



# Onco Institute

*Outsmarting cancer  
Impacting lives*

---

## Strategic Plan

Prepared by Onco Research – July 2017

Version 3.1

# Executive Summary

## Oncode Institute in a nutshell

### *A world-class institute*

Oncode is a new, independent, world-class and innovative institute that unites, under a common strategy, more than five hundred of the Netherlands' most outstanding scientists, specialized in the field of fundamental oncological research (i.e. research on how cancer operates at a basic, molecular level). Oncode incorporates the knowledge and experience to identify and foster scientific discoveries that are potentially beneficial to patients. The institute helps to pave the path leading from such discoveries towards translational and clinical research and practical applications. The institute fosters a climate in which contribution to valorization (the process of transforming knowledge into products, processes or services that are commercially feasible), is as highly esteemed as the scientific endeavor itself.

### *Working in close collaboration with partner institutions*

The scientists collaborating within Oncode are, or will be, employed at one or more of Oncode's partner institutions, at present: five UMCs, three research institutes and one university. With no research facilities of its own, Oncode operates as a virtual institute with a small staff consisting of a general support team and a team of valorization experts. In the near future, it is expected that other institutions will join Oncode.

### *Supported by dedicated funders*

Oncode could not exist without proper financial support. KWF Kankerbestrijding, three Dutch Ministries (the Ministry of Economic Affairs, the Ministry of Health, Welfare and Sport and the Ministry of Education, Culture and Science) and our partner institutions collectively contribute in total €119 million over five years, with the provision for renewal after five years. The partner institutions deliver another €5 million in cash, along with a considerable contribution in kind, the latter in the form of deployment of scientific personnel and overhead costs.

### *What Oncode Institute stands for*

Outsmarting cancer and impacting lives, that is our vision. Helping more patients survive, improving the quality of life for those afflicted, and ultimately curing cancer. We seek to achieve these objectives by driving innovation and getting more out of science. What Oncode stands for is better cancer treatment, faster. Excellence, both in the field of science and valorization, as well as collaboration is Oncode's main characteristic.

## *A unique concept*

Oncode is a unique concept that will enable significant oncological breakthroughs. The institute, supported by a public private partnership, links scientific excellence to (economic and social) valorization. It incorporates a joint, national research and innovation agenda that will be implemented through extensive collaboration, smart specialization and by sharing data and facilities. And finally, the concept includes a long-term funding strategy.

## **What is Oncode Institute**

### *The first link in a long chain*

For us, fundamental research is not a goal in itself. Oncode is part of a chain, part of an ecosystem directed towards the understanding, prevention and treatment of cancer. We find basic research at the very first stage of this ecosystem; the other stages – translational and clinical research, the development of products and services by industry and, finally, transferring those products and services to the market at affordable costs – are however as important. Oncode wants to speed up this whole time-consuming process.

### *A Dutch institute with an international perspective*

Oncode is a Dutch institute with international aspirations. Its scientists are working together with colleagues all over the world. We seek collaboration with excellent oncological research institutes in other countries and will stimulate PIs, PhD-students and postdocs from outside the Netherlands to join Oncode.

## **How it works**

### *Principal investigators*

An elaborate process of bibliometric analyses (assessment of scientific publications) resulted in the selection of five outstanding Dutch scientists specialized in fundamental oncological research. Those five scientists (the ‘founding scientists’) guided the selection of an additional 38 Principal Investigators (including six junior Principal Investigators) all of them having excellent records. An additional 10-15 PIs will be selected in the coming years. The initial 43 PIs bring in their own research groups, totaling 560 scientists. These scientists are employed at nine institutions: AMC, Erasmus MC, Hubrecht Institute, LUMC, NKI, Radboudumc, Radboud University, Princess Máxima Center and UMC Utrecht.

### *Research program*

The scientists affiliated with Oncode commit themselves to a common, integrated research program incorporating six themes, defined by the founding scientists: (1) development of novel technologies (2) understanding the critical drivers of tumor growths and the causes of resistance; (3) analysis of network perturbations in tumors and tumor-host interactions; (4)

causes and consequences of genetic instability; (5) identification of critical drug combinations and biomarkers for personalized cancer treatments; and, (6) mobilizing immune defense.

### *Affordable health care*

Oncode feels a strong responsibility to contribute to affordable health care. We will optimize efficiency of costs during the first stage of drug development (discovery phase) and research, supporting the rationalized selection of participants in clinical trials. Furthermore Oncode aims to fund research to re-purpose abandoned and patent-expired or expiring drugs, and use these efforts to partner up with generic drug makers to develop highly innovative, but de-risked, drugs with relatively low margins.

### *Base support and targeting funding*

Oncode will provide each of the PIs with a base research funding, €250,000 per senior PI and €150,000 per junior PI per year for five years. With this money the PIs can expand their research group necessary for executing the Oncode research program.

In addition, Oncode has at its disposal €30 million for five years for targeted funding. This money will not, like the base research support, be distributed equally over the PIs, but on the basis of plans that meet Oncode's objectives.

### *Translation to the clinic*

Oncode aims to bring fundamental research and the clinic close together. A considerable part of the targeted funds, €12.5 million over five years, is meant for clinical proof-of-concept activities: preclinical and translational projects and clinical studies. This will stimulate collaboration between fundamental, translational and clinical scientists. In order to maintain focus on the translation of fundamental research outcomes into products that are designed to the benefit of patients and society, we will also incorporate translational and clinician scientists in Oncode's research management, valorization team and advisory committees. Society will be involved in guiding Oncode's research through patient organizations, clinicians, industry and stakeholders.

### *Valorization*

To foster greater impact from our research for the ultimate benefit of patients, Oncode is investing heavily in valorization (approximately €22 million over five years). We are fully mandated by the partner institutions for all valorization activities relating to Oncode researchers. Oncode will staff and operate a valorization team to provide dedicated support to scientists on topics such as business development, IP, translation to the clinic and entrepreneurship. Project costs will be paid from funds for IP protection, technology development and seed investment. Affinity to valorization will be one of the PI selection criteria and this will be stimulated by valorization training programs. Moreover, the research groups will be assessed on their contribution to valorization activities. The emphasis on valorization will not only accelerate the process from research to the clinic, but also leads to enhancement of

employment by offering work opportunities to scientific personnel, by facilitating startups and expansion of existing companies.

## How Oncode Institute is organized

### *Legal entity: a foundation*

Oncode is an independent foundation. The Supervisory Board counts seven members, including an independent chair. The UMCs, the research institutes, the Ministries and KWF Kankerbestrijding are each entitled to nominate a member. The other two members originate from the community of patients and industry.

### *Internal structure: management and advisory bodies*

The Managing Board consists of a General Director, a Valorization Director and a part-time Chief Scientific Officer. The Chief Scientific Officer is the chair of the Research Management Committee that also includes the other four founding scientists, as well as a clinician scientist. The Research Management Committee advises the Managing Board on the contents and execution of the scientific strategy. The clinician on the team is also the chair of the Clinical Advisory Board.

Other relevant bodies are the Valorization Advisory Board, focusing on opportunities to translate new discoveries into clinical applications and new products, the Clinical Advisory Board, advising on the potential clinical value of scientific discoveries, and the International Advisory Board, which monitors the development and execution of Oncode's strategy.

### *How the money flows: financial forecast*

The road from a fundamental scientific discovery to an affordable health care product, happens to be a long one, fifteen years being no exception, with a high attrition rate. Though Oncode's goal is to accelerate this process, it is not realistic to expect substantial results during the first five-year period of Oncode's existence.

We forecast the revenues totaling €144 million in this first period: approximately €119 million provided by or related to the contributions by KWF Kankerbestrijding, the Ministries and the partner institutions, the remaining €25 million stemming from R&D industry funding, service rendered to third parties and intellectual property. Our expenditures include €64 million base support for PIs, €30 million for targeted funding (including the clinical-proof-of-concept programs) and €21.6 million for valorization-related expenses.

## Next steps: Oncode in the future

Let us imagine what Oncode looks like twelve months from now. We picture an institute that is operational, though not yet fully completed. The funding is in place, the agreements between the Institute and the partner institutions have been signed. A considerable part of Oncode's employees are recruited, including the members of the Managing Board and the valorization team. The base research support funds are at the disposal of the 43 PIs and a procedure for the selection of more PIs is submitted to the International Advisory Board.

Now it is time to start the next phase: extending the number of PIs. We expect to select an additional 10-15 PIs and their research groups, enhancing the number of researchers to about 866 by 2022. Those researchers will increasingly engage in valorization activities thus enabling Oncode technologies to be licensed and accelerating the development of those discoveries into the clinic. New companies will be created and international research partnerships will be formed. It is, in other words, time to pick the first fruits of the valorization ecosystem, though the real harvesting will take place in the second five-year period and even more so in the third one.