



Position Paper

Valorisation

From academic knowledge
to societal impact



Foreword

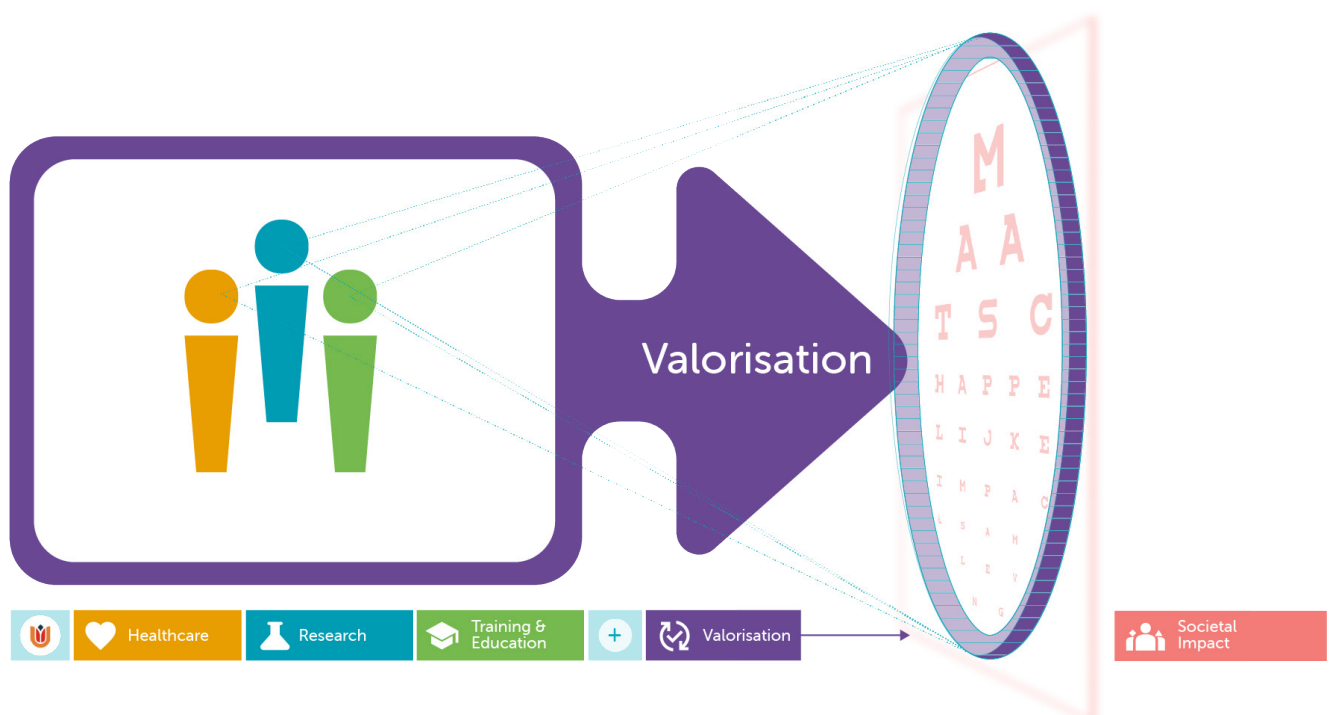
Creating Value for Society - together!

Amsterdam UMC is of tremendous value to our society. As a healthcare provider, as an educational institution and as a research institute: societal value is in the nature of everything we do. But because that value is intrinsic, it is not overtly a focus of our daily work – let alone a specific development goal. We want to increase the societal impact of Amsterdam UMC. In fact, this is even one of our statutory core tasks, and as such, it is known as **valorisation**! This is reflected in everything we do and is therefore relevant to everyone working in, with and around Amsterdam UMC. In recent years, the Executive Board commissioned us to draw up an action plan and develop strategies to ensure that Amsterdam UMC can unequivocally and determinedly focus on increasing value for society. A new, sharper focus on our societal impact, by collaborating and collectively valorising the work we do.

Motivation

Focus on active progress

The combination of our core tasks of healthcare, research and education & training creates unique opportunities and options to advance society further. We should not only focus on optimising these three core tasks, but also on increasing their societal impact. In this way, we want to shape valorisation as a fourth core task. We will do this by actively seizing opportunities that arise from what is happening inside and outside the walls of Amsterdam UMC, by making smarter combinations between our core tasks, and by exploring whether more can be gained from (external) collaboration. This involves examining day-to-day work activities to find where improvements can be made. As such, valorisation helps us make everything we do more explicit, valuable and impactful for society and enables us to actively contribute to a healthier society.





What is valorisation?

There are major societal challenges, such as the increasing number of chronically ill people, an ageing population, obesity issues, and the quandary of how to move from curative to more preventive healthcare. Challenges that demand our full attention and to which Amsterdam UMC wants to contribute in many different ways. However, this requires a clear definition of what we mean by valorisation and, by extension, the creation of societal impact. Another question is how we, as an academic medical centre, want to make a difference in the coming years.

DEFINITION OF VALORISATION

The path from knowledge to creating impact is referred to as **valorisation**. **Valorisation** is thus the process by which the knowledge and expertise of Amsterdam UMC is transformed into practical applications for society. Amsterdam UMC considers it important to use a broad definition of valorisation and therefore defines valorisation as:

"The process of translating knowledge and expertise of Amsterdam UMC into impact that benefits society and improves public health¹."

A new, sharper focus

Valorisation puts focus on the societal value of Amsterdam UMC's core tasks, in combination with strategies to proactively transform them into a form which is more action-oriented.

It provides an insightful view into everything we do and helps to optimise how we shape the valorisation process and increase societal impact accordingly. Sometimes this impact is driven by innovation, sometimes by dissemination, but it is often a combination of these two. It also offers us a clearer view of the world around us, of all the developments taking place in the knowledge industry and what is going on in society. Valorisation also makes us look at how we work (together), with whom, and why. From this vision, we then take steps geared towards growth and development for the benefit of our society. In that sense, valorisation as a fourth core task acts as a catalyst for, and enriches, the other three core tasks.



01

The importance of valorisation

Prosperity and welfare in the Netherlands are increasingly determined by innovations that are made possible by breakthrough scientific knowledge that is developed by academic institutions². It is therefore important to Amsterdam UMC that this knowledge actually contributes to a healthier and more prosperous society.

The Amsterdam UMC oath to society

Just as doctors take an oath when receiving their degree, Amsterdam UMC has taken an oath to society, as in: Amsterdam UMC undertakes the responsibility to provide high-quality, affordable and accessible tertiary, academic healthcare and to contribute to a (more) healthy society. Within this framework, Amsterdam UMC is committed to contribute to (innovation in) solving today's urgent and important social issues. Amsterdam UMC is also committed to educating healthcare professionals who do their part to advance these goals now and in the future.

Amsterdam UMC stands for innovation in health, healthcare, research and education & training. In making an impact and thus contributing to a healthier society, Amsterdam UMC wants to reach the largest possible group of people, including patients, healthy people, students and (healthcare) professionals who want to learn something. This

means, among other things, that Amsterdam UMC focuses on areas such as prevention, diagnosis development, finding and testing new drugs and treatments for patients with complex and/or rare diseases, sharing gained knowledge, and stimulating creativity among students and (healthcare) professionals.

In addition, Amsterdam UMC functions as an independent academic institution and undertakes the responsibility of sharing its knowledge on health and disease with policymakers, scientists, government bodies, students and healthcare professionals (in training), both nationally and internationally. In this way, Amsterdam UMC contributes to the development of a healthier and more resilient society and civilisation.



Amsterdam UMC's mission, vision and strategy

The mission of Amsterdam UMC is: "Together we discover the healthcare of tomorrow"³. We do not do this on our own but together with our partners: healthcare providers, residents of the region, peripheral hospitals, other UMCs, the two universities UvA and VU, industry partners, government, other partners in the region and researchers from all over the world. Amsterdam UMC aspires to demonstrably improve global health with our knowledge and

our care. We do this by applying, imparting, sharing, building on, and opening up our knowledge more effectively to other healthcare providers and society.

The mission, vision and strategy of Amsterdam UMC form the guiding principles of Amsterdam UMC's valorisation policy. This is explained in the following chapter.

Valorisation as a core activity

Since 2005, the Dutch Higher Education and Scientific Research Act (WHW) has recognised valorisation as the third main function of universities⁴. This makes it one of the four core tasks of Amsterdam UMC, alongside healthcare, research and education & training.

Valorisation is closely related to the other core tasks. Valorisation can best be seen as a catalyst for the step from knowledge to impact. By linking the core tasks with each other where it makes sense, a better ecosystem for knowledge exchange, valorisation and impact can be created. This brings together new ideas, practical applications and talent development. In this way, knowledge institutions

get to work on products, services and applications in an ecosystem that addresses societal challenges. Valorisation thus contributes indirectly to economic growth and job creation. What's more, by sharing new knowledge while retaining intellectual property, we are seen as an attractive partner when it comes to knowledge acquisition.

Valorisation as a fourth core task also creates a wealth of opportunities. It contributes to improving healthcare by helping transform the fundamental concept of human health and disease in effective, people-oriented and affordable health measures and treatments.

Urgency of valorisation

Research results are urgently needed to prepare us for one of the foremost (inter)national societal challenges of this century. Increasing demand for healthcare calls for system innovation of healthcare and a stronger focus on prevention. Both the acquisition of new fundamental knowledge on health and disease and its application are of paramount importance here. Translational medicine is therefore increasingly becoming the key strategy for healthcare and research in academic centres worldwide. Research capacity must be utilised in a more targeted way, and professionals must be better trained to help prevent the impending healthcare collapse.

Dynamic, changing environment

Amsterdam UMC finds itself in a dynamic, changing environment, in which the public is increasingly demanding that institutions and the business community are socially responsible in their activities and research.

Funders of research are increasingly emphasising the societal relevance of scientific research in their policies and including this aspect in their assessment of funding for research proposals. Even prestigious scientific grants, such as those from the European Research Council (ERC), nowadays have a proof-of-concept funding component for the purpose of valorisation.

As such, there is a growing focus on societal relevance in assessments of research that looks at the intertwining of scientific and societal relevance⁵. The applicability of findings from research is no longer seen as a fringe benefit, but as one of the key indica-

tors in the evaluation and assessment framework for research. Moreover, society tends to demand more relevance where research is concerned. On the one hand, because society increasingly wants to have a say in what Amsterdam UMC does, and on the other hand, by increasingly wanting to visibly benefit from the knowledge developed by Amsterdam UMC. As a consequence, there is more emphasis on public accountability of the (research) activities of Amsterdam UMC.

Lastly, valorisation is playing more and more of a major role in the establishment of interdisciplinary consortia. As in the case of the National Growth Fund (NGF), which helps knowledge institutions to raise their profile and team up with companies and public parties. These public-private partnerships effectively contribute to the innovation of social systems.



02

Valorisation today

Valorisation is not entirely new to Amsterdam UMC. Up until now, we have mainly done this implicitly and partly as a matter of course in our work. Which is why it is largely up to Amsterdam UMC to make valorisation more explicit and more visible in the coming years. Several parties within Amsterdam UMC have been appointed for this purpose. The first step they have taken is to define what valorisation is, how valorisation takes shape within Amsterdam UMC, and what the strong points and points for improvement are where valorisation is concerned. This chapter outlines the valorisation task of Amsterdam UMC, which parties are involved and what is currently already being done within Amsterdam UMC in terms of valorisation.

The valorisation task of Amsterdam UMC

A significant step in setting out the valorisation policy of Amsterdam UMC is the recent appointment of a Vice Dean for Valorisation and the establishment of what is known as the Amsterdam Valorisation Board (see the explanation about the AVB under 'Relevant organisational components' on the following page). This makes Amsterdam UMC the first academic medical centre to make valorisation a specific core task. In the AVB, policy is made on how valorisation is shaped at Amsterdam UMC, with the underlying aim of increasing the (societal) impact of Amsterdam UMC.



Relevant organisational components:

Amsterdam Valorisation Board

Within Amsterdam UMC, the AVB is an independent Advisory Board of the Executive Board, which is complementary to the Amsterdam Research Board (ARB) and led by the Vice Dean for Valorisation. The AVB consists of sixteen valorisation officers: a translational officer and a medical officer per research institution, two Vice Deans of Education & Training, representatives of the Innovation Exchange Amsterdam (IXA) and a number of staff consultants.

Research institutes

Amsterdam UMC has eight research institutes; these are a formal network of research groups and departments working on different aspects of the same research theme. As such, the research institutes function as a hub, between various disciplines and the departments involved in the assorted divisions of Amsterdam UMC. Several research institutes are joint institutions with other faculties of the University of Amsterdam and/or the Vrije Universiteit Amsterdam. These research institutes are: (1) Amsterdam Neuroscience (ANS), (2) Amsterdam Gastroenterology & Metabolism (AGEM), (3) Cancer Center Amsterdam (CCA), (4) Amsterdam Reproduction & Development (ARD), (5) Amsterdam Infection & Immunity (AII), (6) Amsterdam Public Health (APH), (7) Amsterdam Cardiovascular Science (ACS), (8) Amsterdam Movement Sciences (AMS).

Educational institutions

Amsterdam UMC works together with two universities, the University of Amsterdam and Vrije Universiteit Amsterdam, and that's why it has two medical faculties. Both medical faculties are involved in shaping the valorisation policy.

Research Support

Research Support aims to contribute to a stimulating research environment and offers practical support to researchers at Amsterdam UMC. Components that make up Research Support are the Research Policy Office, Research Grant Support, the Medical Research Ethics Committee Office, Research Data Management, the Clinical Monitoring Centre, Legal Research Support (LRS), Project Administration, the Medical Library and IXA.

Innovation Exchange Amsterdam (IXA)

IXA is a knowledge transfer organisation with offices at Amsterdam UMC, Amsterdam University of Applied Sciences (HvA), University of Amsterdam (UvA) and Vrije Universiteit Amsterdam (VU). IXA helps transition academic and applied research and knowledge into ground-breaking innovations and applications. In addition, IXA contributes to the setting up and organisation of contract research and clinical trials.



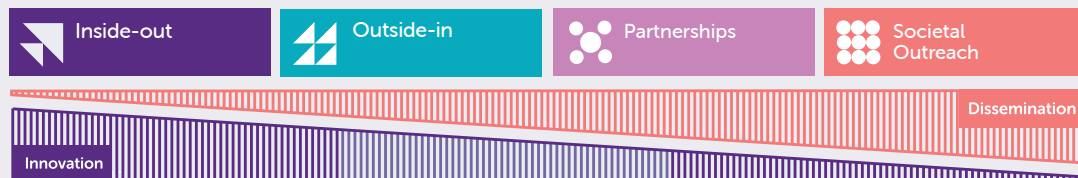


02 Valorisation today

Forms of valorisation

As valorisation can take different forms, the AVB has developed a framework to categorise the different valorisation strategies. These four valorisation strategies lie on a spectrum ranging from innovation to dissemination, from modernisation to the spread of academic knowledge.

4 valorisation strategies to create societal impact



Inside-out

The inside-out strategy mainly follows the classic route of technology transfer in innovation, e.g., an invention originating in the field of healthcare, research, education & training that is further developed into a (patentable) product (or service, or advisory) which is then offered to an external party that takes care of the further development (whether or not this results in commercial exploitation). Often, advisories issued to the government proposing systems innovations and/or societal transformations also stem from an inside-out strategy.

Outside-in

The outside-in strategy involves research partnerships and contract research in the field of translational clinical and/or public health research that is commissioned by external parties. The resulting intellectual property (IP) is often not owned by Amsterdam UMC, yet adds value to products or services that can be of great benefit to patients at Amsterdam UMC and the surrounding area. Requests or commissions from the government or public sector partners for expertise and advice are also part of the outside-in strategy.

Partnerships

Partnerships mainly involve open innovation, research collaborations and consortia that co-create knowledge that can lead to products, services and interventions. In these types of collaborations, co-creation and involvement of all relevant stakeholders, such as patients and primary and secondary care providers, are a prerequisite for success. All innovations that are implemented are therefore developed in collaboration. This is also documented in any resulting patents. This strategy also entails the development of clinical and other guidelines.

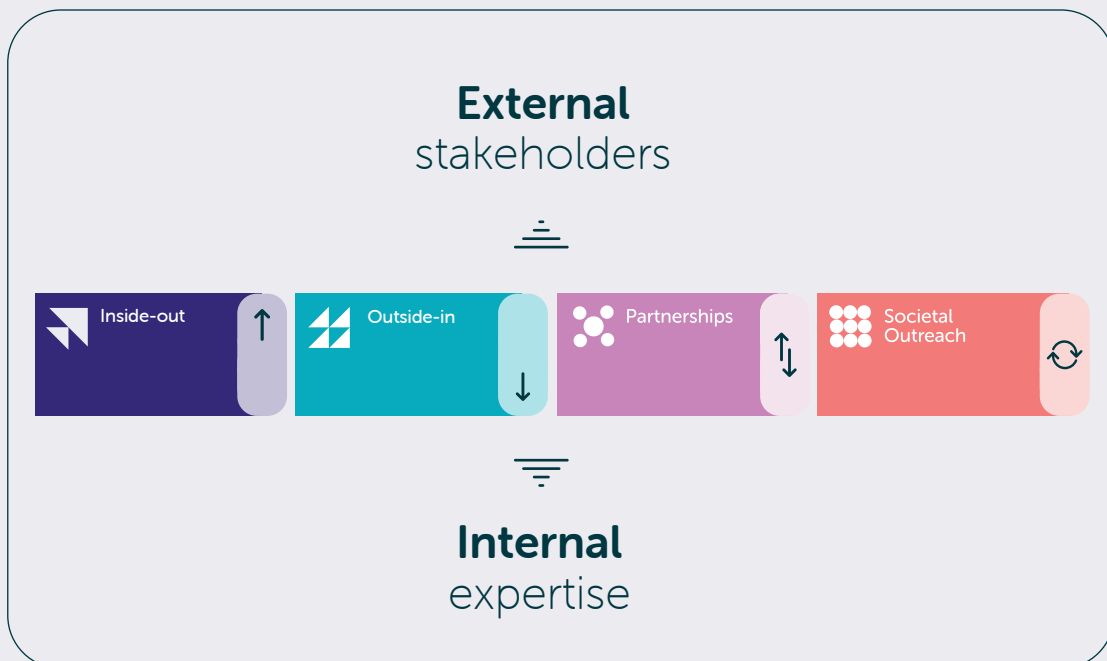
Societal Outreach

Societal outreach encompasses all types of contributions to the public debate and/or public interest. This can range from healthcare professionals giving an interview to explain their scientific innovation or discovery, to giving public lectures or writing books. It also includes any other form of providing a service to target groups who would not normally have access to such services.



Knowledge transfer per valorisation strategy

The path from knowledge to impact is not a one-way street. Knowledge transfer happens at different occasions and in different ways. Knowledge transfer can be put to use immediately or it can even provide the missing link after sitting around in an unexpected place for years. Each of these four valorisation strategies is characterised by a distinct direction in which the transfer of knowledge takes place.



Knowledge transfer per valorisation strategy: the guiding principles of a Q&A dialogue can vary in practice. In the inside-out strategy, the guiding principles are found in the expertise at Amsterdam UMC, which is then translated into value creation in the outside world. With the outside-in strategy, an explicit question is raised by external stakeholders and is answered effectively by Amsterdam UMC. In other words, value is added to an innovation that started in the outside world. Partnerships and societal outreach entail joining forces, engaging in dialogue and in co-creation efforts.



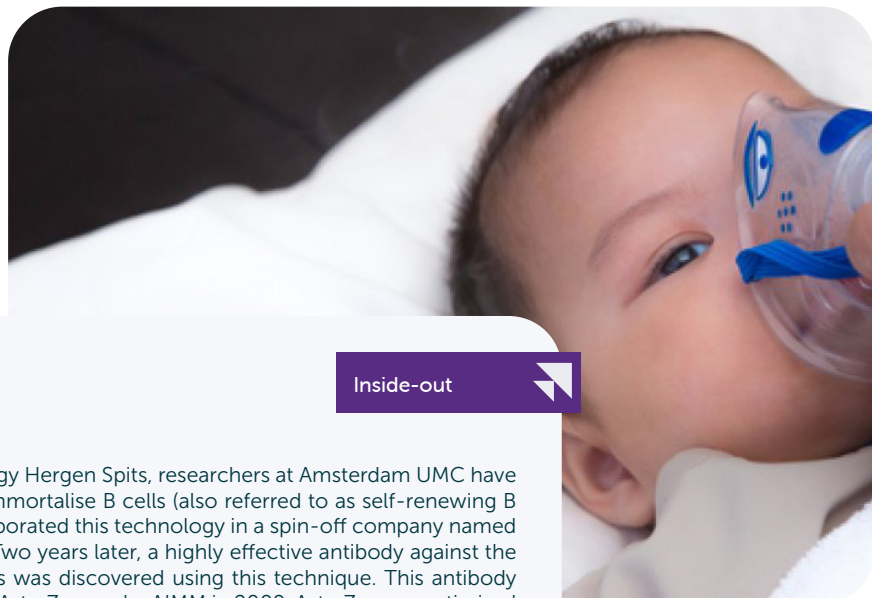
02 Valorisation today

Valorisation activities at Amsterdam UMC

At Amsterdam UMC there are countless examples of valorisation initiatives that have been started by our staff (teams). The aim of this paper is to clarify the various valorisation strategies by citing several recent examples.

Amsterdam UMC's outside-in valorisation strategy currently accounts for the majority of public-private partnerships where funding is concerned. Every year, Amsterdam UMC includes patients in around 300 industry-sponsored clinical trials. In conjunction with the investigator-initiated trials, preclinical and translational contract research are all carried out by laboratories and research departments of Amsterdam UMC. These are funded by external sponsors from industry, with a minimum of €40 million invested in research each year. Also, 10 to 20 new patents are filed every year, which in turn often leads to substantial licensing revenue⁶ and/or the foundation of spin-off companies. In addition, with open innovation as a guiding principle, the role of public-private partnerships has increased in recent years.

Examples of valorisation at Amsterdam UMC



Use case 1

RS-Virus

Inside-out

Led by Professor of Cell Biology Hergen Spits, researchers at Amsterdam UMC have developed a technology to immortalise B cells (also referred to as self-renewing B cells). Amsterdam UMC incorporated this technology in a spin-off company named AIMM Therapeutics in 2005. Two years later, a highly effective antibody against the respiratory syncytial (RS-)virus was discovered using this technique. This antibody was subsequently licensed to AstraZeneca by AIMM in 2009. AstraZeneca optimised the antibody and named it 'Nirsevimab', which was approved for use in the EU by the European Medicines Agency (EMA) in December 2022.



Use case 2

TrianecT BV

Inside-out

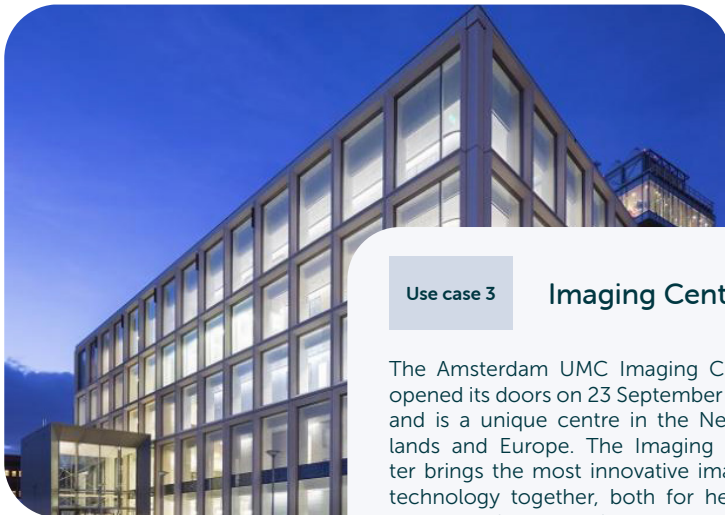


Partnerships



TrianecT BV is a spin-off of the Academic Medical Center (AMC), and Neuromotion Ventures that was set up by Wouter Potters, Jonathan Coutinho and Henk Marquering. TrianecT is committed to reducing unnecessary delays in the endovascular treatment of stroke patients. The mission of TrianecT is to send stroke patients to the right hospital for the right treatment as soon as possible. In order to achieve this, TrianecT is developing a medical device that can perform pre-hospital triage in suspected stroke patients by analysing brain signals with the help of AI algorithms. This way, ambulance personnel can take each patient with a suspected stroke directly to the right hospital for targeted treatment.

📍 TrianecT – Connecting acute care — trianect.com



Use case 3

Imaging Center

Outside-In



The Amsterdam UMC Imaging Center opened its doors on 23 September 2019 and is a unique centre in the Netherlands and Europe. The Imaging Center brings the most innovative imaging technology together, both for healthcare and for scientific research. It is equipped with the latest diagnostic methods, enabling radiologists and nuclear medicine experts to study anatomical structures and the physiological, metabolic and molecular processes of the human body in more depth. The right treatment can then be given to patients at the right time.

The fully equipped and well-designed radiopharmaceutical production environment enables the production of medical isotopes. Unique PET radiotracers and isotopes, including Zirconium-89 (^{89}Zr), are produced and distributed nationally and internationally. The UMC Imaging Center is the only location globally where production, healthcare and research are brought together in one centre, and as such, it is invaluable for healthcare and scientific research in the Netherlands and Europe.



02 Valorisation today

Use case 4

Jeroen Pit Huis

The Jeroen Pit House is located on the grounds of Amsterdam UMC. It is a detached building with eight family-style apartments within walking distance of the hospital. The Jeroen Pit House can be described as the ideal missing link in the care of chronically and critically ill children. The Jeroen Pit House acts as a 'transitional care unit'; a kind of halfway house between hospital and home. This makes it an excellent example of UMC's societal outreach strategy. The Jeroen Pit House was set up in collaboration with Amsterdam UMC, the Salvation Army (through Het Lindenhofje medical childcare home) and a private foundation.

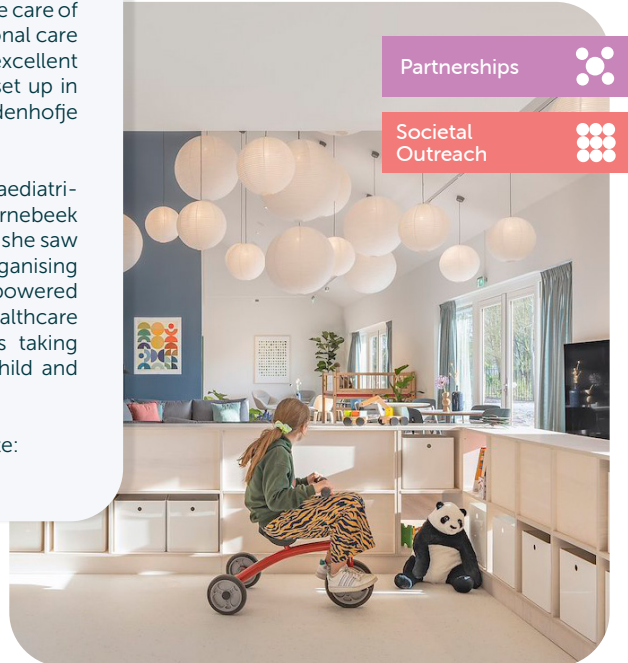
The initiative for the Jeroen Pit House came from Clara van Karnebeek, paediatrician and geneticist in metabolic disease at Amsterdam UMC. Clara van Karnebeek was inspired while working in a specialist healthcare facility in Canada when she saw the power of a chronically ill child and their family being together. By organising time for the child and parents to be and stay together, the family feels empowered and the parents are able to progress from being healthcare recipients to healthcare givers. The work is multidisciplinary and holistic in nature with nurses taking the lead. A case of the right healthcare in the right place for both the child and their family.

More information about the Jeroen Pit House can be found on their website: <https://hetjeroenpithuis.nl/>

Partnerships



Societal Outreach



Societal Outreach



Use case 5

WijkKliniek

The WijkKliniek (District Clinic) opened its doors in Amsterdam Zuidoost in June 2018. The WijkKliniek is a new healthcare concept, geared towards (acute) care for the elderly. Elderly people who do not need to use diagnostic or surgical facilities of Amsterdam UMC, but who still need hospital care, are admitted to a clinic in their own neighbourhood. Apart from treating acute conditions, the WijkKliniek also focuses on functional preservation and supporting a successful return home in cooperation with the patients' immediate environment. This way, we make healthcare more affordable and improve outcomes for these patients, e.g., by enabling patients to resume activities that are important to them.

The WijkKliniek initiative arose from the partnership between Cordaan, the Academic Medical Centre (AMC) and Zilveren Kruis. More information on setting up a WijkKliniek District Clinic can be found on: [Cordaan - Toolkit WijkKliniek](#)



Partnerships



Societal Outreach



Use case 6

Opportunity-rich start

Tessa Roseboom is a professor of Early Development and Health at Amsterdam UMC. She has been able to translate her scientific insights from research into actual practice and national policy. She wrote the books 'De eerste 1000 dagen' ('The first 1000 days') and 'Gelijk goed beginnen' ('A solid start from the outset'). In her books, Tessa Roseboom describes how the first 1,000 days of a human life affects growth, development and health and what it takes to successfully build the basis for healthy generations. After handing over the first copy of 'De eerste 1000 dagen' to former minister Hugo de Jonge, she was invited by the Ministry of Health, Welfare and Sport to co-write the national programme 'Kansrijke start' ('Opportunity-rich start') which invests in the first 1000 days of life.

"It is a form of valorisation I hope to contribute to for a long time to come: investing in human capital in order to contribute to health and to a society in which every human being has the chance to develop his or her full potential."

– Tessa Roseboom

Use case 7

Clarifying scientific development

The creation of embryos has been the subject of political debate for many years and, at the same time, it is a fervent wish of researchers at Amsterdam UMC. Research with these embryos is necessary to improve the effectiveness and safety of existing reproductive treatments and to be able to develop new treatments. At present, this is not possible due to constraints in the Embryo Act. In an effort to expand the law and make this research possible, Sebastiaan Mastenbroek, clinical embryologist at the Center for Reproductive Medicine (AMC), has been involved in the public debate for quite some time now. He has done this, among other things, by participating in legislative evaluations, meetings with experts in the Dutch House of Representatives, public debates organised by the Ministry of Health, Welfare and Sport and by commenting in the media. Recently, the Dutch political parties D66 and VVD paid a working visit to Amsterdam UMC. On the basis of agreements made in the coalition agreement, a proposal is now being put forward to make this change in the law possible.

"If we manage to expand the Embryo Act, we can make our treatments more effective and safer".

– Sebastiaan Mastenbroek



Societal Outreach





02 Valorisation today

Use case 8

eHealth Living & Learning Lab

Outside-In



The eHealth Living and Learning Lab of the Faculty of Medicine UMC (location AMC) provides research facilities dedicated to user experience, customised education programmes and practical training for (PhD) cohorts. This supports clinicians, patients, researchers and eHealth industry partners in improving the design and implementation of digital tools and strategies that should lead to a sustainable form of digital patient care.



Use case 9

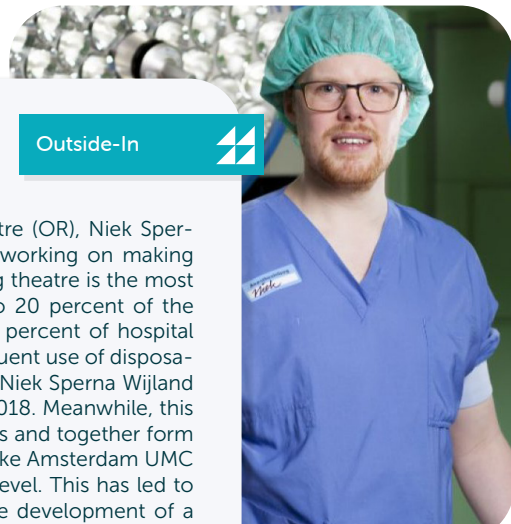
Making the operating theatre sustainable

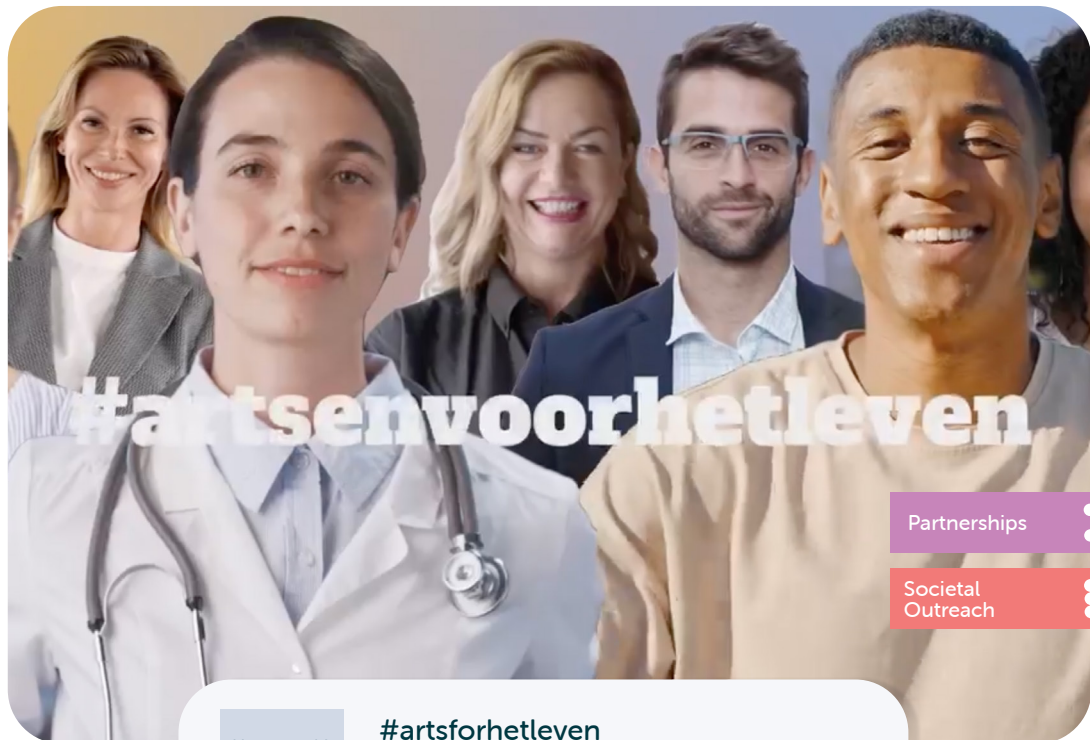
Outside-In



Believing that a better world also starts in the operating theatre (OR), Niek Sperna Wijland, anaesthesiologist at Amsterdam UMC, is actively working on making the operating theatre a sustainable environment. The operating theatre is the most environmentally damaging place in the hospital. It uses 10 to 20 percent of the total amount of energy that a hospital uses. In addition, 33.3 percent of hospital waste comes from the operating theatre. This is due to the frequent use of disposable goods. In order to reduce these percentages in the future, Niek Sperna Wijland founded one of the first Green Teams in Amsterdam UMC in 2018. Meanwhile, this Green Team has merged with more than 50 other Green Teams and together form the Centre for Sustainable Healthcare. This centre works to make Amsterdam UMC more sustainable, on a top-down as well as on a bottom-up level. This has led to a substantial reduction in operating theatre emissions and the development of a washable operating theatre cap in collaboration with Cleanlease. Amsterdam UMC has subsequently switched from using 100,000 disposable caps to 700 operating theatre caps per year.

To read more about this project, check out: Niek Sperna Wijland:
<https://www.dutchhealthhub.nl/artikel/van-wegwerp-naar-hergebruik-op-de-ok/>





Partnerships

Societal
Outreach

Use case 10

#artsforhetleven
(hashtag 'doctor for life')

According to Christa Boer, there is currently a mismatch between the supply of and demand for medical students. We have a surplus of applicants for hospital specialisations, while there is a shortage of doctors in primary care and in the social domain. It is therefore important to give medical students a realistic idea of the career opportunities that a medical education offers before they graduate. With the #artsforhetleven campaign, Christa Boer would like to draw attention to the medical professions outside hospital settings. The campaign's opening line: "Strange that we think every doctor has a white coat, while half of doctors don't even wear a coat."



02 Valorisation today

The ideal valorisation ecosystem

In drafting its valorisation policy, Amsterdam UMC emphasised that valorisation is aimed at **promoting public health**. The promotion of public health happens thanks to innovation. Innovation takes place optimally within ecosystems that are made up of (networks of) physical locations. These include university campuses, science parks or national implementing bodies that bundle companies, knowledge institutions and other organisations together to participate in co-creation. Valorisation systems are set up accordingly that prioritise collaboration and (co-)creation under the most ideal conditions.

"Amsterdam UMC has – by concentrating the translational connection of healthcare, research and education on a number of key points and strengths – in fact created the ideal ecosystem for encounters and collaboration in the field of healthcare and health"

- Arjen Brussaard, Vice Dean valorisation Amsterdam UMC

Amsterdam UMC provides:

- 1 The ideal valorisation ecosystem by connecting healthcare, research & education
- 2 Valorisation officers, dedicated business developers (dBD) and an infrastructure to convert research into products and patents
- 3 Dedicated impact developers (dID) and expertise in the field of public health and social cost-benefit analysis
- 4 IXA as a knowledge transfer organisation (KTO) to bring together the pool of knowledge from Amsterdam UMC and the market demand for that knowledge and expertise, and shorten the distance between academic institutions, the business community, government and civil society organisations.
- 5 Access to financial resources for valorisation, internally, from the government, Europe, the business community and venture capital.

Valorisation cannot take place without talent development

Major societal challenges are not only drivers of applied and fundamental research, but also of Amsterdam UMC's training and education agenda. This is done in conjunction with affiliated organisations – GGZ, InHolland, Bascule, HvA, ROC and other faculties of UvA and VU. Making an impact through research and educational activities forms a part of our education as researchers and healthcare professio-

nals. This is done with the help of challenge-based education (problem-based education) during the bachelor stage, specialised master programmes and in PhD research. In this way, we are able to safeguard our talent development for the future and educate people at Amsterdam UMC, in the business community and society at large.

The potential of Dutch knowledge institutions

Dutch knowledge institutions are among the best in the world when it comes to conducting research, ranging from fundamental research to applied research. The report titled 'Research Impact from the Dutch University Medical Centres'⁷ published by the Dutch Federation of University Medical Centres (NFU) in 2022, shows that Dutch UMCs measure up well compared to top international institutions in terms of scientific output. As such, Amsterdam UMC has a rock-solid scientific reputation. The question is whether this also translates into valorisation that is both good and worthwhile.



The position of Dutch knowledge institutions compared to (European) peers

In comparison to other, similar European countries, Dutch knowledge institutions are basically lagging behind when it comes to converting knowledge into impact^{2/8}. Nevertheless, there are currently numerous opportunities to expand the societal impact of Dutch knowledge institutions. Amsterdam UMC, like other UMCs in the Netherlands, has all the assets it needs to develop into a valorisation hotspot of Europe. Due to an extensive concentration of knowledge, talent, facilities and investment, the UMCs form an excellent breeding ground for innovation. Which is why Dutch knowledge institutions and academic hospitals have been tasked by the government to navigate the path from knowledge to impact more actively, and thereby increase the impact of these institutions.



Entering the next phase

Given the strength of the potential for valorisation in the internal positioning of Amsterdam UMC and the external trends and developments in (and demands from) society, Amsterdam UMC, as an institution, needs to be in lockstep with the wider recognition and appreciation of its staff's valorisation efforts⁹. In order to expand the amount of valorisation work and thus the impact of Amsterdam UMC, the valorisation strategy must be worked out and structural efforts concerning valorisation will have to be intensified and expanded internally. This will give valorisation a more prominent position in the organisation. To do this, all valorisation activities must be clearly set out in the strategy and the policy.



03

Our ambition

In line with the mission and ambition of Amsterdam UMC, the motto of the valorisation policy is

'Creating value for Society'

This motto is the ultimate goal of Amsterdam UMC's valorisation policy. Also, in the future, Amsterdam UMC envisages structural investments in infrastructure that will increase the translation of knowledge from research, healthcare and education & training into impact.

The valorisation policy of Amsterdam UMC

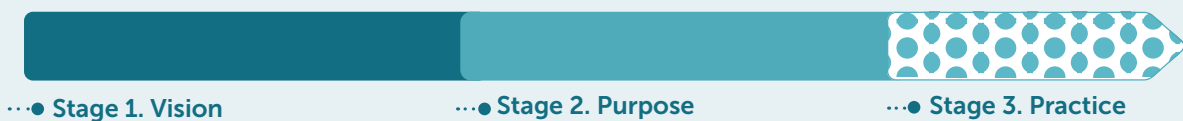
To achieve this vision of valorisation, policies will have to be in line with the main public health issues that have been put on the national and international agenda. The United Nations has formulated the Sustainable Development Goals (SDGs) for this purpose back in 2015¹⁰. Vrije Universiteit Amsterdam has explicitly aligned itself with these SDGs in its strategy, and at the University of Amsterdam, these SDGs are paramount. In cooperation with UvA and VU, Amsterdam UMC will also explicitly orientate and raise its profile on a number of these 17 SDGs over the next five years¹¹.

Amsterdam UMC intends to do this by applying the valorisation strategies outlined above which provide a clear way of translating the vision into practice over the next five years. Amsterdam UMC assumes its responsibility by making a substantial contribution to resolving (inter)national societal challenges, by positioning itself more resolutely nationally and internationally, and in that way, also remain an attractive employer for (young) talent.



Valorisation framework

Valorisation has long played a role in aspects of the work carried out by the staff of Amsterdam UMC. In order to determine the areas in which Amsterdam UMC aims to develop in the coming years, a framework is called for. The various stages of policymaking are used to shape this framework. These stages are: vision, purpose and practice. The position of Amsterdam UMC can be determined by using these three stages in the formation of valorisation policy.



● Stage 1. Vision

The **first stage** of policymaking entails formulating a **vision**.

This stage answers the main question *'What do we want to achieve in the coming years?'*



● Stage 2. Purpose

The **following stage** of policymaking entails determining the **purpose**, which links to the previously defined vision. This stage answers the question

'How do we go about it?'



● Stage 3. Practice

The **last stage** of policymaking entails actual **practice**. This stage focuses on the short term and answers the question *'Who will do what, when and what is needed to do it?'*. Once this stage is underway, the valorisation policy is implementable in an operational sense and set up in line with the organisation's vision and purpose.

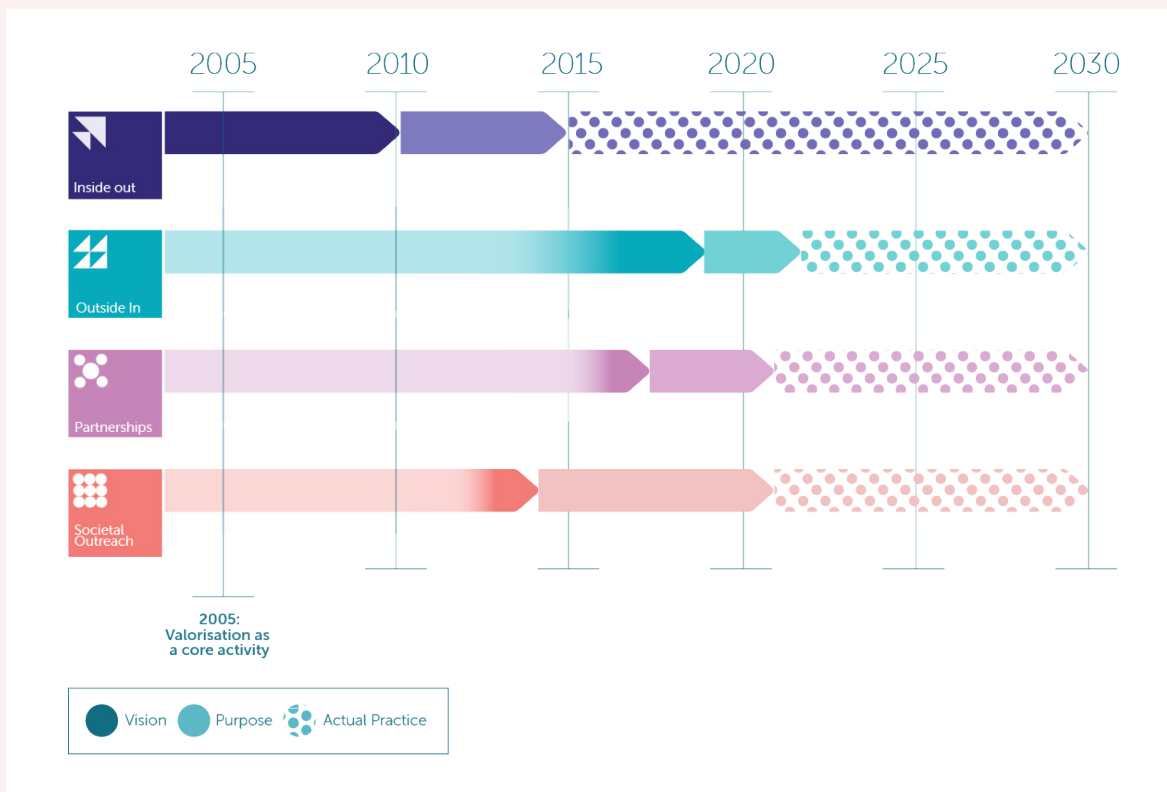


03 Our ambition

Development of valorisation policy

Each valorisation strategy requires a corresponding form of valorisation policy. For the outside-in strategy, efforts made by dedicated business developers (dBDs) are perhaps preferable, as they mainly focus on increasing societal impact with the help of innovation. Valorisation that is undertaken with partnerships stand more to gain from the guidance of impact developers (IDs), as they mainly focus on increasing societal impact through dissemination. Societal

outreach benefits from the expert advice of a communications specialist. The extent to which dedicated business development or impact development is used, depends on the expertise of the research institute or educational institution concerned.



Explanation:

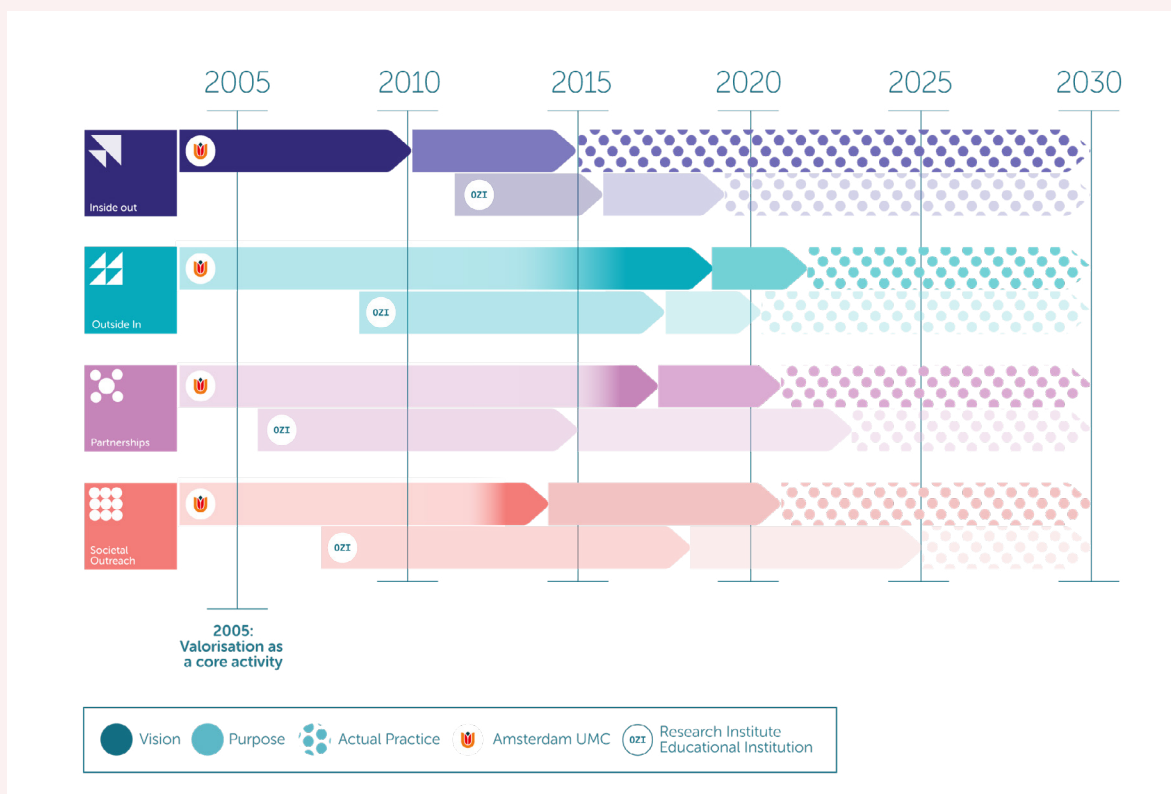
Stages of valorisation policy within Amsterdam UMC for each of the valorisation strategies during the period from 2005–2030. This image depicts which stage of policymaking Amsterdam UMC is in for each of the valorisation strategies. The aim is to maximise the potential added value of valorisation over the coming 5 years so that all valorisation strategies are in balance.



Differentiation is feasible

In order to improve global healthcare and (public) health and create value for society, Amsterdam UMC must look for forms of valorisation that generate the greatest amount of societal impact, without losing sight of a sustainable form of funding or economic value. From the discussions with the AVB, it emerged that there is no standard valorisation strategy for all research institutes that creates the greatest amount of societal impact. This implies that the degree to which the various valorisation strategies are implemented can vary per research institute and educational institution. As such, each organisational section of Amsterdam

UMC chooses the right mix of four complementary valorisation strategies in order to generate the greatest amount of societal impact. All research institutes and educational institutions are urged to make the policy choices of the four valorisation strategies fully transparent. They have also been asked to indicate which provisions and conditions are needed to successfully implement these policy choices within the next five years.



Explanation:

Stages of valorisation policy within Amsterdam UMC for each of the valorisation strategies, in the period from 2005-2030. In policy development, a differentiation is made in the valorisation strategies of research institutes and educational institutions. As a result, the focus per valorisation strategy and consequently the phasing of vision, purpose and practice in the valorisation policy will differ per type of research institute and educational institution. In a follow-up to this position paper, each research institute and educational institution will be invited to specify the stage it is currently in for each of the valorisation strategies. It is up to the Amsterdam Valorisation Board to balance the policies of the four valorisation strategies across the eight research institutes and two educational institutions.



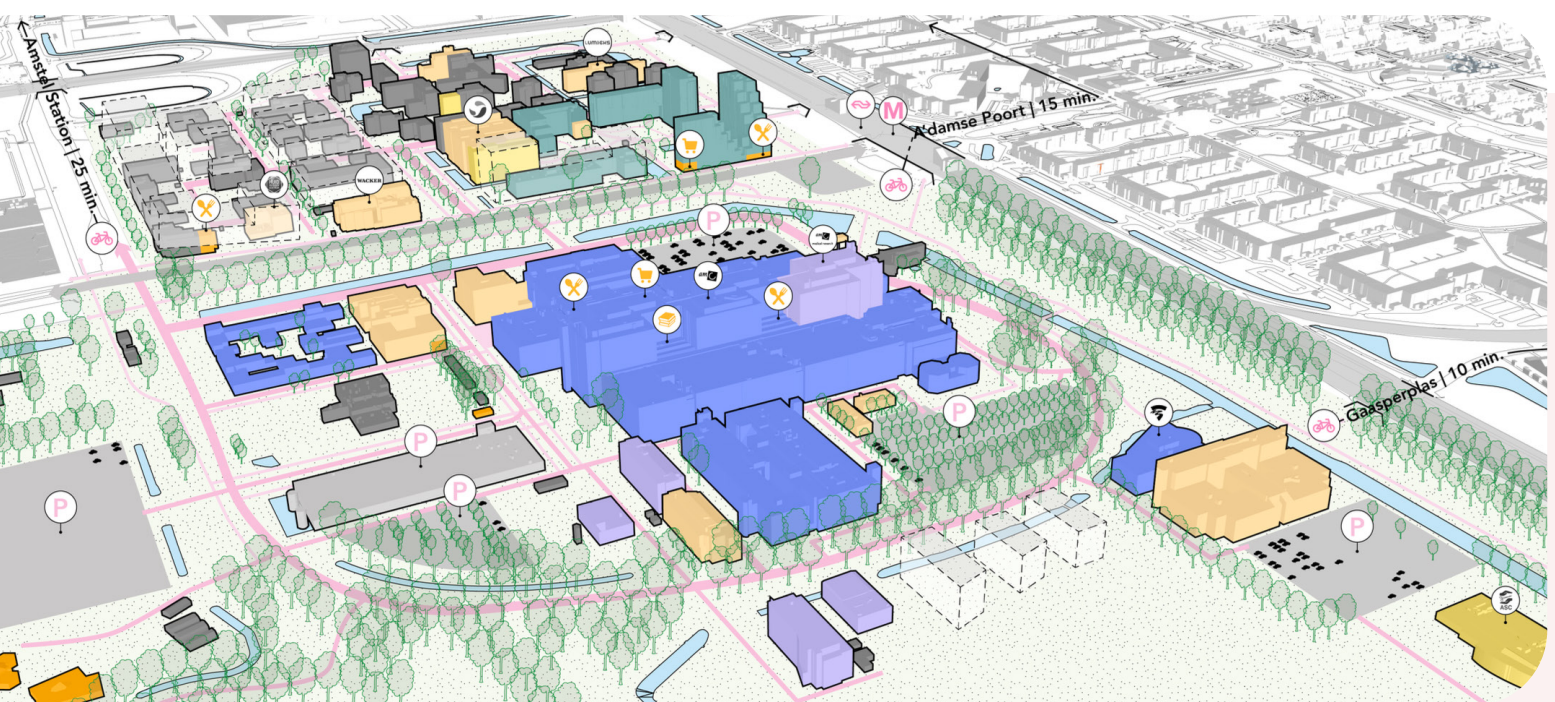
03 Our ambition

Positioning of Amsterdam UMC in the region

Health Innovation Districts (HIDs)

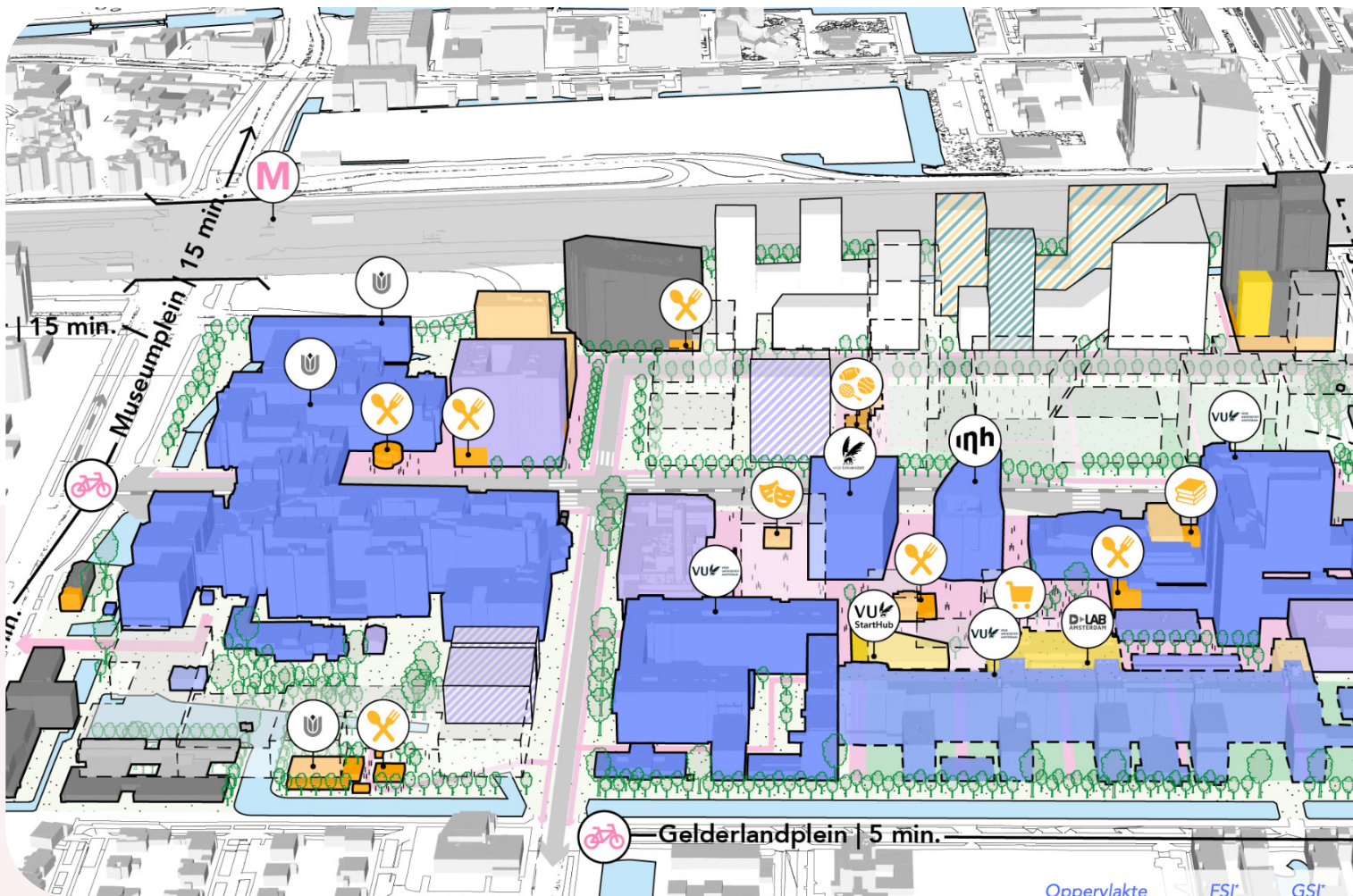
By fostering research, innovation and valorisation in the region, Amsterdam UMC is fulfilling its societal role as a regional academic engine. The Meibergdreef location is the engine of the so-called Amsterdam Life Science District (ALSD), while the Boelelaan location together with VU forms the centre of Knowledge Quarter Zuidas/Innovation District Zuidas. Setting up Health Innovation Districts (HIDs) in the Amsterdam region is instrumental in raising Amsterdam UMC's profile. That is why Amsterdam UMC wants to work in the Innovation Districts to develop a joint Amsterdam profile in conjunction with all stakeholders (including UvA and VU) over the coming years. Furthermore, Amsterdam UMC wants to set up a structure that will support academics in start-up companies. The aim of the HIDs is to increase the impact of knowledge in the city and by doing this, contribute positively to the welfare and (public) health of people in the city (and beyond).

Amsterdam UMC is centrally located in two of Amsterdam's four Health Innovation Districts (HIDs).



Source: Amsterdam Innovation Districts Strategy,
City of Amsterdam, Nov).

**Amsterdam Life Sciences District
Location Meibergdreef**



Innovation District Zuidas
Location De Boelelaan

Source: Amsterdam Innovation Districts Strategy,
City of Amsterdam, Nov).



04

Valorisation in practice

To optimally embed the valorisation policy in Amsterdam UMC, a number of important preconditions need to be met. For one thing, a Societal Advisory Board needs to be set up, valorisation should be differentiated in terms of education and the codes of conduct for partnerships, and (ancillary) work in Amsterdam UMC all need to be formulated. The preconditions and corresponding steps are explained in this chapter.

Societal Advisory Board

The AVB recommends that Amsterdam UMC sets up a Societal Advisory Board (SAB). This board should be able to hold Amsterdam UMC accountable and make sure that the outside world is able to contribute ideas to our valorisation policy. This way, the needs of end users can be better articulated in (public-private) partnerships and optimum use can be made of public experiences and involvement of healthcare providers in primary and secondary healthcare, also in consultation with their patients. Entrepreneurs, trade associations, healthcare insurers, representatives of citizens, representatives of the municipality, province and government can join this advisory board.

Valorisation strategy in the education

Amsterdam UMC is in the unique position of having a collaboration with two universities, which is why it has two medical faculties. Apart from that, Amsterdam UMC also hosts many other educational programmes: continuing medical training, nursing studies, and paramedic training. External visibility is an important factor in the valorisation of knowledge in education. As medical faculties, UvA and VU shape their own profile. The annual plan of Amsterdam UMC 2023 sets out how the profiles of these two faculties are organised. The aim of both educational institutions is to ensure that the study landscape moves in step with social issues and developments within the context of education.

"One of my future dreams is that people in Europe think: if you want to learn something, you have to go to Amsterdam UMC. That is what valorisation of your knowledge and education domain means. With all the steps that I take as Vice Dean, I have that aim in mind."

Saskia Peerdeman

Vice Dean of Training and Education
Amsterdam UMC – Medical Faculty UvA.

"Our alumni play a crucial role in shaping the labour market and healthcare, which makes training and education key components of valorisation."

Christa Boer

Vice Dean of Training and Education
Amsterdam UMC – Medical Faculty VU Amsterdam.



Code of Conduct in partnerships

In our collaboration with industry partners, the business community, public sector partners and the government, the protection of academic freedom, scientific integrity and the interests of our patients always comes first. This means, for example, that scientific research involving the collection and sharing of human tissue, data or images with external partners must always comply with Amsterdam UMC's informed consent policy for patients. It also means that Amsterdam UMC often collaborates with other researchers in the Netherlands and abroad, but that the aim of scientific research is never allowed to be about making a profit.

However, for some research it is important to collaborate with companies, such as pharmaceutical companies. This is the case, for instance, if a new diagnostic test or treatment is under development or because they have particular knowledge or equipment. In this type of research, Amsterdam UMC always remains in charge and involved in the use of the medical data and materials. Sometimes a financial margin is added to the direct costs. This so-called indirect margin is always reused for new research within Amsterdam UMC. That said, it is possible that the results of public-private partnerships become the property of the company and in turn can also be used by that company for the further development of their product or for a

Corporate Social Responsibility

The AVB intends to continue to highlight Corporate Social Responsibility. The value produced by our academic institution can be used in partnerships with industry, on the condition that the collaboration is reciprocal. This implies that there must be a win-win situation in which the 'value' or the 'interests' of the academic institution as an independent party are safeguarded. Not

only in the form of funding for new and unfettered scientific research, but also by including certain agreements on access to drugs, medical equipment, data or inventions and their affordability in contracts. In practice, this means that in public-private partnerships, the influence of the science throughout the development chains must be protected.

Ancillary work and the Healthcare Transparency Register

Because the social independence of all employees of Amsterdam UMC needs to be safeguarded, Amsterdam UMC advocates for maximum transparency and due care in (ancillary) work. This prevents (the appearance of) conflicts of interest. Employees are therefore required to report their other activities in the Ancillary Work Register and the Healthcare Transparency Register¹².

Principles and assessments

Every relationship and form of collaboration is different. Which is why a standard solution for assuring the scientific independence of Amsterdam UMC is neither feasible nor necessarily desirable. For this reason, there will invariably be a dialogue between Amsterdam UMC and external parties where collaborations are concerned. The AVB is very much in favour of taking the guiding principles of socially responsible licensing, as set out earlier in the NFU¹³, as guidelines for the day-to-day practice of the valorisation portfolio. This means, for example, that when entering into licensing agreements, IXA and LRS will ensure, on behalf of Amsterdam UMC, that the national guidelines surrounding Socially Responsible Licensing are followed as closely as possible.

At this time, compliance with the Codes of Conduct in partnerships is the responsibility of three parties at Amsterdam UMC, namely: (1) Medical Research Ethics Committee Office, (2) Biobank Research Ethics Committee (TCBio), and (3) Research Support Code of Conduct. Conducting medical-scientific research is further subject to strict laws and regulations. For example, scientific research has to deal with the Research Involving Human Subjects Act (WMO), the Medical Treatment Contracts Act (WGBO), the General Data Protection Regulation (GDPR) and the Netherlands Code of Conduct for Scientific Practice.

"At Amsterdam UMC, we firmly believe in the value of collaboration with external partners. Our employees work closely with civil society organisations, government bodies and companies as a part of their set of tasks within Amsterdam UMC. Any financial reimbursement for this collaboration benefits research and healthcare within our organisation and this is always arranged in a transparent way."

**Chris Polman and
Hans van Goudoever,**

Amsterdam UMC
Executive Board



04 Valorisation in practice

Instruments to increase the impact of valorisation strategies

Amsterdam UMC has chosen to use four different categories of operational policy instruments relevant to each of the four valorisation strategies. The four categories are: culture and HR, support and staffing, facilities, and (fostering) entrepreneurship in the organisation.

Culture

- Focus on societal impact of healthcare, research, education & training in HR policy
- Valorisation as a core task becomes part of career paths and career profiles for healthcare providers, scientists and educators

Facilities

- AVB
- Website
- Open days
- Meetings
- Patient desks and knowledge centres
- Innovation Districts
- Clinical Trial Units
- Internal infrastructure so that research is transformed into products and patents

Support & Staffing

- AVB members
- Back-office support for contracting purposes
- Appointment of dedicated business developers and impact officers
- IXA (Knowledge transfer organisation) for research and education & training
- Skills training for PhD and PI staff
- Communication

Entrepreneurship

- Role models
- Networks
- Housing spin-off initiatives
- Investment funds
- Investment instruments
- Entrepreneurship training courses



Courses of action per valorisation strategy

The operational policy instruments and associated supporting measures were compared with the extent to which measures are currently implemented in the different valorisation strategies, for example in comparison with EU policies¹⁴. This shows that the implementation of the valorisation strategies 'inside-out' and 'outside-in' are already far advanced. In order to further increase our impact, we are taking the following courses of action:

Action 1 Inside-out

When a new product or patent is created, there is a clear route to market; with the help of IXA, a licensing agreement can be entered into with an existing company or a spin-off company that is to be set up. The detailed route to go from scientific research to a product or patent will be fleshed out further in the 2023-2024 valorisation roadmap.

This is why Amsterdam UMC has appointed a translational valorisation officer per research institutes in the AVB to help smoothen out this path. Dedicated business and impact development support for all institutes along with the associated back-office support has also been set up for this purpose. In terms of (infra)structure, Amsterdam UMC is putting facilities and (knowledge) centres in place to aid translation and valorisation; and for product development with research as a starting point. How this is constructed may differ per research institute.

Action 2 Outside-in

To set up research collaborations and contract research, researchers need support from business developers. Dedicated business developers together with dedicated back-office support for contract management and financial matters have been appointed per research institute to achieve this. Especially for industry-sponsored trials, the design of clinical trials is done in close consultation with the clinical valorisation officer of the respective research institute within the AVB.

In contrast, the operational policies ('practice') of the **'partnerships'** and **'societal outreach'** valorisation strategies are far less developed. A preliminary start been made in this regard:

Action 3 Partnerships

AVB officers, dedicated business developers and impact developers work side by side to establish co-creation initiatives between Amsterdam UMC and external stakeholders. In the process, researchers and community groups from society (e.g., patients, primary healthcare providers, government, NGOs) all form an 'ecosystem'. This ecosystem is geared towards identifying and solving a wide range of problems, some of which are raised by patients or (primary and secondary) healthcare providers.

Action 4 Societal Outreach

Impact developers will be appointed to support societal impact initiatives, and facilitate the social cost-benefit analysis and justification for our efforts in the area of healthcare innovation for society. A marketing strategy will also be introduced to increase the impact we have on the public debate.



04 Valorisation in practice

Utilising extra staff

Achieving the goals set in this paper cannot be done without utilising staff. In particular, the capacity to hire additional dedicated business developers and impact developers fulfils a key function. Dedicated business developers and impact developers focus on finding applications for research. This entails adding economic value to the output of research at Amsterdam UMC (e.g., spin-offs and licensing) and supporting societal impact initiatives, improved social cost-benefit analysis and justification of our efforts where social and healthcare innovations are concerned.

Roadmap

As a follow-up to this position paper and given that these plans need to be worked out further, the intention is to continue working on a so-called roadmap in 2023-2024 in cooperation with the Amsterdam Valorisation Board. This roadmap will detail the operational policy measures of all valorisation strategies including a timetable. The differentiation between the valorisation strategies per research institute and educational institution can also be further clarified in this roadmap. In addition, Amsterdam UMC will align itself and raise its profile more explicitly with a number of the SDGs¹¹. The focal point of this roadmap will be to balance and develop all four valorisation strategies of Amsterdam UMC and its institutions, divisions and departments where possible in the years to come.





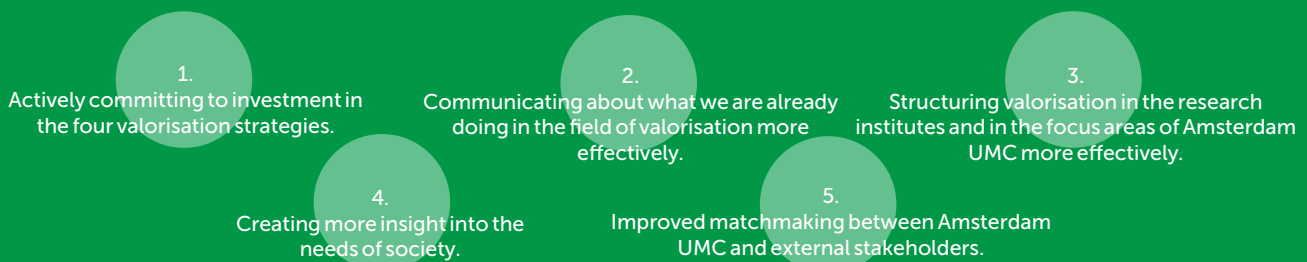
Afterword

Creating Value for Society Together!

On the road to maximising societal impact together.

With the new valorisation policy, we are laying a solid foundation for significantly increasing the societal impact of Amsterdam UMC and making it more visible.

We do this by:



We expect this to lead to an increase in public-private partnerships, research contracts and interventions, and observational clinical studies, which in turn will lead to an increase in valuable spin-off ventures. It will also lead to more interaction with government, Dutch business and, where possible, investors. Finally, it will lead to a greater visibility of the societal outreach of Amsterdam UMC, for example, through participation in the public debate.

Valorisation provides us with a sharper lens that enables us to focus on increasing our value to society in a clear and focused way in everything we do, actively contributing to the advancement of public health and a healthier society.

Participation

We need your expertise!

The power of valorisation lies in the awareness that opportunities for societal impact are found throughout the entire organisation. Not with policymakers but rather at the workplace – in every partnership, in every team and in every dialogue. The more we continue to learn from each other, with the same open-mindedness and curiosity, the greater the chances of success. After all, making an impact on society with our work at Amsterdam UMC is something we do together!

We hereby invite you to help us develop ideas on valorisation from your vantage point.

We are interested in your unique knowledge, opinions, experiences and developments and are happy to answer any questions you may have.

Please contact the Amsterdam Valorisation Board.
Email: RVB-AVB@amsterdamumc.nl





References and footnotes

1. Based on: KNAW (2018). [Wetenschappelijke impact in kaart](#). KNAW. Consulted on 5 May 2023.
2. Dutch Ministry of Economic Affairs and Climate Policy (2022). Letter to the House of Representatives with an innovation and valorisation action plan. Government of the Netherlands. Consulted on 24 March 2023. [Kamerbrief met Actieplan innovatie en valorisatie | Kamerstuk | Rijksoverheid.nl](#)
3. Strategic perspective 2021-2025, 'Wij zijn Amsterdam UMC'
4. See: [valorisatietaak van universiteiten _bijl_.PDF \(officielebekendmakingen.nl\)](#)
5. Steenbergen, B., Steenbergen, J., Hilhorst, J., Gelinck, R., Boer, R. (2015). Valoriseren moet je organiseren Naar meerwaarde van kennis binnen de sociale wetenschappen. Radboud University. DOI: 10.13140/RG.2.1.4142.6640.
6. See: [Jaarverslagen Amsterdam UMC](#)
7. Dutch Federation University Medical Centres (z.d.). Scientific impact. NFU. Consulted on 22 March 2023. from [Wetenschappelijke impact | NFU](#)
8. Dongen, of B., Beteman, K. (2021). [Valorisatie ontketend](#). Consulted on 5 April 2023.
9. Based on: Roadmap 'Erkennen en waarderen' of the Dutch Federation of University Medical Centres (NFU), see [Room for everyone's talent in practice - Recognition & Rewards \(recognitionrewards.nl\)](#).
10. See: [The 17 goals United Nations](#) en [SDGs WHO](#).
11. Including 2 – nutrition, 3 – good health and wellbeing, 4 – quality in education, 5 – gender equality, 8 – useful work and economic growth, 9 – (collaboration with) industry, innovation and infrastructure, 10 – equal opportunities, 11 – sustainable society, 12 – responsible consumption and production, 16 – leading institutions and 17 – partnership.
12. See: <https://www.transparantieregister.nl/home>
13. See: https://www.nfu.nl/sites/default/files/2020-08/19.4511_Ten_principles_for_Socially_Responsible_Licensing_v19-12-2019.pdf
14. Partly based on: [Guiding principles for knowledge valorisation - Publications Office of the EU \(europa.eu\)](#)



Colophon

The basis for this position paper was laid by a core team of stakeholders within Amsterdam UMC:

Authors and editorial staff:

Noor van de Meulenhof
Frederique Bambach

Design and advice:

Luc Davids
Elzo Stijger
Peter ten Brink
Mitch Roedoe
Bart Rijnen

Support and advice:

Frederique Bambach
Rafael Smit
Joris Heus
Guus van Dongen
Diane Schöller
Evelien de Boer
Aniek Büller

Content and consultation with the Amsterdam Valorisation Board:

Sebastiaan Mastenbroek
Tessa Roseboom
Richard Jaspers
Hanna Willems
Michiel Pegtel
Martine Chamuleau
Dionne Kringos
Martine de Bruijne
Geert Boink
Arthur Wilde
Rosalie Luiten
Conny van der Laken
Pieter van Bokhoven
Yolande Pijnenburg
Wouter de Jonge
Clara van Karnebeek
Christa Boer
Saskia Peerdeman

Final editing:

Arjen Brussaard

