



Photography: Dutch Greenhouse Delta

# Joining forces for food safety and food security in the Gulf region



# Foreword

Distinguished reader,

It is with great pride that I present to you the Netherlands' horticulture consortium "HortiRoad2theGulf". This consortium is the fruit of a public-private-knowledge sector partnership, focussed on the specific conditions of the Gulf region. Addressing strategic goals of enhanced food security and self-sufficiency, we emphasize water-saving and purification solutions, along with smart energy innovations. This is the embodiment of what we call the 'Water Energy and Food Nexus'. Cooperating closely with all stakeholders involved symbolizes the typical Dutch approach to solving global challenges together.

Food security is a top priority for all Gulf countries. To this day, the Gulf imports approximately 90% of its food needs. In recent years, the necessity to speed up efforts in enhancing food security was amplified – both on a national, regional, and global level. Moreover, increasing demand of a growing population, climate change, supply chain disruptions, aquifer depletion, and salinity are some of the major drivers for the food security agenda.

The Netherlands is your unwavering, trusted partner in achieving food security in a sustainable manner. By harnessing innovation, technology, and collaborative initiatives, we create sustainable solutions that enhance resilience, promote economic prosperity, and safeguard the well-being of our societies. Furthermore, the developments in the Gulf's horticultural sector offer many opportunities for intensifying cooperation between the Netherlands and the Gulf region. We are extremely proud to be part of these developments already. We look forward to upcoming trade missions, visits, and tailor-made training programs in the region.



**Simone Landhuis**  
*Agricultural Counsellor to the GCC for  
the Kingdom of the Netherlands*

# Joining forces for food safety and food security

To achieve food security for a growing and increasingly urbanized global population, we must significantly boost our supply of safe, nutritious, and delicious food while minimizing food loss. Feeding megacities requires an entirely new ways of thinking. We provide sustainable, integrated, and comprehensive solutions through an ecosystem approach. Key components of this ecosystem include plant breeding and propagation, growing, harvesting, packaging and logistics, trade, retail, and consumer marketing. Through long-term partnerships and by sharing our extensive knowledge and innovative technologies, the Netherlands assists other countries in improving their food safety and achieving food security.



Photography: A.Techno

Saudi Arabia, the United Arab Emirates, and Qatar aim to boost their food security and increase local production of fresh, high-quality vegetables, and fruits. Currently, much of the food needed to feed the population is imported, leading to significant food loss in the supply chain. This dependence also exposes Gulf countries to fluctuations in global food supply, influenced by geopolitics and climate change. The challenges encountered during the Covid-19 pandemic only underscored what Gulf governments already recognized: food security is a pressing concern of paramount importance.

### **Towards a long-term partnership**

We are ready to form a long-term partnership to address regional food security challenges. Saudi Arabia, the United Arab Emirates, and Qatar are leading the region with their comprehensive food security and safety strategies. The Dutch horticulture sector plays a vital role in feeding millions worldwide, using state-of-the-art technology and sustainable practices to cultivate a wide variety of fruits and vegetables. By working together, we can improve sustainable food production, reduce food loss, and develop innovative strategies and business models.

In the Netherlands, the government, companies, knowledge institutes and R&D centres develop the tools required to farm the future. HortiRoad2theGulf, as a public-private partnership, was established to assist Saudi Arabia, the UAE and Qatar in improving food self-sufficiency. Each partner of this business cluster brings extensive experience collaborating with international stakeholders and is committed to forging effective, tailored solutions for the long term. In close cooperation with the Embassies of the Kingdom of the Netherlands in Riyadh, Abu Dhabi, and Doha, and the Consulate General in Dubai, our public-private partnership is uniquely positioned to understand and navigate the climate and market dynamics of the Gulf region. We aim to empower the Gulf region to cultivate a thriving local horticultural sector, enhancing its competitiveness on the global stage.

### **Promoting sustainable local production**

With our combined knowledge, technology, and experience, we can accelerate the achievement of food security and food safety worldwide. By adapting our proven technology to local circumstances, we can provide support in producing ultra-fresh, safe, and delicious vegetables and fruit all year round, at fair prices, and as close to the point of consumption as possible. By reintroducing sustainable food production, we address critical issues such as climate change, biodiversity loss, food waste, and public health.

Our public-private partnership is ready to collaborate with key stakeholders to enhance their businesses sustainably. Together, we cover all aspects of CEA (Controlled Environment Agriculture), from breeding and cultivation to lighting, climate control, and crop protection. We encourage you to share the challenges you face, and we are committed to refining your business model alongside you. We can share best agricultural practices and assist you with logistics and consumer engagement. Specializing in facilitating your transition from low and mid-tech solutions to high-tech alternatives, we propel your enterprise toward sustainability and profitability. We advocate for minimizing water and energy usage to make sustainability more tangible while optimizing yield and crop quality.

# SDGs

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

The Dutch horticultural cluster contributes to the achievement of the following sustainable development goals:



## SDG 03 | Good health and well-being:

The aim of the cluster is to increase the availability of fresh, healthy and locally produced food.



## SDG 08 | Decent work and economic growth:

Encouraging “fair” and “decent” work and involvement of the local community should promote economic growth.



## SDG 11 | Sustainable cities and communities:

The cluster stimulates local and sustainable production through Dutch technology and knowledge transfer, such as reducing CO2 emissions and water.



## SDG 12 | Responsible consumption and production:

The current Dutch horticultural technology can serve as an example for the transition towards climate-neutral production systems and already has many circular features.

# Coordinators



**Dutch Greenhouse Delta** is a foundation that aims to promote the Dutch horticultural sector worldwide. Dutch Greenhouse Delta is the one-stop shop for complex, large-scale projects concerning food and floriculture issues in growing megacities. By working together with Dutch state-of-the-art partners in horticulture, they bring an integrated Fork2Farm solution that offers a complete ecosystem consisting of science, enterprise, education, and the government.

# Partners



**Artechno Growsystems** is an engineering company engaged in the development and realisation of modern hydroponic cultivation systems. Among the products Artechno manufacture are robotics, irrigation systems, sowing solutions, harvesting lines and turnkey solutions for vertical farming and greenhouse hydroponics.



## Bayer - De Ruiter

De Ruiter, part of the Bayer Crop Science division, specialises in the breeding, production and sale of hybrid seeds for greenhouse production. Together with its growers, the company is dedicated to bringing high-quality, nutritious produce to ensure a balanced plate for its global community.



## BOAL Group

BOAL Group provides greenhouse builders with a comprehensive portfolio of modular systems and solutions for high-tech-covered cultivation. It ranges from complete aluminum greenhouse structures with integrated insect netting and ventilation solutions to insulated storage areas, climate screen systems, or individual greenhouse parts. Having established long-term collaborative relationships with regional and global greenhouse builders, BOAL Group has supplied over 8,000 hectares of greenhouses in over 50 countries. Their systems significantly contribute to feeding a rapidly growing global population whilst minimizing the use of resources.



## Bosman Van Zaal

With over a century of experience in the global horticultural industry, Bosman Van Zaal makes you grow. Bosman Van Zaal stands out for its holistic turnkey approach, handling everything in-house, from design to realisation, bringing complex projects to life. Their expertise spans various domains, including process automation, data management, and the creation of fully controlled production facilities including HVAC and irrigation. All under the umbrella of Controlled Environment Agriculture (CEA).

# certhon

**Certhon** develops turnkey, custom-made solutions for the most high-tech horticultural projects, anywhere in the world. Certhon has more than 125 years of experience in horticulture and is based in The Netherlands. With 150 highly trained experts, the company has all the knowledge, know-how and technologies under one roof to enable entrepreneurs all over the world to produce local, fresh food.

# Delphy

**Delphy** stands for Worldwide Expertise for Food & Flowers. Delphy is therefore the company in knowledge and expertise for our partners in the vegetable sectors worldwide. Delphy is active in, among others, China, the Middle East, Turkey, Azerbaijan and South Korea. From Delphy China, Delphy Japan and Delphy Turkey, they work with local experts. In this way, the cultivation knowledge developed in the Netherlands is implemented and applied in and on the local conditions.

 **FOODVENTURES**

**FoodVentures** manages the entire value chain from soil to supermarket. We believe that high-tech greenhouses are the best solution to feed the global population with fresh and healthy vegetables. We operate modern greenhouses in developing markets to Dutch standards, and sell the produce to demanding supermarkets and restaurants, directly or via channel partners. We delight the consumer with tasty, food-safe vegetables, all year round.

 **Grodan**<sup>®</sup>

**Grodan** is a supplier of innovative and sustainable stone wool growing media solutions for the professional horticultural sector, based on Precision Growing principles. These solutions are, amongst others, applied for the cultivation of vegetables and flowers, such as tomatoes, cucumbers, sweet peppers, egg plants, roses and gerberas. Grodan combines their offer with tailored cultivation advice and innovative and digital tools to support growers in the sustainable production of fresh produce for the consumer.

 **hoogendoorn**  
growth management

### Hoogendoorn Growth Management

Together with global partners, Hoogendoorn delivers sustainable automation solutions that seamlessly coordinate all processes and systems in your horticultural organisation. The modular software ensures that the available resources such as natural gas, fertilisers and water are used as efficiently as possible. With this, Hoogendoorn helps its clients to minimise (energy) costs and CO<sub>2</sub> emissions and to maximise crop profitability.

 **HORTIMEC**

**Hortimec** is a family-owned business that focuses on young plant technology. Our specialized techniques for growing young plants include state-of-the-art spraying booms. These booms are adapted and tailor-made for local requirements, ensuring uniform watering and effective phyto-sanitary treatment. The software that accompanies our spraying booms is developed according to the latest insights, providing advanced control and monitoring capabilities. Additionally, our booms contribute to uniform rooting and growth, as well as effective non-chemical phytosanitary treatment and anti-fungal disinfection. Hortimec is committed to providing innovative solutions for young plant growers in the horticulture industry.





**Horti XS** is a lean and customer-oriented firm with lots of experience in the field of development, construction and realisation of high-tech horticultural projects. Their expertise lies in the field of supply and engineering of greenhouse projects and we have developed into a leading provider for global horticulture. Horti XS pictures the greenhouse as the backbone of a turnkey project and decides on the strategy, the layout, and the logistics of the project at the same time.



**Klasmann-Deilmann** is the leading corporate group in the international substrate industry, with numerous sales and production companies in Europe, Asia and America, and a network of sales and production partners on every continent. Our growing media provide worldwide a vital basis for the growth of soft fruit, vegetables, edible mushrooms, herbs, ornamental plants, trees and shrubs.



**Koppert Biological Systems** produces sustainable cultivation solutions for food crops and ornamental plants. Together with growers and in partnership with nature, Koppert Biological systems work to make agriculture and horticulture healthier, safer, more productive and resilient. They achieve this by using natural enemies to combat pest infestations, bumblebees for natural pollination, and biostimulants that support and strengthen the crops both above and underground



#### **KUBO**

At KUBO we can now look back at almost 80 years in horticulture. A stable family company with the third generation now at the helm. KUBO manages complete greenhouse projects. Contracting, engineering, manufacturing, construction and service. All under our own management. This enables us to monitor the entire process, deliver on time and be certain that we are using the latest technologies and concepts.



**Modiform** offers solutions in cultivation, transport, and packaging systems for the horticulture supply chain based on recycled raw materials. We recover materials from the environment and upcycle these into high-quality, smart, and sustainable products. Modiform was already actively engaged in responsible and sustainable business 45 years ago, and to this day we continue to take new steps towards a cleaner world.



**PurpleCrown** brings together a team of tech-savvy experts with deep roots in cultivation. Each member boasts years of firsthand experience in the field, making them well-suited for the job. Our main goal is to provide clients with top-notch tools and essential knowledge to achieve the best results in agriculture. All our subsidiaries work together in perfect alignment, driven by a common vision: to lead the way as the worldwide brand house where technology and cultivation come together, benefiting the entire Controlled Environment Agriculture (CEA) sector.



**Ridder** develops innovative climate, irrigation and management systems for horticultural projects worldwide. Operating globally, the company specialises in adaptive systems that seamlessly match the knowledge level and needs of the local market. With a high-level of expertise and commitment, Ridder offers total solutions to horticulture businesses across the world – from mechanical systems to digital services.



### Svensson

Established in 1887, Ludvig Svensson is a family-owned business with more than 130 years of experience in the textile industry. Svensson's climate screens, which are produced in Sweden and sold around the world under the name Svensson, improve the success of professional greenhouse growers, enhancing the overall greenhouse climate. No matter where in the world the operation is located, Svensson knows how to make the most of your natural climate.



### Van der Hoeven Horticultural Projects

At Van der Hoeven Horticultural Projects we design, build, and operate tailor-made horticultural solutions for our customers, with a reduced footprint in natural resources, water, CO2, and pesticides. We continuously invest in R&D to strengthen our propositions towards our customers. This vision allows us to operate our business successfully for a better future and sets us on the path of our mission: to provide sustainable taste anywhere.



**Viscon Group** specialises in factory automation for agriculture and food. Their software, machines, and integrated solutions make food and agriculture processes sustainably profitable, scalable and easy.



**Westland:** Leading the way in sustainable horticulture and local food production. As Westland, the capitol of the Greenport in West- Holland, we spread the message of aiming for local sustainable food production all around the world. In our municipal role, we emphasize our joint contribution to several of the Sustainable Development Goals of the United Nations, such as 'Zero Hunger', 'Sustainable Cities', 'Good Health and Well-being' and 'Responsible Consumption and Production'.

# Let's partner up!

By working together, we can accelerate the transition to more sustainable horticulture and increased food safety and food security in Saudi Arabia, the UAE and Qatar. Together we can unlock the Gulf's full horticulture potential. So, let's exchange information, knowledge, and technology and inspire each other and the rest of the world, how together we can farm the future!



**Director Middle East and Africa,  
Dutch Greenhouse Delta**

**Giovanni Angiolini**

[giovanni.angiolini@dutchgreenhousedelta.com](mailto:giovanni.angiolini@dutchgreenhousedelta.com)



**Liaison PIB NLHortiRoad2theGulf**

**Dr. Abdulaziz Rabeh Alharbi**

[akharbi@ksu.edu.sa](mailto:akharbi@ksu.edu.sa)



[www.hortiroad2thegulf.com](http://www.hortiroad2thegulf.com)

