

# ChemistryNL in 2025



Innovation,  
Collaboration  
and Impact  
in Dutch Chemistry

# Preface

ChemistryNL plays a central role in strengthening the Dutch chemical innovation ecosystem. Together with companies, knowledge institutes and government partners, the organisation stimulates innovation, collaboration and international positioning to accelerate the transition towards a circular, climate-neutral and resource-efficient chemical sector.

In 2025, ChemistryNL supported new innovation projects, connected stakeholders across the ecosystem, contributed to strategic agendas and strengthened international collaboration. In doing so, we helped advance key transitions in energy, feedstocks and circular materials. This overview highlights the key activities and results of 2025.

Looking ahead to 2026, ChemistryNL will continue to advance innovation and sustainability in the chemical sector. We will further develop strategic priorities, stimulate public-private cooperation and support initiatives that strengthen the competitiveness and resilience of the Dutch chemical industry.



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# Investing in Innovation

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# Investing in Innovation

**Innovation is at the core of ChemistryNL's mission. By supporting collaborative research projects and organising targeted funding calls, ChemistryNL helps generate scientific knowledge and translate this into practical solutions for industry and society.**

Last year, ChemistryNL funded a wide range of innovation projects aimed at advancing sustainable chemical technologies. Through its TKI allowance instrument, 50 projects were supported with a total budget of €9.5 million.

In addition, ChemistryNL launched several targeted calls addressing key societal challenges.

Seventeen projects were funded within the themes of circularity of consumer goods and availability of critical materials. This involved a budget of €2 million.

A total of €5 million was made available for projects focused on water quality, biobased feedstocks and Carbon Capture and Utilisation (CCU). Another €750,000 was allocated to projects within the theme Circular Health & Care, a call organised in collaboration with Health~Holland.

Through these initiatives, ChemistryNL continues to stimulate public-private collaboration and innovation that contribute to a sustainable and future-proof economy.



## **Highlighted project:** **Ammonia as a clean energy storage solution**

In a project funded by ChemistryNL, a consortium led by University Twente is developing a practical and scalable way to store renewable energy using ammonia. Ammonia can safely store energy for long periods and release it when needed, making it a promising carbon-free energy carrier. By enabling ammonia production at smaller scales, the project supports the transition away from fossil fuels and toward more sustainable energy systems.

**Highlighted project:**  
**Smarter monitoring for safer polymers and composites**

In a project funded by ChemistryNL, DPI is developing an AI-enabled platform for rapid, non-destructive monitoring of damage in polymers and composites under dynamic loading. By combining multiple sensing technologies—such as vibration, acoustic and thermal measurements—with advanced AI algorithms, the system can detect material damage at an early stage and predict the remaining useful life. This enables predictive maintenance and contributes to safer and more sustainable applications of high-performance polymers such as polyamides and PEEK.

**Highlighted project:**  
**Accelerating the development of more effective cancer treatments**

In a project funded by ChemistryNL, TU Delft and LUMICKS are developing a new technology to study how potential cancer drugs interact with their targets. Using an advanced high-throughput microscope platform, more than 100,000 drug candidates can be screened in parallel, enabling researchers to identify the most promising compounds much faster and with greater accuracy. In this way, the project contributes to the development of more effective cancer treatments.

**Highlighted project:**  
**PFAS-free coatings for advanced lithography systems**

LITHOCOAT is a joint research project by TNO and ASML aimed at developing durable, PFAS-free hydrophobic coatings for use in lithography equipment. These coatings must not only provide the required hydrophobic properties, but also remain stable under demanding operational conditions, including exposure to



# Connecting the Chemistry Ecosystem

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## Connecting the Chemistry Ecosystem

Through events, networks and innovation agents, ChemistryNL helps companies, researchers, policymakers and entrepreneurs connect across disciplines and sectors. In this way, ChemistryNL strengthens the Dutch chemical innovation ecosystem and supports the development of new collaborations and projects.

### Innovation agents connect ideas, partners and opportunities

The innovation agents of ChemistryNL play an important role in strengthening collaboration within the Dutch chemical innovation ecosystem. They help companies, researchers and other stakeholders connect with the right partners, identify funding opportunities and translate innovative ideas into concrete research and development projects.

In 2025, the innovation agents supported around 100 companies by providing advice, connecting them with relevant partners and helping them navigate the innovation landscape. They also organised 19 networking events for entrepreneurs on topics such as analytical chemistry, bioplastics, AI, funding opportunities, biotechnology, recyclates and circularity.

### **Future Festival brings the chemistry innovation ecosystem together**

On 25 November, ChemistryNL organised the second edition of the Future Festival in Amersfoort, bringing together innovators, researchers, companies and policymakers to discuss the future of chemistry and its role in addressing societal challenges.

Through keynote talks, panel discussions and interactive sessions, participants exchanged ideas on topics such as biobased feedstocks, safe and sustainable by design, market creation and international collaboration. The Future Festival fostered dialogue, new partnerships and shared momentum towards a circular and sustainable chemical industry.





### ChemistryNL connects with the chemistry community at CHAINS 2025

ChemistryNL participated in CHAINS 2025, the annual Dutch chemistry conference where more than a thousand chemists from academia, industry and research institutes come together to share the latest scientific developments and explore new collaborations. The programme included sessions on innovation and collaboration and discussions on how chemistry can contribute to major societal transitions.

### Program Council Day strengthens collaboration and strategic direction

During the annual Program Council Day, ChemistryNL brought together members of its programme councils to exchange insights and discuss priorities for the coming years. Representatives from industry, academia and research organisations reflected on ongoing initiatives and explored opportunities to further strengthen innovation in circular chemistry and materials.

# Developing Strategies for a Sustainable Chemical Sector

## 3 Developing Strategies for a Sustainable Chemical Sector

To support the transformation of the chemical sector, ChemistryNL contributes to strategic analyses, agendas and policy recommendations. By bringing together expertise from industry, academia and government, ChemistryNL provides direction for research programmes and policy development that support the transition towards a circular, climate-neutral and competitive chemical sector.

### KIA Circular Chemistry and Materials: Guiding Innovation and Transitions

In November ChemistryNL presented the Knowledge and Innovation Agenda (KIA) Circular Chemistry and Materials, which outlines how innovative chemistry can contribute to major societal challenges. The agenda highlights how knowledge and technologies from the chemical sciences are essential for the transition to sustainable feedstocks, the energy transition, and for strengthening the strategic relevance and future earning capacity of the Netherlands.

The KIA was compiled in consultation with government, the business community, knowledge institutions, and the program councils of ChemistryNL.

The priorities align with the National Technology Strategy and with technology-driven growth markets such as battery technologies, circular polymers and advanced materials for high-tech applications.

The KIA was developed in coordination with various parties from the field, such as trade associations, government bodies, knowledge institutions, regional development agencies, fellow TKIs, and other experts. Next-generation chemistry leaders were also extensively involved.



# DE ROUTE NAAR TOEKOMSTIGE WELVAART


Een sterk Nederland in een relevant Europa

  
RAPPORT WENNINK



## ChemistryNL contributed to the Wennink Report

The Route to Future Prosperity, outlines how the Netherlands can strengthen its long-term earning capacity. In the report, innovation in key industrial sectors, including chemistry, is highlighted as essential for maintaining a competitive and sustainable economy.

Through its expertise and innovation agenda, ChemistryNL emphasised the importance of investing in circular and innovative chemistry, including technologies such as circular plastics, advanced materials and carbon capture and utilisation. These innovations are seen as crucial for both the green transition and the future resilience of the Dutch economy. 

## Action Agenda for Biobased Feedstocks aims to accelerate use of biobased raw materials

ChemistryNL has presented the Action Agenda for Biobased Feedstocks, which aims to accelerate the use of renewable raw materials in the chemical industry. The agenda highlights that recycling alone will not be sufficient to create fully circular and fossil-free material chains; biobased feedstocks are an essential complementary solution.

The agenda outlines concrete actions to increase the availability of sustainable biomass, improve the conditions for its use in industry and stimulate innovation and scale-up of biobased technologies. By doing so, ChemistryNL aims to strengthen the competitive position of the Netherlands and Europe while supporting the transition towards fossil-free materials used in everyday products such as packaging and textiles.



Berenschot

# Biograndstoffen zijn cruciaal voor de fossielvrije materialen van morgen


Uitwerking van de visie van de commissie Biograndstoffen in een actieagenda voor de optimale inzet van biograndstoffen in de chemische industrie in Nederland en Europa.

OKTOBER 2025



### Investment Agenda highlights need for €2 billion to scale innovative chemistry

ChemistryNL has presented the Investment Agenda for Innovative Chemistry, outlining the investments needed to scale promising chemical innovations in the Netherlands. The agenda estimates that around €2 billion will be required by 2030 to realise pilot and demonstration projects that help bring new technologies from the lab to industrial application.

The investments focus on areas such as green and circular basic chemicals and knowledge-intensive materials, including circular plastics, battery recycling, biobased building blocks and CO<sub>2</sub> capture. By accelerating the scale-up of these technologies, the agenda aims to support the transition to a circular economy while strengthening the competitiveness and future earning capacity of the Dutch chemical sector. 





### Quick scan highlights opportunities for Carbon Capture and Utilisation

TNO presented a quick scan on Carbon Capture and Utilisation (CCU) to ChemistryNL and the Dutch Ministry of Climate and Green Growth. Commissioned by ChemistryNL, the study maps the current CCU landscape in the Netherlands and identifies the most promising technological routes for further development.

The analysis shows that CCU—converting captured CO<sub>2</sub> into valuable products such as fuels, chemicals and materials—can play an important role in reducing industrial emissions while creating new circular carbon value chains. The quick scan also highlights key challenges, including the need for supportive policies, market demand and infrastructure to enable large-scale deployment.

The findings provide policymakers and industry with valuable insights to help guide future investments and innovation efforts in CCU technologies in the Netherlands.



# Strengthening International Collaboration

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# Strengthening International Collaboration

International collaboration is crucial for addressing global challenges and strengthening the competitiveness of the Dutch chemical sector. ChemistryNL actively supports international partnerships, knowledge exchange and market opportunities for Dutch innovation. Through innovation missions, participation in international events and collaboration with European partners, ChemistryNL helps position the Netherlands as a strong international partner in sustainable chemistry and industrial innovation.

**Innovation missions strengthen international collaboration in Dutch chemistry**

In 2025, ChemistryNL co-organised several international innovation missions and working visits to strengthen collaboration in sustainable chemistry and position the Dutch chemical sector globally. These missions brought together companies, knowledge institutes and policymakers to exchange knowledge and explore partnerships in areas such as green chemistry, circular plastics, carbon capture and utilisation (CCU) and biobased technologies.

Delegations travelled to and from countries including China, Germany, Japan and Brazil, visiting leading companies, research institutes and innovation clusters. The missions facilitated policy dialogue, knowledge exchange and networking, and resulted in new connections and opportunities for joint research and innovation. Through these activities, ChemistryNL continues to expand the international network of the Dutch chemical sector and support the transition to a sustainable and circular economy.



## Trade fairs strengthen international visibility of Dutch chemistry

ChemistryNL also supported the international visibility of the Dutch chemical sector through participation in major trade fairs. At JEC World 2025 in Paris, the world's largest exhibition for composite technologies with more than 43,000 visitors from over 100 countries, Dutch companies showcased innovations in lightweight materials, recycling and biobased composites at the Holland High Tech Pavilion, organised by CompositesNL in collaboration with ChemistryNL and Holland High Tech.

ChemistryNL was also present at the Hannover Messe 2025, the world's leading industrial trade fair, where the Netherlands hosted a pavilion together with the Top Sector Energy. The event focused on themes such as climate neutrality, electrification, digitalisation and hydrogen.



## European collaboration through SusChem

ChemistryNL also contributes to European collaboration through SusChem, the European Technology Platform for Sustainable Chemistry. This platform brings together industry, academia, policymakers and other stakeholders to promote sustainable chemistry and biotechnology as solutions to major societal challenges. By aligning strategies and priorities across Europe and working closely with national platforms, SusChem stimulates innovation.



## Trilateral cooperation within the ARRRR chemical cluster

ChemistryNL also contributes to the Trilateral Strategy between North Rhine-Westphalia, Flanders and the South of the Netherlands within the ARRRR chemical cluster, where the regions are closely connected through shared infrastructure, value chains and raw material flows.

A key milestone was the Trilateral Innovation Summit – United by Chemistry in September 2025 in Heusden-Zolder (Belgium). The event brought together companies, governments and knowledge institutes to explore collaboration on topics such as chemical recycling, biobased chemistry, electrification and hydrogen, strengthening cross-border innovation and cooperation in the chemical sector.

# Human Capital for the Future of Chemistry

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## Human Capital for the Future of Chemistry

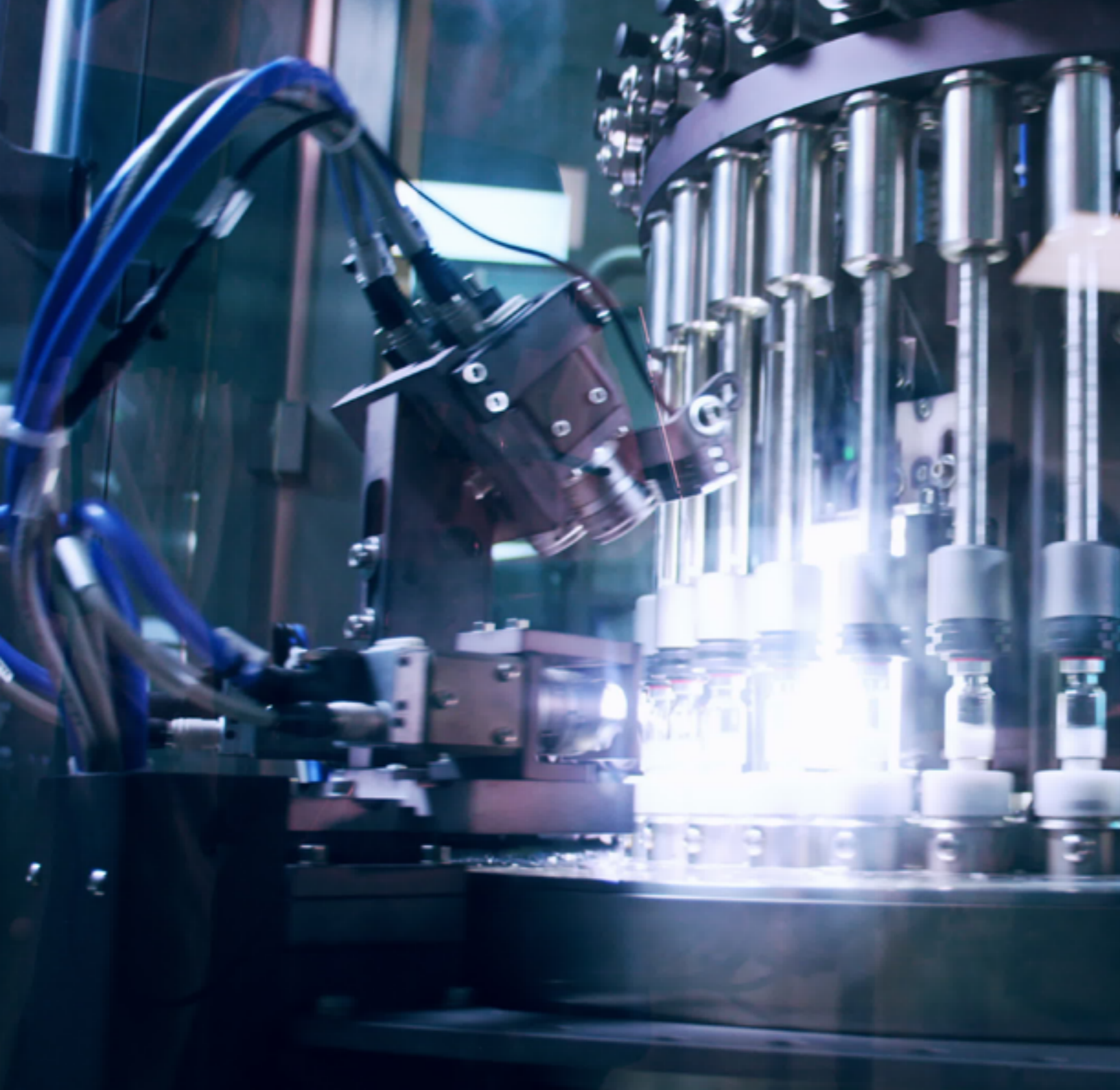
A strong and skilled workforce is essential for the future of the chemical sector. Through its Human Capital Agenda, ChemistryNL works with industry, education and government partners to strengthen talent development, improve labour market insights and ensure that the sector has access to the skills needed for innovation and industrial transformation.

### Human Capital important factor for fulfilling the KIA for Circular Chemistry and Materials

The Human Capital Agenda (HCA) is an integral part of the Knowledge and Innovation Agenda for Circular Chemistry and Materials (KIA) and a key enabler of its implementation. By addressing current labour shortages and anticipating future skill needs in areas such as batteries, hydrogen, bioprocessing and circularity, the HCA ensures that the right talent is in place to realise the KIA's ambitions.


By strengthening capacity across all education levels, promoting modular and lifelong learning, and fostering collaboration through learning communities, the HCA supports continuous upskilling. Combined with digitalisation, automation and strong public-private collaboration, it ensures a resilient, future-ready chemical workforce.





### Labour Market Monitor highlights growing demand for talent

The updated ChemistryNL Labour Market Monitor shows that the Dutch chemical sector continues to grow and requires additional skilled professionals. The monitor provides insights into employment trends, workforce dynamics and the demand for new talent across the sector.

The results underline the importance of strengthening education pathways and attracting new talent to ensure that companies have access to the skilled workforce needed for innovation and sustainable growth. 

### Study explores labour-saving innovations in the chemical industry

ChemistryNL commissioned a study on labour-saving innovations in the chemical industry, carried out in collaboration with SEO Economic Research and Top Sector Energy. The study explores how technologies such as automation, digitalisation and advanced process technologies can help address labour shortages. The findings provide insights into how companies can increase productivity and efficiency while maintaining competitiveness in a tight labour market.



### Strengthening student inflow into chemistry education

ChemistryNL supports initiatives that stimulate the inflow and development of students in chemistry education. Together with partners such as Stichting C3, the Beta Tournament for vmbo students and the National Chemistry Olympiad for havo/vwo, young people are introduced to chemistry and encouraged to pursue studies in the field.

Talent development programmes are also supported for students in vocational, applied and academic education, including MBO Skills competitions and talent programmes through COAST and BISC-E.

### Learning communities strengthen chemical mbo education

ChemistryNL conducted a study on the development of learning communities and practories within chemical mbo education. The study explores how collaboration between vocational schools, companies and knowledge institutions can be strengthened.

Learning communities bring together education, research and industry, helping students gain practical experience while ensuring that training programmes better reflect the needs of the chemical sector

### Analysis highlights the chemist of the future

ChemistryNL published an analysis and vision on the future workforce for the chemical sector, examining the competencies needed for the next generation of chemists. The analysis highlights the growing importance of skills related to digitalisation, automation, sustainability and interdisciplinary collaboration. The results provide guidance for education and industry in preparing professionals for the rapidly evolving chemical sector.

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