



Ministry of Economic Affairs
and Climate Policy

Dutch missions for grand challenges

Mission-driven Top Sector and Innovation Policy

The Dutch government has formulated 25 missions to tackle social challenges. These missions focus on ensuring a greater and healthy life expectancy, sufficient clean water and safe food, lower greenhouse gas emissions, affordable sustainable energy and a safe Netherlands to live and work in. Ambitious goals that challenge entrepreneurs and scientists to develop pioneering solutions and contribute to the competitiveness of the Netherlands.

Why this approach and what's new about it?

The missions initiate a new era for the top sectors. Since 2011, entrepreneurs, scientists and the government have joined forces in nine top sectors concerning agri & food, chemistry, creative industry, energy, life sciences & health, high tech systems & materials, water & maritime industry, horticulture & starting materials and logistics. Their efforts are aimed at strengthening the economy through innovations, capitalising on international opportunities, improving human capital and investing into scientific research. This partnership will be continued.

Missions are helping the top sectors to join forces, even more than before. Among the new features of this policy is also the creation of new markets. To ensure that innovations can be widely applied and made available for purchase. If necessary, the government may also act as a launching customer. By including market challengers, innovative entrepreneurs and different regions, the mission-driven policy will be applied more widely with a greater chance of success.

Why focus on social challenges and key technologies?

Even more extensively than before, the innovative strength of the top sectors is linked to solving our social challenges. We need large and small solutions for a climate-proof, water-resilient, sustainable, healthy and safe Netherlands. Ranging from the latest scientific insights and key enabling technologies to practical solutions in design and use. By combining the strengths of entrepreneurs, scientists and the government, a joint effort is created to address these challenges, even when the road to the best solution isn't established yet.

However, it is clear that key enabling technologies, like quantum, nano, photonics, digital technology, will play an important role in achieving pioneering solutions. Take quantum computing for instance. It can calculate all possible options in a fraction of the time and machinery. Or special sensors that are used to determine the exact amount of water, nutrients and light needed for optimal

growth. Laser techniques, which enable surgeons to perform precise operations with fewer complications and a faster recovery time. Or production robots that can customise any product for the best price with great precision and without waste.

What is the role of entrepreneurs and researchers?

The mission state a clear need for specific research and innovation. Scientist can extensively research diseases, natural resources and data, so we learn how to better treat and use them. With little waste or error. Subsequently, entrepreneurs play a key role in converting innovation to concrete applications and products. They also provide employment and economic opportunities in the Netherlands as well as abroad.

What is the role of the government?

The government promotes ground breaking innovation: by investing in research, amending laws and regulations, entering into public-private partnerships, socially responsible procurement, providing financial arrangements and creating new markets. The Netherlands have a long history of successful cooperation between entrepreneurs, scientists and the government. For instance Dutch water management, illustrated by the famous Delta Works. Emerged due to national necessity and high water. How the government played a leading role in search of inventive and pragmatic solutions. How it was developed through research and made lucrative by entrepreneurs far beyond our national borders.

Export into a worldwide market

Firstly, the collaboration between entrepreneurs, scientists and the government generates smart solutions for our challenges. So that we don't just grow older, but also enjoy a longer and healthier quality of life. So that we don't just keep our feet dry, eat tasty and reliable food and produce durably, so that we still have a habitable planet in 30 years.

In addition to our national interests, these innovations and solutions are also potential export products for a worldwide market. After all, other countries face many of the same challenges as we do. The Netherlands aspires to play a leading role in tackling social challenges and developing key technologies. These missions for the future should also be seen as an investment in overall progress and reinforcing economic opportunities.

Put into practice

The missions were drafted in close cooperation with eight Ministries and the top sectors. They focus on four social themes:

1. Energy transition and sustainability
2. Agriculture, water, food
3. Health and healthcare
4. Security

A Knowledge & Innovation Agenda is drawn up for each of the themes. Two separate agendas are drawn up for key enabling technologies and projects that contribute to the earning capacity of the Netherlands. The financial resources and research capacity are specified in Knowledge & Innovation Covenant. Subsequently entrepreneurs and researchers can begin developing new products, technologies and solutions for each challenge and successfully market them all over the world.

Promising innovations

The Netherlands is an innovative and entrepreneurial country, known for many successful innovations worldwide. Consider the invention of the microscope (1595), the dialysis machine (1943) and Wi-Fi (1997). The future also looks promising, thanks to the development of smart greenhouse materials that can adapt to light, climate and crops. Cars that can run on sun and rain water. An irrigation system that anticipates weather conditions and can store water for dry periods. Sunblinds made up of solar cells. A coral nursery which helps repair damaged reefs. New types of fuel. Environment-friendly alternatives that protect ships, roads and machines from the elements. Infinite recycling of plastic. An artificial pancreas for people with diabetes. All innovations from recent years or are currently under development.

Scan the QR code to watch a short video about Dutch Missions for Grand Challenges:



Themes	Missions
Energy transition and sustainability	<ul style="list-style-type: none"> - 49% reduction of national greenhouse gas emissions by 2030, aiming for 95% lower emissions by 2050 compared to 1990. - An entirely carbon-free electricity system by 2050. - A carbon-free built environment by 2050. - Carbon-neutral industry with reuse of raw materials and products by 2050. - Zero-emission mobility of people and goods by 2050. - A sustainable and completely circular economy by 2050, with resource use halved by 2030.
Agriculture, water and food	<ul style="list-style-type: none"> - Reduction of the use of raw and auxiliary materials in agriculture and horticulture by 2030 and creating the maximum possible value from all end products and residuals by utilising them as fully as possible (circular agriculture). - By 2050, the agricultural and nature system will be net carbon-neutral (Joint mission with energy transition and sustainability). - The Netherlands will be climate-proof and water-resilient by 2050. - By 2030, we will produce and consume healthy, safe and sustainable food, while supply chain partners and farmers get a fair price for their produce. - A sustainable balance between ecological capacity and water management vs. renewable energy, food, fishing and other economic activities, where this balance must be achieved by 2030 for marine waters and by 2050 for rivers, lakes and estuaries. - The Netherlands is and will remain the best-protected and most viable delta in the world, with timely future-proof measures implemented at a manageable cost.
Health and healthcare	<ul style="list-style-type: none"> - By 2040, all Dutch citizens will live at least five years longer in good health, while the health inequalities between the lowest and highest socio-economic groups will have decreased by 30%. - By 2040, the burden of disease resulting from an unhealthy lifestyle and living environment will have decreased by 30%. - By 2030, the extent of care provided to people within their own living environment (rather than in health-care institutions) will be 50% more than today or such care will be provided 50% more frequently than at present. - By 2030, the proportion of people with a chronic disease or lifelong disability who can play an active role in society according to their wishes and capabilities will have increased by 25%. - By 2030, quality of life for people with dementia will have improved by 25%.
Security	<ul style="list-style-type: none"> - By 2030, organised crime in the Netherlands will have become an excessively high-risk and low-return enterprise, thanks to a better insight into illegal activities and cash flows. - By 2035, the Netherlands will have a navy fit for the future, which will be able to respond flexibly to unpredictable and unforeseen developments. - By 2030, the Netherlands will have operationally deployable space-based capabilities for defence and security. - Cyber security: the Netherlands will be in a position to capitalise, in a secure manner, on the economic and social opportunities offered by digitisation. - By 2030, the armed forces will be fully networked with other services and through the integration of new technologies, so that they can act faster and more effectively than the opponent. - Supply and demand will come together more quickly to implement successful short-cycle innovations. - By 2030, security organisations will be capable of collecting new and better data, so that they are always one step ahead of the threat. - By 2030, the role of security professional will be among the 10 most attractive professions in the Netherlands.

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