





CODEMA provides growers and investors with tools and solutions to increase their production, quality and to cut down their costs.

CODEMA's strength lies in its deep knowledge, 50 years of wide experience and its unique integrated approach. This has made Codema one of the very few companies in the world who can design, develop and deliver completely integrated solutions for the horticulture industry.

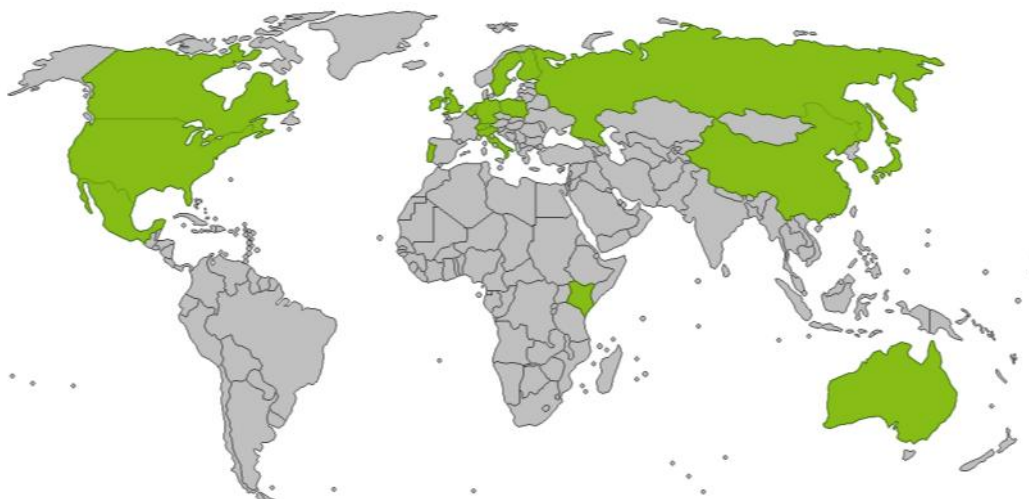
### CODEMA Systems Group

CODEMA Systems Group is the holding company of **HAWE, B-E de Lier, SDF and WEVAB**. With more than 50 years experience, it is the worldwide market leader in offering innovative and customized cultivation solutions, logistic systems, management and control systems and software for the horticulture industry.

### Core Values of our solution:

- **Increased Production:** Increase the production capacity of greenhouses by better management of space and logistics.
- **Cost Reduction:** Our custom designed logistic systems help reduce the production and cultivation costs. Our solutions significantly reduce energy and water consumption for cultivation. Costs due to error loss are avoided by reducing dependency on manual labour.
- **Customized Solutions :** We provide customized solutions to the growers based on their plant type, farm size, production capacity, resource availability and other specific needs and demands. CODEMA has a wide portfolio of customized solutions ranging from simple manual to hi-tech fully automated solutions.
- **Total Control:** We provide solutions which are inline with the future growth strategies of our clients. Our solution gives complete control on the cultivation process, thus allowing our clients to plan their production well in advance to enjoy a leading edge in the competitive market.
- **Assured Quality:** CODEMA has become a synonym for high-quality products and services in the horticulture industry around the world.

### CODEMA Around the World





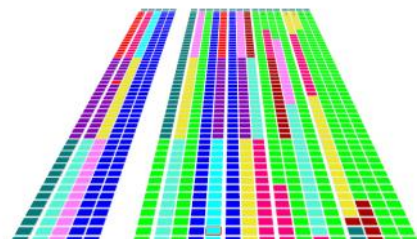
HAWE specializes in designing and developing innovative cultivation systems, internal logistic and transport systems for the horticulture industry. HAWE solutions enable growers to customize their internal logistic process to increase production, improve quality, and to reduce labour costs.



B-E de Lier believes that *"cannot doesn't exists"*. This belief has helped it to establish itself as a leading company in automation for horticulture industries. It offers a wide range of technologies and customized solutions to address the needs of the horticulture industry for water management, environment control, energy management, electrical installations and system automation.



SDF is the pioneer in developing customized operating and management software and hardware that meet the unique needs and demands of the horticultural sector. SDF solutions are being applied along the complete value chain including the grower, distributor and retailer. Software for registration, for planning and managing cultivation and control software for internal logistic systems are just a few examples of the solutions from SDF.



WEVAB specializes in the design and manufacturing of presentation tables, conveyor belts, roller conveyors, and processed aluminum/steel metals. WEVAB solutions are highly sought after by the horticulture and floriculture retail segment and garden centres in Europe









## HAWE Solutions

The internal logistics solutions for greenhouses and open farms from HAWE help the growers to significantly increase their productivity and accelerate the production process. It also relieves the growers of high labour costs.

Crop transport, materials handling, and labour intensive tasks are necessary activities within all controlled environment plant production systems (CEPPS). Management of materials and resources is critical for plant cultivation (ex. transplanting, harvesting, watering etc.)

Almost every phase of plant cultivation requires transport of materials or movement of labour force. Therefore the horticulture industry around the world has recognized the added value of adopting HAWE solutions which integrate transportation and robotic capabilities, which greatly enhances the efforts of the manager and the overall production system performance.

In short, the core values of HAWE solutions are as follows:

- Less energy usage
- Stronger Plugs
- Less labour costs
- Improved Hygiene
- Less error rate
- Higher Yield
- Less pesticide
- Effective management

## Customized Solutions

We thoroughly understand the needs of the crops and the demands of the grower and hence offer the most suitable and customized solutions for each of our clients. Our solutions use a wide range of manual or mechanized processes (mechanization) to flexible automation processes (robotics) or a combination of both to support different types of operations in a typical greenhouse. We ensure that the right kinds of technology and process are selected for each of our clients to ensure long-term economic viability. HAWE can offer you the following logistic solutions:

- **Manual Mechanized Solutions**
- **Semi-Automatic Solutions**
- **Fully Automatic solutions**







## B-E de Lier Solutions

B-E de Lier started its business in the year 1959 by manufacturing and supplying sprinkler systems for greenhouse and open farm cultivation. During its 52 years of strong market existence the company has grown and diversified its products and services to cater to many more related activities in the horticulture sector. B-E de Lier believes that *“cannot doesn’t exists”*. This belief has helped it to establish itself as a leading company in automation for horticultural industries.

The activities of B-E De Lier range widely in the field of automation with its products and services mainly focused on the horticulture industry. Its activities can be broadly classified into six disciplines;

**1. Water Technology:** B-E de Lier has its roots in water engineering and irrigation in particular. It provides customized solutions to each of its clients depending on their needs. B-E de Lier has installed its water management systems in greenhouses growing pot plants, flowers, young trees, vegetables, chicory in water, etc.

**2. Electro Technology:** B-E de Lier has all the qualifications needed for electrotechnical work and installations. It has its own personal computer line, namely the 'Compact Line' and also supplies its own control panels, boxes and cabinets. It also provides solutions and installations for lighting, sound systems, telephone equipment, ventilation, alarm and security.

**3. Automation:** B-E de Lier provides process computers for climate control and water management with possibilities of having multiple control stations. Its automation systems are getting smarter and leaner with the intelligent controllers being mounted in the bus systems enabling them to control all devices via a single data line cable. These automation systems require less cable installation and hence reduce the cost and also make the system simpler and easier to install and maintain.

**4. Environmental Technology:** B-E de Lier takes environment protection seriously. It has installed many greenhouse projects with environmentally friendly solutions like rain water harvesting systems. The rain water which is collected in huge tanks is disinfected using B-E de Lier's low-pressure UV sterilization unit before using it in the greenhouse for cultivation purposes. In cooperation with Koppert Biological Systems, it has designed and developed “Biomotus”, an innovative system used for preparing compost extract

**5. Energy Technology:** B-E de Lier has many years of experience working on various aspects of energy technology. It has developed its own software for managing heat storage and hot water buffers. It has systems that can control CO<sub>2</sub> and heat supplies for clusters including OCAP connections. One of its prestigious contributions in energy technology is its geothermal project in Berkel en Rodenrijs, Netherlands.

**6. Service/Management:** B-E de Lier systems are very critical for the greenhouses to perform at their full potential. B-E de Lier has a strong service and maintenance team who make sure that all its installations are functioning continuously well in the most reliable manner, without causing any breakdown loss for the clients.







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## SDF Solutions

To optimize the information management process, SDF has developed a combination of planning, cost control, logistic systems control and sales software. The state-of-the-art SDF Vision System has been specifically developed to grade and sort flowers in greenhouses. In general, SDF solutions can be categorized as follows:

### Management Info Systems

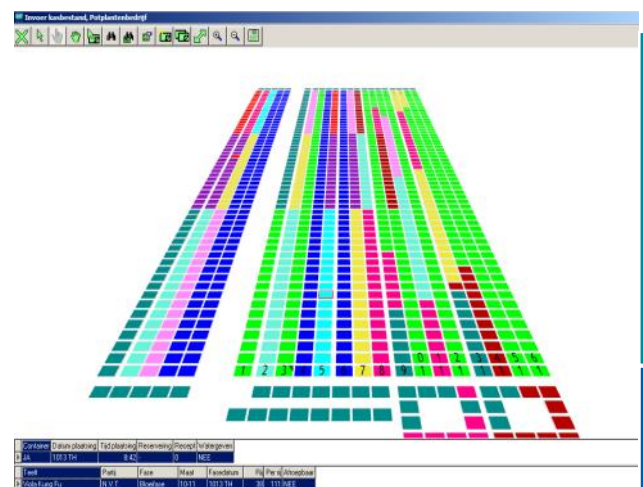
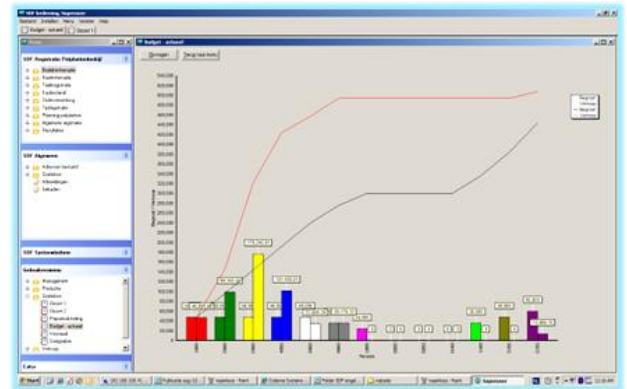
Sales and order processing are key factors for the success of any business. Many hundreds of large and smaller nurseries use our order software, which has been specially developed for the horticultural industry. Planning using the SDF software makes it possible to plan your resources better and organize your operation in a pro-active way. It will also give you a precise insight about your future product availability. The SDF modules put you in total control over crop production and all your costs, including labour, space, water, nutrients and energy.

### Logistic Control

Many nurseries in Europe are using an SDF automated task control system. This system provides a complete overview of the greenhouse indicating the actual position of your crops. It also allows you to control the movements of your labour, equipments and also the crops by just a click of the mouse. The combination of planning and control provided by SDF software enables you to identify the strengths and weaknesses of your own business and processes. In addition, modern logistic systems, such as container and delivery systems can be managed and controlled using the SDF systems.

### Vision Systems

SDF Vision Systems is the worldwide supplier of the state-of-the-art grading camera. SDF has developed a software to integrate with the grading camera thus enabling it to grade living organisms. The vision system from SDF can be installed as integrated or stand-alone system. Hundreds of systems are up and running in many different settings around the world.









## WEVAB Solutions

WEVAB specializes in designing and manufacturing of presentation tools, transport tools like conveyor belts and roller conveyors, and numerous customized products according to market needs in the horticulture sector. WEVAB solutions are highly sought after by the horticulture and floriculture retail segment and garden centres in Europe.

### Presentation Tools

As the market leader in the Netherlands, WEVAB offers an extensive range of presentation tools. According to the clients' demands, WEVAB has designed and developed several new innovative concepts and presentation tables to enhance the quality of flower exhibition in the flower shops and gardens.

The standard presentation tables for garden centres form the basis of the WEVAB product range, but the overall package covers almost all the needs of garden centres. Photo card holders, potting tables and worktables, cup tables, folding tables, six-sided tables are other examples of WEVAB's products.

### Transport Tools

Roller conveyor and conveyer belts produced by WEVAB are highly preferred by the horticulture industry in Europe for their solid construction, light weight, durability and safety features. WEVAB's transport tools are available in all types and sizes, and can be easily integrated with the efficient, practical and cost-saving logistic systems from HAWE. The control system and automation for these transport tools are developed by SDF systems.

### New Modular Design Concepts

WEVAB has been closely watching the market trends, needs and demands of the horticulture sector. In response, WEVAB has developed a new generation of modular presentation tables to its existing wide product portfolio. These new modular presentation tables provide high flexibility and control enabling easy customization of the garden centres according to the client's needs and taste. These new modular presentation tables have card holders and price taggers can be attached together without any welding.





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