Sustainable Chemistry and Advanced Materials Trade Mission to Japan

COMMON GROUND
コモングラウンド

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Netherlands

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Sustainable Chemistry and Advanced Materials Trade Mission to Japan

Company Profiles

Organisation


オランダ
THE NETHERLANDS

Foreword

The ongoing transition of the chemical industry from fossil-based feedstock to fossil-free feedstock presents extraordinary opportunities—and challenges—for all stakeholders. Innovation and cutting-edge technologies are essential to drive the transition towards a sustainable, circular, and climate-neutral economy. In this spirit, the collaboration between the Netherlands and Japan holds particular promise. Both countries have built a legacy of chemical innovations, and together we are well positioned to advance breakthrough solutions in plastics recycling and green chemistry, particularly Carbon Capture and Utilization (CCU) and bio-based feedstock.

This trade mission brings together Dutch and Japanese companies, research institutes, and government representatives, who are committed to addressing interrelated themes: transforming CO_2 into high-value materials through CCU, plastics recycling and upgrading biomass and waste streams into sustainable and competitive products. With Japan and the Netherlands widely regarded as powerhouses in environmentally friendly technologies and efficient production methods, this mission offers an excellent platform for exchanging insights, exploring innovative technologies, and establishing strategic partnerships.

The primary goal of this trade mission is to foster international cooperation that will accelerate the translation of ideas into high-value, commercially viable applications. By combining the technical know-how and entrepreneurial spirit of both nations, we aim to strengthen our position in the global chemical industry and to contribute to a circular, sustainable future.

I hold high expectations for this mission. I firmly believe that the ideas and partnerships formed during this mission will not only pave the way for further technological advancements, but will also help forge a resilient innovation ecosystem for our industry. I look forward to the discussions, the exchange of expertise, and the networks that will arise during our time in Japan.

Together, let us harness our collective knowledge and dedication to meet today's challenges and to build the sustainable, innovative, and circular chemical industry of tomorrow.

Jacqueline Vaessen
Head of delegation Chair ChemistryNL
Mission Leader

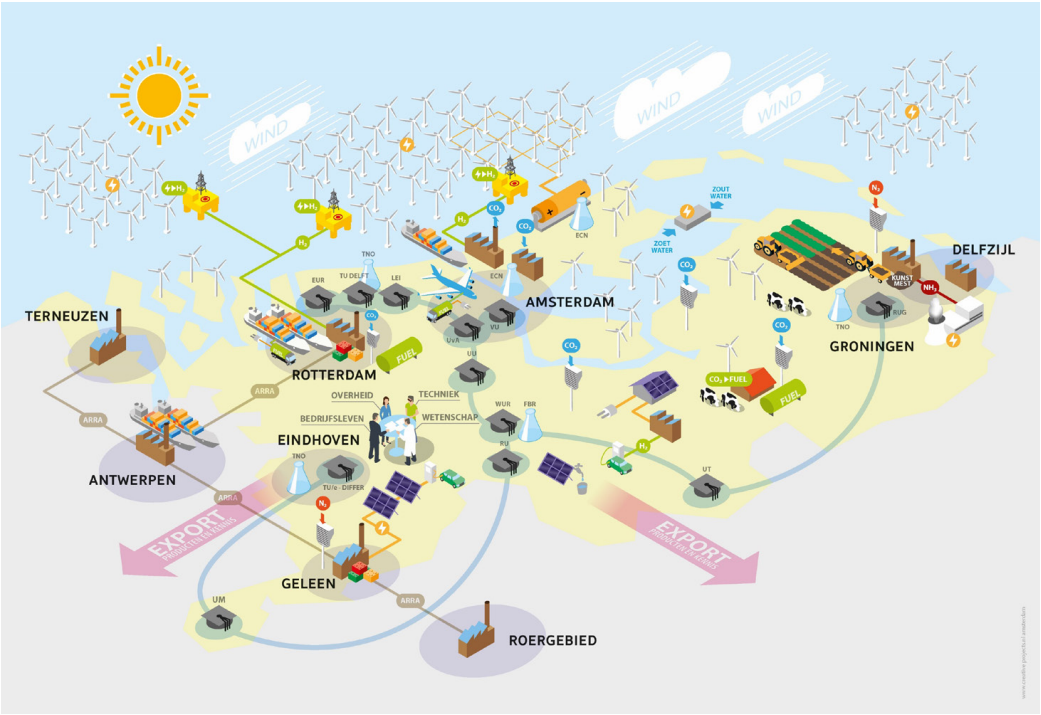
The Netherlands

a connected network of chemical clusters

The Netherlands offers an excellent climate for the chemical industry, thanks to its access to key raw materials, world-class infrastructure, and the port of Rotterdam as a global hub. Six unique chemical clusters form the backbone of the sector. Closely connected by pipelines, logistics, and innovation, they link Dutch industry directly with Belgium, Germany, and Northern France.

- Rotterdam–Moerdijk
- Chemelot (Geleen)
- Northern Netherlands (Eemsdelta, Groningen)
- Zeeland/West Brabant (Terneuzen)
- Amsterdam Metropolitan Area (Noordzeekanaalgebied)
- Cluster 6 (connections with Antwerp and the Ruhr area)

These clusters are more than locations: they form a dynamic ecosystem where production, infrastructure, and innovation come together to strengthen the competitiveness of Dutch chemistry.



The Netherlands and Japan

A 425-year legacy of learning and collaboration

The Netherlands and Japan enjoy one of the longest-standing international partnerships in the world. It began in 1600, when the Dutch ship De Liefde arrived on the shores of Kyushu. Over the following centuries, the relationship deepened, with the Netherlands becoming Japan's sole European trading partner for nearly 240 years. This led to the development of Rangaku, or "Dutch learning," which facilitated the flow of knowledge and played a pivotal role in Japan's scientific and technological modernisation.

Today, the relationship thrives through shared values of freedom, democracy, and the rule of law, and through vibrant exchanges in trade, culture, and innovation. Japan and the Netherlands see each other not only as trusted allies but as complementary forces in solving the global challenges of the 21st century. This is especially true in the chemical sector, where both countries are driving the transition toward climate-neutral and circular production.

The Netherlands, your partner in sustainable solutions

A sector in transition

The Dutch chemical industry has to undergo a major transformation to become climate-neutral and circular by 2050. This includes three key transitions: switching to renewable and bio-based feedstocks, electrifying production processes, and designing more sustainable materials and end-products. These efforts are backed by world-class research institutions, public-private collaboration, and access to green infrastructure.

The Netherlands is pioneering advanced materials that contribute to global sustainability goals such as lightweight composites for batteries and turbines, membranes for electrolysers, detection materials, and self-healing coatings. We are also working on new areas for development like metamaterials with unique properties for future electronics and optics.

Equally important is the shift toward sustainable process technology. The Dutch sector is investing heavily in electrification, membrane separation, and electrolysis to replace fossil-based resources with clean alternatives. Biobased chemistry is also gaining ground, creating new materials and chemicals derived from renewable sources such as biomass and organic waste.

With its highly integrated industry clusters, supportive government policies, and openness to international collaboration, the Netherlands offers a strong platform for Japanese and global businesses to co-develop and scale next-generation sustainable chemistry. Whether you're looking to invest, innovate, or expand into Europe, the Dutch chemical ecosystem is ready to partner for impact.

Worldwide rankings

1st

Largest flower exporter
(Source: OEC, 2022)

3rd

Largest exporter of agricultural products in the world
(Source: WUR/CBS, 2023)

4th

Largest importer of goods in the world, 842.05 billion US dollars
(Source: Statista, 2023)

4th

Largest exporter of goods in the world, 934,57 billion US dollars
(Source: Statisa, 2023)

4th

Leading economy worldwide by Foreign Direct Investment (FDI) inward stock, 2,86 trillion US dollars
(source: Statista, 2023)

6th

Greatest place to live
(Source: World Happiness Report, 2024)

7th

on the Global Innovation Index
(Source: WIPO, 2023)

9th

on the World Competitiveness Ranking
(Source: International Institute for Management Development, 2024)

Company Profiles

ADURO
CLEAN TECHNOLOGIES

Eric Appelman
Chief Revenue Officer
eappelman@adurocleantech.com

Aduro Clean Technologies

Aduro is a startup company that has discovered and is now industrializing a chemical pathway to upgrade complicated hydrocarbon streams like bitumen, waste plastic or rubber, by breaking those down into smaller, more valuable molecules. This invention, called Hydrochemolytic Technology, is unique because it produces stable, saturated hydrocarbons in a single step, without the use of molecular hydrogen. In the case of plastic waste, the product can be sent straight to a steam cracker and further to the manufacture of new polymer without the need for expensive upgrading. The compnay owns a portfolio of patents covering both the chemistry and the process technology. Aduro Clean Technologies is a public company listed at the Nasdaq exchange in New York (ticker ADUR).

Unique Selling Points:

- Converts polyolefin waste into steam cracker feedstock in a single step;
- No additional hydrotreatment required;
- Can handle low quality waste with well below 90% of polyolefin and a variety of contaminants;
- High yield of cracking-range hydrocarbons;
- Effective removal of heteroatoms;
- Relatively low energy consumption;
- Patneted chemistry and process.

Aduro Clean Technologies
Urmonderbaan 22
NL 6167RD Sittard-Geleen
The Netherlands
adurocleantech.com

Brightlands Circular Space

Lia Voermans
Chair Steering Board Member
Brightlands Circular Space
lia.voermans@brightlands.com

Brightlands Circular Space

Brightlands Circular Space (BCS) is a €60M joint venture by Brightlands Chemelot Campus, Maastricht University, and TNO, located in Sittard-Geleen, at the heart of Europe's largest chemical cluster. As part of the Brightlands ecosystem, BCS accelerates circular plastics innovation through co creation in an open-access R&D demonstration center. This unique facility supports scaling circular solutions out of plastic waste in packaging, automotive, electronics, and textile. BCS connects the entire plastics value chain—offering access to top-tier equipment, expertise, consortia, and feedstocks—enabling faster market entry, reduced risk, and new circular business models.

Unique Selling Points:

- Located in the heart of the Antwerp-Rotterdam-Rhine-Ruhr Area (ARRRA-cluster) chemical cluster—Europe's largest;
- Embedded in the Brightlands ecosystem: 30,000 innovators and 350+ companies;
- Strong academic, industrial, and governmental ties via founding partners (Brightlands Chemelot Campus, Maastricht University, TNO);
- €60 million investment in an open innovation and semi-industrial scale-up center;
- First-of-its-kind R&D Regional Transition Hub for circular plastics, accessible to all players in the value chain and includes integration of cutting-edge equipment, material analysis, and process infrastructure at one location;
- Facilitates collaboration between waste companies, brandowners, producers, users, recyclers, designers, and researchers;
- Supports co-creation of circular solutions and joint innovation through consortia.

Brightlands Circular Space
Urmonderbaan 22
NL 6167 RD Sittard-Geleen
The Netherlands
brightlandscircularspace.com

ChemistryNL

Jacqueline Vaessen
Chair of ChemistryNL
jacqueline.vaessen@chemistrynl.com

Tom van Aken
Member-Representing SME
tom.vanaken@avantium.com

Moniek Tromp
Captain of Science ChemistryNL
moniek.tromp@rug.nl

Karlo van Dam
Member Board ChemistryNL
bovi@minezk.nl

ChemistryNL
Laan van Nieuw Oost-Indië 300
NL 2593 CE The Hague
The Netherlands
chemistrynl.com/en/about

ChemistryNL Topteam

ChemistryNL is the brand name of the Top Sector Chemistry and executes the mission-driven Top Sector and Innovation Policy (MTIB) of the Ministry of Economic Affairs and Climate Policy. The policy of the ten Top Sectors in the Netherlands aims to create opportunities to address global societal challenges in the fields of climate, food, health, circularity, and safety. The Top Sector approach is typically Dutch: open, inclusive, and inventive. The Top Sectors have drawn up research agendas and objectives for the coming years. To develop the best solutions, the business community, universities, research institutes, and the government collaborate on knowledge and innovation.

The chemical sector is a key pillar of the Dutch economy. Together with the Ministry, the Top Sector faces the major task of achieving the sustainability goals for 2050, focusing on circularity and climate neutrality.

ChemistryNL is therefore looking for future economic perspectives in the defossilization of the chemical industry (for instance, bio-based materials and CO_2 as feedstock, plastics recycling). Circular economy is a key theme for the Top Sector as well, mainly focusing on refining and recycling critical raw materials.

TKI Green Chemistry and Circularity

TKI Green Chemistry and Circularity within ChemistryNL, the TKI Green Chemistry and Circularity serves as the operational organization. The TKI develops research agendas and supports the objectives for the coming years, driving innovation and collaboration both nationally and internationally.

ChemistryNL seeks to strengthen bilateral relations and explore cooperation opportunities between Japanese and Dutch companies, leading research institutes, and universities. This mission also provides a unique chance to engage with top-tier universities, industry leaders, and knowledge institutes working on bio-based projects and CCU.

Peter Berben
Managing Director
peter.berben@chemistrynl.com

Frank Groenen
International Affairs
frank.groenen@chemistrynl.com

ChemistryNL
Laan van Nieuw Oost-Indië 300
NL 2593 CE The Hague
The Netherlands
chemistrynl.com/en/about

Syed Nabil Ahmed
Principal Strategist
nabil@circularise.com

Circularise B.V.

Established in 2016, Circularise is a leading product traceability platform for the plastics and petrochemical markets, focusing on compliance, supply chain resilience and sustainability. Its platform provides end-to-end supply chain traceability, supports digital product passports (DPPs), supply chain data collection and creates audit-ready reports through secure data management. Circularise's patented technology balances transparency with data security, protecting sensitive information. It allows anyone to verify data integrity in a DPP with open-source software while maintaining confidentiality. This helps companies meet regulatory (ESPR) and mass balance certification schemes like ISCC PLUS and ISCC EU, prepare for audits, and proactively de-risk their supply chains from disruptions.

Unique Selling Points:

- Patented technology ensuring secure flow of data along the value chain with confidentiality protection and verification built in;
- First of its kind Chain-of-Custody 360 solution enabling upstream & downstream analysis of Batches in Supply Chains and within organisation's operations;
- AI powered Chain-of-Custody analysis;
- AI powered data collection from supply chains up to any tier.

Circularise B.V.
Grote Marktstraat 49
NL 2511BH Den Haag Zuid
The Netherlands
circularise.com

Noah Hirsch
CEO
noah@etbcat.com

ETB Global

ETB Global develops breakthrough technology to produce bio-based butadiene from ethanol, enabling a shift from fossil to renewable feedstocks in the rubber and plastics industry. Our patented one-step process uses a proprietary polyfunctional catalyst to convert ethanol into butadiene with high efficiency and a significantly lower carbon footprint. This innovation paves the way for sustainable production of SBR and BR rubbers for tires, ABS plastics for consumer goods, and other key applications. Backed by strategic industry partners, ETB Global is driving the transition toward a bio-based and net-zero chemical sector.

Unique Selling Points:

- Innovative one-step technology to produce bio-based butadiene directly from ethanol;
- Proprietary polyfunctional catalyst designed for high efficiency and industrial scalability;
- Reduces carbon emissions by up to 90% vs conventional fossil-based butadiene production;
- Enables bio-based SBR, BR, and ABS, supporting sustainable tires, electronics, and mobility;
- Drop-in molecule compatible with existing supply chains in the rubber and chemical industries;
- Supports Japan's carbon neutrality and green growth strategy through practical implementation;
- Flexible for integration with local bioethanol sources and chemical production sites.

ETB Global
Urmonderbaan 22
NL 6167RD Geleen
The Netherlands
etbcat.com

GRONINGEN SEAPORTS

Felien van Kooij
Business Development
f.vankooij@groningen-seaports.com

Laura Leeuwen
Marketing
l.leeuwen@groningen-seaports.com

Groningen Seaports

Groningen Seaports is the administrator, commercial operator and developer of the Port of Delfzijl and the Eemshaven and adjacent industrial estates. Groningen Seaports provides the complete port services, the complete port services, the complete port services, the maintenance and the development of the sites in both port areas. Groningen Seaports creates responsible and sustainable clusters and partnerships on the propositions 'circular', 'biobased chemistry' and 'energy (related)', in order to manage this for (future) customers and other results, to create value and liveability within its area of realization in North Netherlands.

Unique Selling Points:

- Strategic location in the Northern Netherlands with direct access to the North Sea;
- Two deep-sea ports: Delfzijl and Eemshaven, specialized in energy and industry;
- Strong focus on renewable energy and sustainable chemistry: hydrogen, offshore wind and circular economy;
- Home to major players in the energy, data and chemical sectors;
- Excellent multimodal infrastructure: sea, rail, road and inland shipping;
- Ample space and support for sustainable industrial development;
- Active partner in international green energy and innovation initiatives;
- Proven track record in facilitating cross-border business and investments.

Groningen Seaports
Handelskade Oost 1
NL 9934 AR Delfzijl
The Netherlands
groningen-seaports.com

Jayand Baladien
Commercial Director
j.baladien@portofmoerdijk.nl

Havenbedrijf Moerdijk N.V.

Port of Moerdijk is the fourth Dutch seaport and second container port in the Netherlands. As a driving force for the Brabant economy with direct and indirect employment for more than 19,000 people, we are determined to further grow our activities in the right balance between profit, people & planet. More than 400 companies are located in our management area. As the port authority, we operate, manage and develop the Moerdijk port and industrial estate and connect Port of Moerdijk with Europe. By road, water, rail and pipeline.

Unique Selling Points:

- Large-scale European logistics;
- Strong industrial cluster for chemistry, energy and recycling.

Havenbedrijf Moerdijk N.V.
Plaza 3
NL 4782 SL Moerdijk
The Netherlands
portofmoerdijk.nl

Netherlands Foreign Investment Agency (NFIA)

As an operational unit of the Dutch Ministry of Economic Affairs The Netherlands Foreign Investment Agency (NFIA) helps international companies to establish or expand their operations in the Netherlands. The NFIA provides tailored advice, practical support, and connects businesses with local networks and resources and focuses on key sectors like agrifood, chemical industry, life sciences & health and energy. Our free services provide you with all the information needed to understand how the Netherlands can connect your business to Europe and the world.

Erwin Walstra
Senior Project Manager
(Country focus Japan & Korea)
erwin.walstra@rvo.nl

Oscar Van Veenhuizen
Project Manager
(Sector team Chemicals)
oscar.vanveenhuizen@rvo.nl

Netherlands Foreign Investment Agency (NFIA)
Prinses Beatrixlaan 2
NL 2595 AL The Hague
The Netherlands
investinholland.com

Rene Buwalda
CEO
r.buwalda@perpetualnext.com

Jurre Hijman
CCO
j.hijman@perpetualnext.com

Perpetual Next

Perpetual Next processes organic residual materials and transforms them into biocommodities for the highest quality applications on the market. Perpetual Next builds, owns, and operates production facilities where organic waste streams are converted into biobased raw materials on an industrial scale. The demand for biobased raw materials is driven by regulations and carbon pricing as a result of these measures. Additionally, it will be further influenced by the impending scarcity of fossil raw materials. Oil and gas are expected to run out within just 40 to 60 years (source: Milieucentraal). Currently, 80% of the world's primary energy comes from coal, oil, and gas (source: Our World in Data). To secure a sustainable future, we must therefore transition to renewable energy sources.

Unique Selling Points:

- Highly efficient scalable blueprint based on proven technology;
- Indepth knowledge pre-treatment;
- Proven track record.

Perpetual Next
Kraanspoor 36
NL 1033 SE Amsterdam
The Netherlands
perpetualnext.com

SIEBTECHNIK TEMA

Marc Rijsdijk
Sales and Business
Development Manager Asia
m.rijsdijk@siebtechnik-tema.nl

Siebtechnik TEMA B.V.

Siebtechnik Tema B.V. is a global specialist in mechanical process engineering, supplying centrifuges, screeners, crushers, samplers, and lab equipment for industries like chemicals, mining, food, and pharma. With German-engineered solutions and worldwide support, the company delivers tailored, high-performance equipment for separation, classification, and filtration. Part of the Siebtechnik Group, it combines innovation, durability, and expert service to optimize customers' industrial processes across the globe.

Unique Selling Points:

- 100+ years of expertise in solid–liquid separation and bulk-material processing;
- Tailor-made systems: fully customized centrifuges, screeners, crushers, dryers and lab systems;
- Global OEM & system provider: part of a family-owned group with 3,000–3,700 employees across 50+ locations;
- Top-tier innovation: among the top 10% in EcoVadis sustainability, with advancements like app-controlled lab equipment;
- High-performance continuous centrifuges: short-bowl design, CIP optimization, high-temperature & gas-tight variants;
- Proven wear-resistant engineering: advanced materials (tungsten carbide, ceramics, special steels) built for abrasive/process-heavy use;
- Comprehensive in-house tech center: R&D, pilot testing, and service all centralized in their Mülheim (Germany) facility;
- Global service & parts support: local production/sales/service in Europe, North America, China, Australia; backed by a strong spare-part network.

Siebtechnik TEMA B.V.
Steenplaetsstraat 22 - 26
NL 2288 AA Rijswijk
The Netherlands
siebtechnik-tema.nl

Wouter van den Berg
Commercial Director
wouter.vandenberg@thecompoundcompany.com

Jans Havinga
International Business
Development Manager
jans.havinga@thecompoundcompany.com

The Compound Company

The Compound Company B.V. is a leading European producer of chemically modified polymers and thermoplastic compounds. TCC has production facilities in Enschede, Roermond and Jakarta, with state-of-the-art compounding lines, QC, R&D, warehouses and logistics. TCC has two brand names: Yparex adhesive resins are maleic anhydride functionalised polyolefins, that provide bonding between polyolefins and substrates like PA, EVOH, glass and metals such as aluminium, copper, steel. Typical applications are: multilayer barrier film, multilayer pipes, solar panels, wire&cable, compounding additives, additives for recycling. EcoForte are thermoplastic compounds (glass fibre reinforced, mineral filled, natural fibre reinforced, or flame retardant). They can be made with biopolymers or recycled polymers.

Unique Selling Points:

- High added value compounds for demanding applications;
- Excellent technical service from experienced staff;
- Proven track record dating back to the 19-eithies;
- Flexibility and can-do attitude;
- Fast response time;
- One-stop shop for mechanical recycling.

The Compound Company
Goolkatenweg 10
NL 7521 BG Enschede Overijssel
The Netherlands
thecompoundcompany.com

TNO

TNO is the largest RTO, applied research organization in the Netherlands (TRL 2-7). We represent In the unit Energy & Material Transition and the group “sustainable fuels & chemicals”, TNO develops technology to produce fuels & chemicals from biomass, biogenic waste, captured CO2 and renewable hydrogen. We specialize in process intensification (combine several processes in 1 step) and process optimization (enhance carbon and energy efficiency and robustness). We have active projects on e-fuels and bio-fuels & chemicals, examples are SAF, methanol, DME, syngas, aromatics, olefins, ammonia etc.

Unique Selling Points:

- Large government and industrial network;
- Applied research expertise and extensive infrastructure (TRL 3-7);
- Active projects on syngas, SAF, methanol, DME, aromatics, olefins and ammonia;
- Connecting energy (and carbon) carriers such as ammonia, methanol and ethanol to industry by robust and efficient new technology solutions.

Jan-Willem Könemann
Senior Business Developer
jan-willem.konemann@tno.nl

Luc Kikkert
Senior Business Developer
luc.kikkert@tno.nl

TNO
Kessler Park 1
NL 2288 GH Rijswijk
The Netherlands
tno.nl

Organisation

Kingdom of the Netherlands

Embassy of the Kingdom of the Netherlands in Tokyo, Japan

The Embassy of the Kingdom of the Netherlands in Tokyo serves as the official diplomatic mission of the Netherlands in Japan. It works to strengthen political, economic, cultural, and people-to-people ties between the two countries, supporting Dutch citizens in Japan and fostering cooperation in areas such as trade, innovation, sustainability, and education. You can contact the Embassy of the Netherlands in Tokyo via email: tok-ea@minbuza.nl

Queeny Inaldo
Trade Officer Expo & Energy

Ai Kanegae
Office Manager

Ministry of Economic Affairs and Climate Policy of the Netherlands

The Ministry of Climate and Green Growth

The Ministry of Climate and Green Growth is committed to shaping a sustainable future by tackling climate change and promoting environmentally responsible economic development. It works to accelerate the transition to renewable energy, enhance climate resilience, and foster innovation that supports green growth for current and future generations. You can contact The Ministry of Climate and Green Growth via email: bovi@minezk.nl

Karlo van Dam
Director of Industrial Sustainability

Mark Schmets
Team lead Sustainable Industry, Circular Economy and International collaboration

Paul Verbraak
Policy Officer – Chemistry, Circular Economy and International Affairs

Netherlands Enterprise Agency

Netherlands Enterprise Agency

The Netherlands Enterprise Agency (RVO) helps entrepreneurs and organisations to invest, develop and expand their businesses and projects both in the Netherlands and abroad. We are a government agency which is part of the Dutch Ministry of Economic Affairs. We support entrepreneurs, NGOs, knowledge institutes, policymakers and organisations. We improve collaborations and strengthen positions through our funding and networks and together we build a more sustainable society. You can contact the Netherlands Enterprise Agency via email: bdc@rvo.nl

Annemieke Broesterhuizen
Managing Director International Trade

Anna Hommel
Business Development Coordinator

Waninge consultancy

Waninge Consultancy

Waninge Consultancy is a one-man consulting company. located in Tokyo and fully dedicated to the chemical industry. The company is based on the personal experience of Jan Waninge which consists of a 31 years career in DSM (including 13 years in Japan and 8 years in Shanghai in an Asia Pacific wide role) and now 9 years as consultant in Japan.

Jan Waninge
Thematic Expert, Japan

Handelsroute.nl

Handelsroute.nl supports entrepreneurs in realizing their international growth ambitions. We do this by organizing: Outbound trade missions - Advise - Inbound trade missions - Events - Matchmaking.

Fae van der Jagt
Project Manager

ChemistyNL is providing support for this trade mission

Netherlands

Publication
Netherlands Enterprise Agency
The Hague, the Netherlands
www.nlplatform.com
@NLNetherlands

Netherlands