

# The Dutch Polder Model in science and research

What allowed the Netherlands to punch above its weight?  
How should the country build on that achievement?

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# Preface

Scientific research in the Netherlands has an excellent track record. Dutch researchers, universities and knowledge institutes reside at or near the top of global and European rankings. The country's science system has managed to translate uniquely Dutch characteristics, including its 'Polder model', into a success story it can be proud of.

But today's rankings and citation impact scores are the result of hard work and substantial investments in the past. In a way, we are looking in the rear-view mirror. Ahead the road looks a bit bumpier.

Almost every day we talk to scientists, both young and at more senior levels, who experience the growing strain on the Dutch research system. Cracks are beginning to appear, due in part to outside forces, but also partly because of how research communities have responded to those forces.

Many of us feel the time has come to turn the tide. With the economic upturn bringing more breathing space, and scientific and societal challenges demanding new solutions, it is imperative that we now make the right choices. The country will continue to have tremendous opportunities—provided it recognises where its unique strengths lie and it is willing to invest in them again.

We would like to thank everyone who shared with us their insights and concerns about the current and future state of science in the Netherlands. This essay is partly the result of intensive discussions within the Board of the Academy. We hope it will contribute to a lively national debate.

A final note: this essay was originally written in Dutch. For the sake of brevity, we have translated the Dutch word *wetenschap* (*Wissenschaften* in German) as 'science'. Please note that wherever we mention 'science', 'science system' or 'scientists', those terms are meant to include the humanities, the social sciences and the medical sciences as well as the natural sciences.

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# Summary

For many years now, Dutch researchers and the Dutch science system have been performing outstandingly.

The evidence for that excellence lies in indicators such as the number of articles published and the scientific impact of those publications. It is also apparent from the position of our universities in international rankings. And it is shown by the success of Dutch researchers in the international competition for research funding. Whichever benchmark is chosen, the Netherlands ranks remarkably high today. Holland is a small country that is able to compete with larger nations. That is very important for its future economic position and its capacity to help society meet the major challenges it faces.

Today's accomplishments are the fruits of past investments. They are also due to a combination of factors that is unique to the country. The Netherlands is a compact country, situated in a flat delta and surrounded by major European powers. Throughout history it has invested in connections of every kind. Progress has also been helped by what we call 'polder culture'.

An emphasis on equal opportunities and an aversion to strong hierarchy fostered the development of Dutch research across all disciplines. With their desire for consultation, consensus and collaboration, Dutch scientists have shown themselves to be excellent self-organisers. And for centuries they have been eager to look beyond national borders.

The unique science system is also super-efficient: the engine of Dutch science is running in high gear. But a quick glance under the hood shows that the system is in need of a major service.

Investments in research are stagnating in the Netherlands, while countries around us redouble their efforts. The growing numbers of graduate and post-graduate students are difficult to sustain at the present investment level. The budget for fundamental research, a crucial basis, is partially reallocated to research

aimed at meeting societal challenges. As a result, researchers can feel pressured to avoid scientific risk, to focus on short-term outcomes, or to be led primarily by quantitative incentives. Collaboration is making way for competition, while a growing share of research budgets ends up with a shrinking number of scientists. The most talented Dutch researchers are lured by attractive opportunities abroad.

Slowly but surely, the 'high plateau' of the Dutch scientific landscape is eroding.

Fortunately, that trend can be reversed. The current economic recovery enables the Netherlands to invest once again in precisely those traits that made Dutch research strong to begin with.

In the years ahead, the Dutch academic community could regain the prospect of a steadily growing budget from both public and private sources, which would allow it to catch up with its neighbours. The community could build on the concept of a virtual 'University of the Netherlands', creating new and nourishing existing connections. The typically Dutch balance between collaboration and competition, between building a broad collective base and rewarding individual talent, could be restored. Talent could be given more breathing space. Researchers could organise themselves to find answers to new questions with multidisciplinary and cross-institutional research—especially in light of the present demand for answers to societal challenges and practical applications of knowledge.

The science system in the Netherlands continues to contain excellent opportunities to promote welfare and prosperity. Dutch research should help formulate responses to major issues facing our society today. It can do so if, as in the past, everyone concerned recognises and endeavours to enhance the unique strengths of the scientific polder landscape, provides its research with sufficient financial resources, and respects the very characteristics and culture that turned Dutch research into a success.

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