Districts Strategy (2022) by the Municipality of Amsterdam, see [Amsterdam Innovation Districts Strategy \(Draft\) - openresearch.amsterdam](#)

Colophon



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Appendix I

I - Overview of funding instruments for Amsterdam UMC spin-offs (description of figure 10)

Funding instrument	Description	Amount
IXA PoP	The IXA Proof-of-Principle (PoP) aims to show that a specific mechanism works, enabling patent filing or further research to expand the use of an already patented invention.	Grant: €50,000
IXA PoC	The IXA Proof-of-Concept (PoC) supports technical feasibility studies for an idea/concept/invention, paving the way for investment. This study further validates the mechanism, for example, by proving its effectiveness in a mouse model.	Grant: €100,000
IXA Preseed	The IXA Preseed funds activities related to starting a new company, such as market research, business plan development, freedom-to-operate searches, and potential salary costs for the Amsterdam UMC employee who is or aims to be the spin-off's founder.	Loan: €100,000
IXA MedTech	The IXA MedTech is designed to further develop a medical device (for example, creating a prototype).	Grant: €15,000
ERC PoC	The ERC Proof-of-Concept tests the feasibility and market potential of research results from a previously awarded ERC grant.	Grant: €150,000
NWO Demonstrator	The NWO Demonstrator supports the development of a product or service at the 'Minimal Viable Product' level (TRL4) and its knowledge transfer.	Grant: €160,000
EIC Pathfinder	The EIC Pathfinder targets early-stage scientific, technological, or deep-tech research and development. This grant funds research that develops the scientific foundation for breakthrough technologies.	Grant: €3 - €4 million
EIC Transition	The EIC Transition is intended for the final development and validation of a technology in the lab, as well as the development of a solid business case, with the goal of bringing the technology to market.	Grant: €2.5 million
EIC Accelerator	The European Innovation Council (EIC) Accelerator is for businesses with a radically new idea (highly innovative and game-changing, thus high-risk and complex). Both a grant and an investment are possible.	Grant: €2.5 million Investment: up to €15 million
RVO MIT R&D Collaboration	The RVO MIT R&D Collaboration grant funds the development or innovation of products, production processes, or services. The project must involve industrial research and/or experimental development, carried out by at least two SMEs.	Grant 'Small': €50,000 - €200,000 Grant 'Large': €200,000 - €350,000
RVO MIT Feasibility	The RVO MIT Feasibility grant supports SMEs conducting feasibility studies to demonstrate the economic and technical viability of their projects. The study can be supplemented with industrial research or experimental development.	Grant: €20,000

TKI-PPP	The Top Consortium for Knowledge and Innovation - Public-Private Partnerships (TKI-PPP) is designed for innovative research projects within PPPs.	Grant: €200,000 - €500,000
TTT Vouchers	Thematic Technology Transfer (TTT) vouchers are part of national valorisation programs. These vouchers support 'Proof of Concept' or 'Business Development' activities.	Grant: ± €25,000
Eureka – Eurostars	The Eurostars grant program funds international collaborative R&D and innovation projects led by SMEs.	Grant: €500,000
IHI	The Innovative Health Initiative grant supports projects developing or improving innovative medical technology solutions. These projects should be user-friendly, address ethical issues, and be ready for integration into hospital environments.	Grant: €5 - €25 miljoen
NWO Open Technology	The NWO Open Technology grant is for application-oriented technical-scientific projects. It supports initiatives that contribute to making technological knowledge and innovations public and accessible.	Grant: €900,000
NWO Take-off Phase 1	NWO Take-off Phase 1 is designed to investigate the feasibility of commercially applying an innovative research result.	Grant: €20,000 - €40,000.
NWO Take-off Phase 2	NWO Take-off Phase 2 aims to create and stimulate new business activities and entrepreneurship.	Lening: €50,000 - €250,000
TTT-funds	In addition to vouchers, some TTT programs offer financing to make spin-offs 'investor ready'.	Convertible loan: €250,000 - €500,000
Innovation Fund North-Holland – POC-2	The POC2 from Innovation Fund North Holland supports innovative Proof-of-Concept projects related to the shareholding knowledge institutions of Innovation Fund North Holland (UvA/HvA/Amsterdam UMC/VU/Sanquin).	Convertible loan: €50,000 - €300,000
RVO Innovation Credit	The RVO Innovation Credit is for developing innovative projects with significant technical risks and good market prospects. This grant is intended for both spin-offs and established companies.	Loan: €250,000 - €10.000,000
Rabo Innovation Loan	The Rabo Innovation Loan is for startups contributing to digitalization, sustainability, and/or vitality.	Loan: € 25,000 en €150,000
Biotech booster Level 1	The Biotech Booster supports early-stage biotech projects, aiming to commercialize them. Level 1 focuses on 'Proof-of-Principle' and developing a solid business case.	Grant: €200,000
Biotech booster Level 2	The Biotech Booster supports early-stage biotech projects, aiming to commercialize them. Level 2 covers out-of-pocket and personnel costs.	Investment (with repayment option if licensed): €1.9 million

ROM In West	ROM In West funding targets startups and fast-growing SMEs, aiming to boost regional economic growth in North Holland. It strengthens financing, focusing on sustainable business activities and innovative propositions within SMEs.	Investment or convertible loan: €300,000 to €5 million
Venture Capital / Investment Companies - BioGeneration Ventures - Forbion - EQT Life Sciences - Gilde Healthcare - Curie Capital - Thuja Capital	Venture capital, provided by investment firms, supplies startups with funds to develop and grow innovative ideas and business models. A detailed explanation of the various investment companies is given in Chapter 5 under the heading Investment Funds.	Investment: Amount varies per investment company.
Amsterdam UMC Ventures	Amsterdam UMC Ventures Holding has its own fund. They can invest in the early stages.	Investment (and in some cases a convertible loan): €100,000 - €500,000
Amsterdam UMC Ventures	For highly successful companies, Amsterdam UMC Ventures Holding can invest up to an additional €500,000.	Investment (and in some cases a convertible loan): €500,000
Informals & Business Angels	This is money from investors without an investment company, who invest early in a project. For example, through an acquaintance with significant wealth.	Investment: Amount varies.
Invest-NL	Invest-NL invests in companies that make an impact.	Investment: €5 million - €50 million



Appendix II

II - Overview of six major healthcare investors

	Focus	Sector	Ticket size	Link website
BioGeneration Ventures	BioGeneration Ventures invests in early-stage European life sciences companies. Their portfolio mainly consists of biotech firms developing truly groundbreaking solutions for significant unmet medical needs.	Therapeutics	€1 miljoen - €15 miljoen	BioGeneration Ventures
Forbion Ventures (slightly later than BioGen)	Forbion Ventures invests in a slightly later stage in European life sciences companies. Forbion's investments must have a positive impact on patients' health and well-being.	MedTech, Therapeutics	€10 miljoen tot €30 miljoen	Forbion
EQT LifeSciences	EQT LifeSciences invests in life sciences and healthcare companies. They focus particularly on innovative solutions for unmet clinical needs.	MedTech, Therapeutics, Digital Health	€10 miljoen tot €60 miljoen	EQT Life Sciences
Gilde Healthcare	Gilde Healthcare invests in medical technology, digital healthcare technology, and new drugs in Europe and North America. Gilde Healthcare invests in the clinical development phase or early commercialization phase.	MedTech, Therapeutics	€10 miljoen tot €30 miljoen	Gilde Healthcare
Curie Capital	Curie Capital invests in early-stage Biotechnology, pharmaceutical, and medical technology companies, focusing on therapies, diagnostics, or class IIb and III medical devices, with the requirement that the headquarters be in the Netherlands.	MedTech, Therapeutics	€100.000 - €1 miljoen	Curie Capital
Thuja Capital	Thuja Capital invests in private healthcare companies in biotech, nutraceuticals, medtech, and digital health. Often, these companies have a specific product requiring clinical validation and is defensible. Thuja values credible business models with global reach.	Biotech, Nutraceuticals, MedTech, Digital Health	€200.000 - €2.5 miljoen	Thuja Capital