

**A DAY AT
HOOGENDOORN!**

**"WORKING IN HORTICULTURE IS
SO MUCH FUN: YOU NEVER
STOP LEARNING."**

**"WE DON'T ONLY GROW WITH
TECHNOLOGY, BUT ALSO WITH
KNOWLEDGE."**




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FOREWORD

Looking back and looking ahead

This year we celebrate Hoogendoorn's 50th birthday. In recent years we have seen several developments and we are always working on a more sustainable horticulture. Technological developments have accelerated at a rapid pace. Both within our company and in the international horticulture sector, these have had a positive impact.

Even before the introduction of the 'World Wide Web', the first Walkman and mobile phone, Hoogendoorn introduced the world's first digital horticulture computer to the market in 1974. Something we are still proud of. Since the very beginning, our business is driven by innovation. In addition, collaboration and knowledge have always been part of our DNA.

In the early 70s, we already entered a partnership with MeteoGroup (formerly MeteoConsult), with which local weather forecasts and horticultural automation were integrated. This meant that weather forecasts were accounted for in regulations: what is now indispensable, was progressive at the time. The cooperation with Wageningen UR Greenhouse Horticulture goes way back, in which theory and practical knowledge come together. For instance, already in the 90s the calculation model 'Carbonaut' was developed in collaboration with the university. This is an intelligent CO₂-regulation which uses forecasts for the optimization of the hot water buffer fill.

In addition to these long-term relationships, multiple partnerships occurred nationally and internationally. Due to collaborations with sister companies within the automation division, new opportunities in process automation, food production and water treatment are created. Widening markets in order to include food & beverage, infrastructure, oil & gas, pharmaceutical and (petro) chemical industry and knowledge sharing within the division, provide added value in terms of innovation and specialization.



We believe in long-term relationships with our customers, local partners, researchers, consultants, governments, sister companies and colleagues. This has led to the transformation of Hoogendoorn from a small technical installation firm to an international automation company that achieves sustainable projects worldwide, together with customers and partners.

Our aspiration is to provide growers around the world easy-to-use and smart technology. Knowledge is central, provides control over the processes of growth in the greenhouse and thereby promotes a healthy crop. All this contributes to the sustainability of the food chain.

With this magazine we celebrate our successes of the past 50 years, we feature our customers and we offer you a look behind the scenes of Hoogendoorn.

On behalf of the Hoogendoorn team, we thank you for your faith in us. We look forward to a long continuation of our cooperation.

Director Sales & Marketing,
Martin Helmich

Customer of the first hour

"THE WORK IN THE GREENHOUSES IS A PEOPLE BUSINESS. EVEN AFTER 30 YEARS, YOU LEARN SOMETHING NEW EVERY DAY."

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Hoogendoorn customer for two generations

Greenhouse T. Varekamp was one of the first Hoogendoorn customers. In the 70s, the company bought the first digital horticulture computer in the world, the Tuco. The computer was mainly used to keep track of temperature measurements. In subsequent years, the company has grown with the latest Hoogendoorn computers. Now they are working with the most modern software to manage the greenhouse. A great opportunity to have a closer look at this family business.

Growth in knowledge and hectare

In the early years the greenhouse was the size of about half a hectare. Back then, everything had to be done by hand, because automation did not exist yet. Teun Varekamp Sr. explains that he had to dehumidify the air in the greenhouse by opening the vents with a sling. When looking back at the past 50 years, Varekamp Sr. is especially proud of the progress made by his company, with respect to the growth in hectares and knowledge. According to Teun Varekamp Jr. the company never stops learning, and it remains important to set the focus on the future. "The work in the greenhouses is a people business. Even after 30 years, you learn something new every day."

The customer is king

Father and son are proud of the developments of the company in recent years. In 2017, the company owns 9.8 ha in greenhouses, and they produce 7.6 million kilograms of tomatoes annually. They feel that a better controllability of the greenhouses is one of the most important developments in recent years. Technology is more nuanced and there are more and more factors to control cultivation. Greenhouse Varekamp stands for a reliable and high quality product. By constantly listening to the needs of the customer and implementing the latest technology, the company can continue to guarantee a steady supply of high class tomatoes for its customers.



"The automation is becoming more nuanced. There are more and more factors that can be used to manage the cultivation and these factors are all included in the Hoogendoorn computer."
Teun Varekamp Jr.

iSii as an extension of green fingers

50 years ago, Varekamp was already open to innovation in automation. They purchased a process computer as one of the first. Today the greenhouse is working with the most advanced process computer of Hoogendoorn, the iSii. The company has a positive outlook on the cooperation with Hoogendoorn. For instance, they can always contact Hoogendoorn with questions and to share ideas for new software needs and developments. The most useful feature of the iSii for both father and son Varekamp, are the ViP influences. Varekamp Jr: "The ViP influences allow everything to be integrated into one system, making the regulation of the greenhouse very organized." He finds the reliability of the computer the most important. "The iSii is an extension of green fingers, it regulates everything in the greenhouses and is tailored to the needs of the grower."

DID YOU KNOW...

Hoogendoorn was founded by Henk Hoogendoorn? When he wanted to register at the Chamber of Commerce, it turned out that he did not have the right papers for it. He therefore enrolled for the liberal profession of low voltage installer on inland vessels. Only two years later, in 1969, Hoogendoorn was a nationally recognized electrotechnical company.

Fresh & Fruity

A topic that perfectly fits the horticultural sector: healthy living. Martin Helmich, Sales & Marketing Director: "Hoogendoorn is involved in the production of healthy food worldwide. Healthy food is close to the hearts of our company and our employees." At Hoogendoorn we encourage a healthy diet among employees. The company offers free fruit and vegetable snacks. But what do our colleagues do to stay healthy and fit?

René: "On my bread I regularly put some slices of cucumber or tomato. It's a tasty and easy way to get in some extra vegetables."

Ellen: "During lunch break (when it's good weather) I take a walk for half an hour. This way I get some extra exercise and some fresh air after a few hours working at the office."

Bert-Jan: "At least once a week I give my kids fruit or vegetable snacks to school instead of a cookie. I encourage the consumption of fruit and vegetables among my children and they enjoy it!"

Yvonne: "I always take the stairs instead of the elevator. It's an easy way to get in some extra exercise."

Freerk: "Try replacing your pasta by spiralized zucchini, or your rice with riced cauliflower. Or how about some mince on a bed of cauliflower?
Tasty and very healthy!"

Stefano: "The most important thing: get plenty of rest. A good night's sleep is the basis for an energetic day with great performance."



The Hoogendoorn smoothie

Natascha en Maha regularly replace their breakfast or lunch with a smoothie. It's tasty and healthy! With our Hoogendoorn smoothie you get in 25% of your daily requirement of vegetables and 100% of your daily fruit requirement. We are happy to share the recipe.

For 2 large smoothies

| | | | | |
|------------------------------|------------------------|----------------------|------------------|--------------|
| | | | | |
| 125 grams red beets (peeled) | 190 grams strawberries | 85 grams blueberries | 165 grams banana | 250 ml water |

Preparation

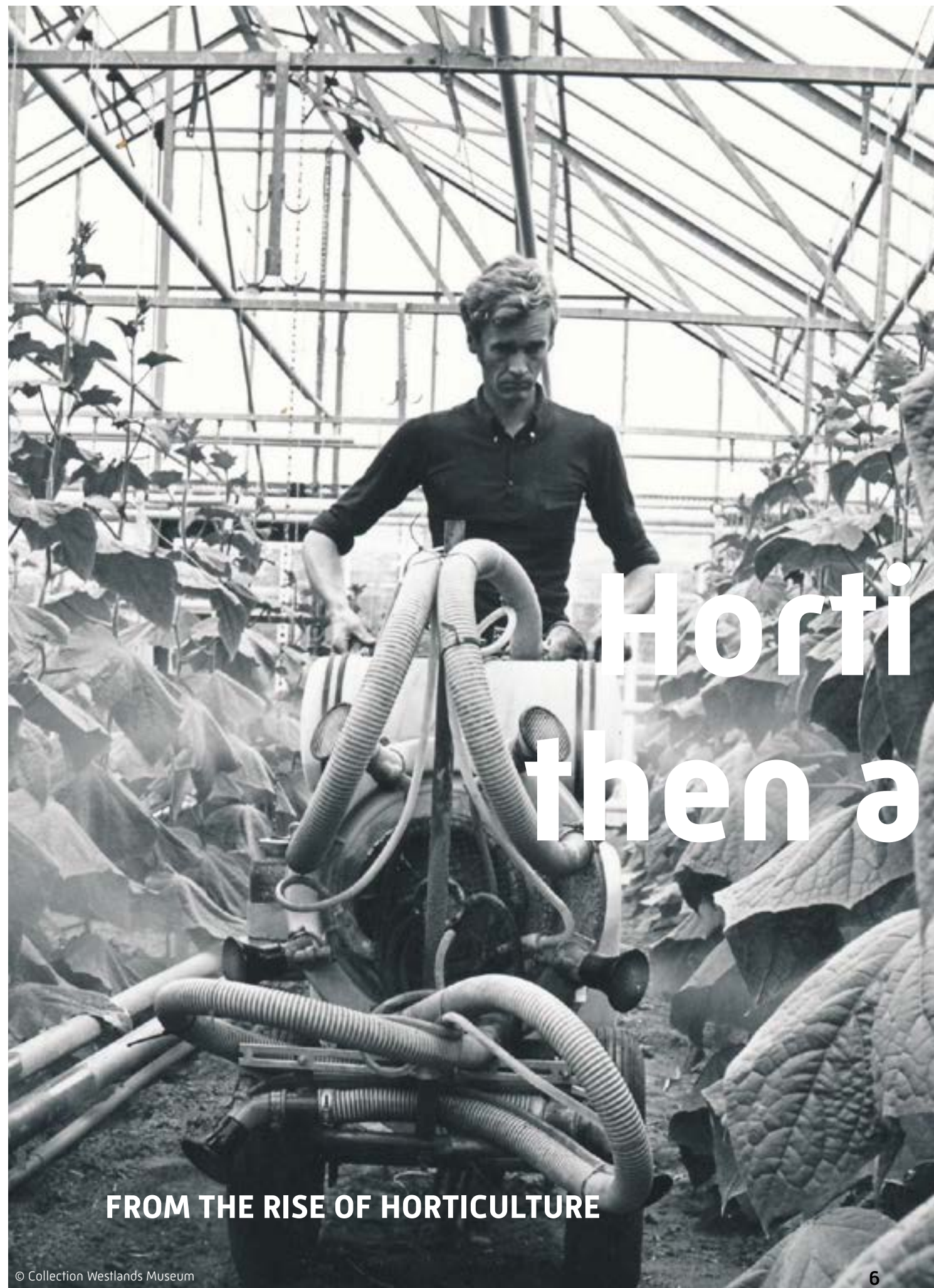
Cut the beetroot and banana into pieces. Wash the blueberries and strawberries and cut the strawberries in half. Place all ingredients in the blender and start blending. Within 10 minutes, your Hoogendoorn smoothie is ready.

Tip!

Did you know you can use overripe fruit for a smoothie? By using waste food you will prevent unnecessary food waste. Besides it is also good for your wallet!

DID YOU KNOW...

In 1995, computers at a large customer in England were stolen? A team of Hoogendoorn colleagues boarded a plane the same weekend, in order to replace everything within 24 hours.



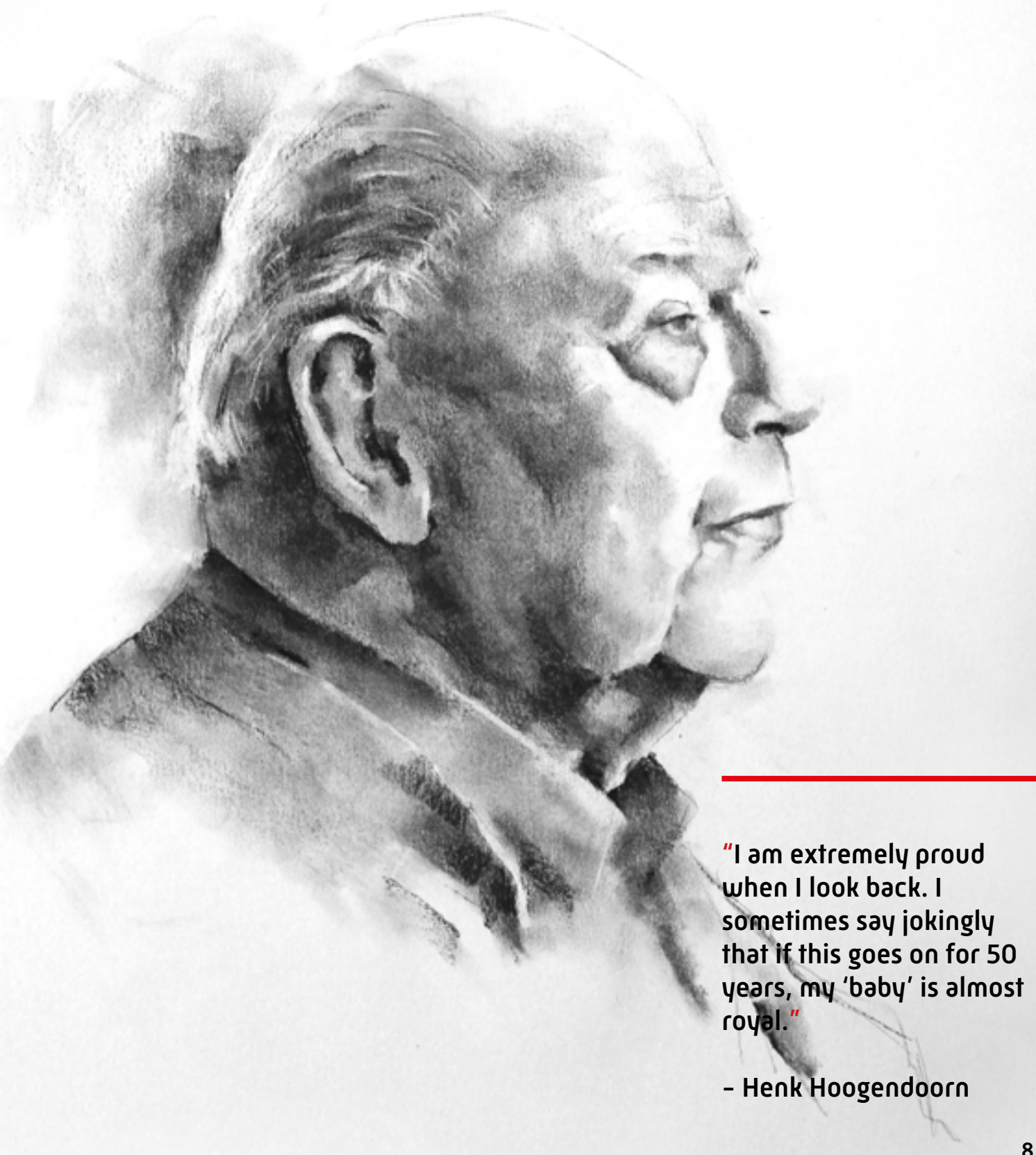
TO A FAIR, HEALTHY AND
SUSTAINABLE FOOD SYSTEM

Horticulture then and now

FROM THE RISE OF HORTICULTURE



Founder Henk Hoogendoorn & Director Martin van Gogh



"I am extremely proud when I look back. I sometimes say jokingly that if this goes on for 50 years, my 'baby' is almost royal."

- Henk Hoogendoorn

The beginning of Hoogendoorn and the climate computer

After two years of attending technical school, Henk went to work at the age of 15. By 1962, he decided to establish his own technical installation firm. "Wil, my wife, always stood behind me. As long as I had a good plan." Once the business was doing well, Henk decided to approach Gé Bentvelsen to do the bookkeeping for the company. What Henk did not yet know was that Gé was working on electrical appliances in his spare time. He fixed an ancient rain machine and an air regulator, among other things. When Gé added another printer and joined together the regulators, the first 'Hoogendoorn computer' was born.

From installer to partner in knowledge and service

After some time, the production of computers could be increased to 50 per year. The company grew tremendously, just like the number of installers who sold Hoogendoorn computers exclusively. The installers were provided with all the support and guidance they needed. Henk: "We supported the installers, but we received the input from the growers who told us what they needed." Based on this, the first Masterclass was created in a little classroom in the Westland (the Dutch centre for greenhouse horticulture), where the climate cabinets were explained in detail.

Close to the customer

Hoogendoorn works in a warm, empathetic manner with a lot of empathy for the grower. Many of my colleagues at that time used to work in the greenhouses or have, for example, a father who is a grower. Henk: "I am extremely proud when I look back. I sometimes say jokingly that if this goes on for 50 years, my 'baby' is almost royal."

Practice is the best learning tool

In 1991, Martin van Gogh started at Hoogendoorn. This was a special and exciting moment for him, because he came from the industry and had no experience in horticulture. To quickly learn what he needed to know, he worked in a greenhouse for a month. Here, Martin could rapidly learn what the horticultural industry was like. Through this learning experience, Martin started as Sales Manager, and he soon became Director.

"I am convinced that if people feel good about themselves, they give their best. It is important to work on a culture in which everyone feels valued."

- Martin van Gogh

Promoting a culture of entrepreneurship

"What is so special about Henk is that he is doing business in an honest manner and customer satisfaction was always key. Furthermore, I learned from him how wise it is to know your own limitations. That's what you now still see at Hoogendoorn; let people do what they do best," said Martin. Martin also aims to ensure that people are central, so he likes to encourage entrepreneurship. "I am convinced that if people feel good about themselves, they give their best. It is important to work on a culture in which everyone feels valued."

The start of internationalization

The start of internationalization within Hoogendoorn was one of the most special moments for Martin. The first export order from England was a decisive moment. "We were a Dutch company, but we have developed into an international organization

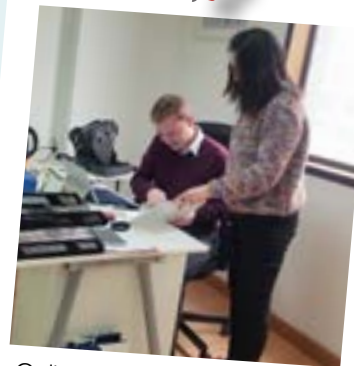
with customers and partners in all time zones. At the same time we are, however, still as close to the customer as we were before."

"Customers know that they are in good hands with Hoogendoorn and that they can trust us. Our way of collaborating works; a grower wants to be helped locally by someone who speaks their own language. That is why he can count on us, and that is a concept that can not be beat."



DID YOU KNOW...

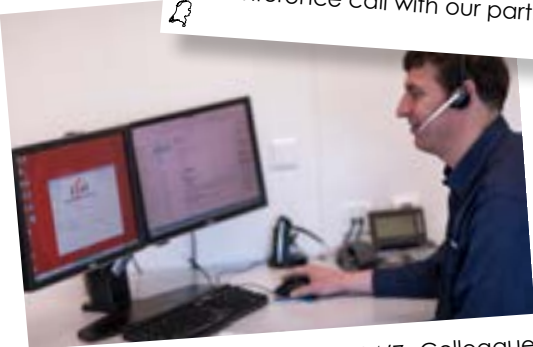
Since 2000, no Christmas gifts are sent to relationships, but that the money that is saved is donated to charity? Colleagues may propose charities, after which a ballot follows. Last year, a check was handed to a charity that fulfills the last wishes of terminally ill patients.



Colleagues Wierd and Cathy briefly discuss the action points for today.



Thanks to our global partner network, we operate in over 80 countries. Colleague Stefano has a conference call with our partner Limit in Ukraine.



Our customers can reach us 24/7. Colleague Hans is currently working on a request from a client in France.



Team meeting Service Hoogendoorn Asia. Which projects will soon be put into operation?



Colleague Tiger helps optimize the settings of the iSii of a customer in China while viewing his operating screen online.



R&D is an important aspect of an automation company. At our R&D department, we are also working hard on new features.



Many colleagues have a walk during break to get some fresh air. Our Inside Sales department as well.



At Hoogendoorn we find it important to promote healthy eating among employees. Therefore, two times a week, free fruit is provided. Today colleague Ted chooses an apple!



Colleague Ron teaches a partner training focused on sensors and the next generation iSii process computer.



On the ground floor at Hoogendoorn you find our canteen. A healthy lunch or freshly squeezed orange juice? Everything is possible!



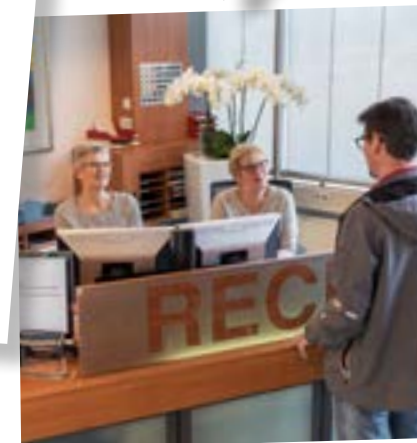
Colleague Juan is in Ecuador today. He visits customer Star Roses together with our partner Nitzan.



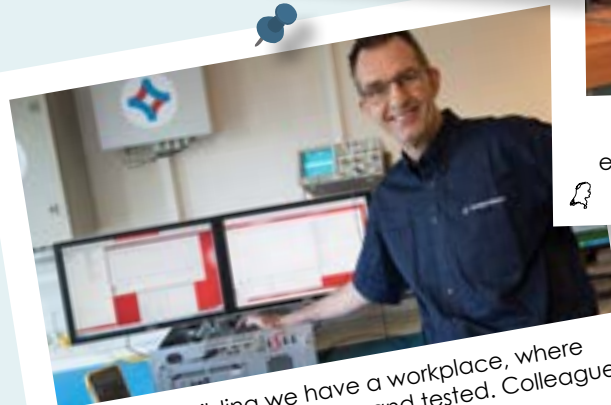
On the R&D department, we are working agile. One aspect of this is the daily stand-up, where colleagues help each other.



Colleague Lennard is visiting the office in Canada to train our new colleague Gina.



Our receptionists ensure that everyone is welcomed with a smile.



In our building we have a workplace, where products are put together and tested. Colleague Leo is busy setting up a new system.



A day at Hoogendoorn

Holstein The Netherlands

Holstein Flowers is a real family company with an unique assortment of gerberas. The company is active within breeding, which means that about 80% of the varieties are developed by the company itself. Mathieu van Holstein, co-owner: "We were the first to introduce the Next Generation Growing in large scale within our company by adding air handling units. Together with Hoogendoorn and Technokas, we have developed the system and controls in three years to what it is now. The added value of the iSii process computer is the flexibility, which makes that we can easily automate new developments within horticulture."



Timberino Flowers Canada



At Timberino Flowers, the aim is to grow Azaleas and Gardenias with a strong efficiency in production and labor, but also in the usage of energy and water. To reach these goals, they choose the iSii compact computer. Sjeff van den Berg, owner: "The iSii compact is very user-friendly and helps us realize efficiency in water and energy usage. Hoogendoorn has acquired a lot of experience and knowledge in efficient climate control, which we share with our customers. This results in costs savings as well."

Grupo Agro Torres Mexico

Grupo Agro Torres started eight years ago as a tomato producer and now grows peppers. The company completely focuses on producing more with less. For economic benefits, but also for the environment and to ensure food safety. Pedro Torres, Cultivation Manager: "The iSii compact helps us to manage the greenhouse in a smarter way. With the help of this computer, we have developed different strategies, such as to improve the irrigation strategy. Thanks to this, we now realize substantial money savings on fertilizers."



Almallouhi Agriculture Saudi Arabia

Almallouhi Agriculture is one of the most advanced companies in the middle-east. The growing conditions in Saudi Arabia are very unfavorable. Besides the extreme climate, there is also a high shortage of water. Automation helps to the water usage low, as well as the costs. Almallouhi, owner: "The iSii process computer us the possibility to translate our thoughts to the right settings. Now it's all automated. computer is very reliable and helps us realize stable greenhouse climate."



Agro-Invest Russia



Agro-Invest is located in the Kaluga region, a special economic zone located 300 km from Moscow. Among other things, they have their own 40MWe power station to generate heat, energy and CO₂. They grow tomatoes, cucumbers and lettuce on 43 ha. The company supplies the local supermarkets and they will expand with another 25 ha next year. Due to the company's size, they play an important role in becoming self-sufficient in the region. Sjeff Smits, Production Director: "We don't only grow with technology, but also with the use of knowledge. To correctly translate the strategy of the grower into the greenhouse, we use the iSii process computer of Hoogendoorn."

Xinshengfang China



Xinshengfang is located in the heart of Fengtai, Beijing, where growing flowers is a 700 years old tradition. The company was founded by the local village government Huaxiang, which means "flower village". The grower, Mr. Pan: "With the iSii process computer of Hoogendoorn we have the tools available to create a stable greenhouse climate in our greenhouse. Thanks to the controls and the extra insights by data collection we can grow our flowers optimally."

New Zealand Gourmet New Zealand

New Zealand Gourmet is an organization that highly values quality and sustainability. With multiple locations across the country, the company grows different types of fruits and vegetables. Each location uses natural resources from its own area, which reduces the ecological footprint while producing the best quality. Roelf Schreuder, Director Production: "If we have a question about the iSii process computer or if any problem occurs, Hoogendoorn is only a phone call away; 24 hours a day, 7 days a week. Which is important when growing on the other side of the world."



Van den Berg Roses Kenya

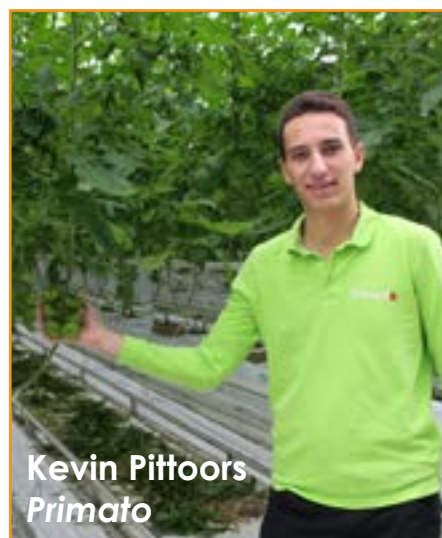


With a green thumb and passion for the profession, Van den Berg Roses has grown into a market-oriented company that works together with its customers. With years of growth, the company now has sites in the Netherlands, Kenya and China. Arie van den Berg, Managing Director: "A green thumb is the base and success factor of our company. The sessions with the Hoogendoorn climate advisors have helped us to optimize the settings and to evaluate our feelings on the greenhouse and the crops based on facts and measurements. This helps our crop managers think differently and further ahead."

Short stories around the world

Young horticultural entrepreneurs and the future

As an international leader, the Dutch horticulture sector is known for its innovative character. This we also thanks to the use of knowledge, technological developments and the mentality of the first growers. It's remarkable that increasingly fewer youngsters step into horticulture, causing the aging population to be a concern for the future of the sector. What does this change mean for the future of horticulture? How does the young generation of growers now look to horticulture? We are talking about this with three young entrepreneurs.



Doubling in hectares

25 years ago, Kevin's father founded Primato. Several years ago Kevin has decided to join the business. Together they started looking for a new location because the current location did not offer opportunities for expansion. In 2015, they have built an additional 6.2 ha. This year, the surface area of the new construction is doubled to 12.5 ha.

Practice makes perfect

Before Kevin went to work in the family business, he worked for two years as a manager at another grower to gain more experience. Kevin: "It has been very interesting. You learn the most by actually working." This has also given him a lot of new knowledge and experience to prepare for starting work at the family business.

Investing in progress

To gain new knowledge Kevin participates in tour groups and maintains contact with his fellow growers. Experiences are exchanged and together they seek out improvements. Kevin: "Knowledge sharing and cooperation are very

important. Every day you learn; development never stops." Primato also tries, using technology, to maximize the greenhouse. Here they opt for the most modern technologies, but first they examine how to invest responsibly. Kevin: "We only invest in proven technology. In the new building we chose innovations in glass. With several types of glass we conducted tests to determine the effect of the glass on the crop." The company is constantly engaged in research and innovation. For the second phase of construction, LED test are on the program. Kevin: "Innovation is progress."

Youth important for continuity

The continuity of businesses is not a given due to the aging population. Kevin: "Perhaps this is because we have just had a crisis. Getting in has become more difficult and less fun. Many companies experience decreased profits and that's not motivating for young people." To keep the top position within Europe, younger people are indispensable in horticulture.

"Working in horticulture is so much fun: you never stop learning."

- Kevin Pittoors

As a grower you never stop learning

Sufficient crop-technical knowledge is important to maintain a good foundation. Kevin: "We remain the leader in progressiveness, but other countries aren't far off. Knowledge sharing and collaboration therefore also play an essential role in the future. Additionally, finding the right partners and picking up new opportunities to grow as a company is also of great importance. Youngsters

often have a lot of ambition, but lack resources to start. Working in horticulture is so much fun: you never stop learning."

Growing interest in horticulture

Quality Peppers was originally a Westlands business. Father Leo started out in Poeldijk and involved Maikel in the family business when he was just a boy. Not that Maikel wanted to join in the family business from an early age. Maikel: "In school, I decided that horticulture was not for me. I found large projects, such as in construction, much more fun." The interest in horticulture only grew after Leo increased his business. After studying business administration, he nevertheless opted for the family business. Maikel: "I found the professional and process-based part of company almost as interesting as the plant cultivation itself. Cultivation is really not an afterthought, but determines the success."



Maikel van den Berg
Quality Peppers

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Sharing knowledge and ideas

Like Kevin, Maikel also finds knowledge very important. By working on projects and sharing knowledge and ideas with colleagues you learn the most. Maikel: "The Next Generation Growing is the best example. On Monday I talk to colleagues and ideas are shared at a high growers level. Together we brainstorm about issues we encounter."

Comparing data with other growers

Maikel joined an energy and crop comparison group and in the past, even a labour comparison group. The past 10 years Quality Peppers has continuously compared their performance with fellow entrepreneurs, on all fronts. "By making conscious choices and defining strategies in every level, I think we may have reached the bottom due to the openness of the Dutch horticulture."

"There is this saying 'the grower no longer has 10 guys who work with their hands, but three IT professionals with a laptop'."

- Maikel van den Berg

Computer versus human

Maikel believes in an automated pepper cultivation, in which the computer makes better decisions than humans. "A lot can already be done, but there is still much more to gain. I'm quite a perfectionist and want to have everything in order. In case of a plant, there's still so much to discover. If you have a day where

everything is correct in the climate computer, it makes my day. That gives me the energy to continue." The youngsters can now enjoy the knowledge of the old guard for a long time to come and innovate further. "There is this saying 'the grower no longer has 10 guys who work with their hands, but three IT professionals with a laptop'. In this case, the aging of the population might be a good thing, because there are fewer growers due to innovation and expansion."

Family-owned business

LG Flowers is also a real family business. Joyce's grandfather started with vegetables and later switched to chrysanthemums. Her father and uncles took over the company and started looking for a crop that better suits them. This resulted in the company growing gerberas. Joyce and her brother are now managing the company. Joyce: "My brother always wanted to be a grower. He has always said that he wanted to do this with me. I wasn't sure back then.. I didn't thought about it often, since I was a professional athlete, a skater. This was my priority for a long time." Eventually Joyce decided to step into the business after all.

Entrepreneurship in horticulture is cool

In the beginning, Joyce only worked in the department of Personnel and Finance. Now she also spends time implementing innovations. For instance, she invented new concepts and introduced packaging lines. Joyce: "Entrepreneurship in horticulture is very cool. If you see the opportunities, there's so many things you can do. All the challenges we face in a horticultural firm; that is truly unique."

Horticulture: much more than just the greenhouse and plants

To keep developing yourself, acquiring knowledge is important. Joyce therefore follows several programs, has in-house expertise by hiring temporary specialists and joined various knowledge platforms. A team of different specialists is also important to stimulate each other and for market expansion. Joyce: "I gain a lot of knowledge from other industries. I don't only want to compare with our own sector, but I am also open to learn from others."



Joyce Lansbergen
LG Flowers

Promoting gerberas as 'candy'

LG Flowers strongly believes in inspiring and uses it to their full advantage. For instance, Joyce vlogs about her daily business and shows how much fun it is to work in horticulture. Joyce: "There is so much more than just the plants and the greenhouse." Gerbera is a product that is used to sell emotion, but the chain is rational-based. Joyce: "My vision would be to put a shelf in for example a supermarket or online, with which I can really inspire. I want to make people greedy with flowers, just like in a candy store. Now there are too few of these gems in The Netherlands or Europe."

"My vision would be to put a shelf in for example a supermarket or online, with which I can really inspire. I want to make people greedy with flowers, just like in a candy store."

- Joyce Lansbergen

Encouraging a business climate among youth

Joyce sees aging in horticulture as a risk. Moreover, the business climate is not encouraged among young people. Joyce: "At Flora Holland, we are now reviewing with a group how to get more young people in touch with each other. Sector-wide, we are also thinking about how to encourage more knowledge sharing. Together you have more knowledge to really make the innovation get hold."

4 years with highlights

Did you know that Hoogendoorn introduced the world's first digital horticulture computer in the same year that the post-it was invented?

DID YOU KNOW...

Hoogendoorn also automated the greenhouse of a Royal family? We also have automated an ice skating rink.

In the recent 50 years many changes took place in the horticulture sector and beyond. We have moved from the use of oil to natural gas, and from little to no automation to a self-learning computer. We would like to look back to four highlights for Hoogendoorn and what happened in those years.

Hoogendoorn introduces the world's first digital horticulture computer.

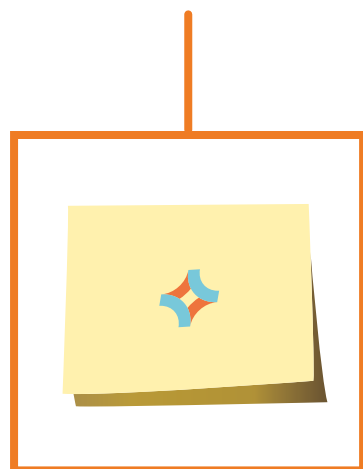
1974

De Rubiks Cube was invented by the Hungarian Ernő Rubik.

The well-known post-it note was invented by Arthur Fry. But it isn't until 1980 that the yellow papers are available in stores.

In the heart of Africa the most legendary boxing match takes place 'Rumble in the Jungle'. Defending champion George Foreman was the big favorite, but Muhammad Ali won.

The first major oil crisis in 1973 caused energy to become more expensive. In the following years energy management became an increasingly important factor for growers.



Hoogendoorn becomes part of the publicly traded parent company Batenburg Techniek N.V. in Rotterdam.

1989

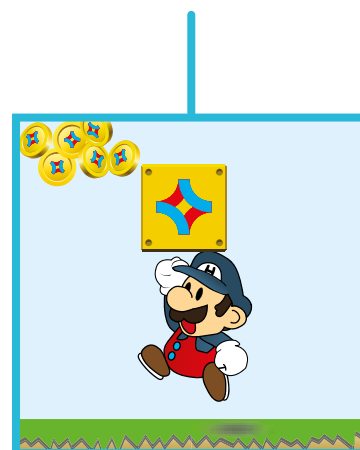
The fall of the Berlin Wall brought an end to the German division.

Apple introduces the first 'laptop'. This was the first computer that was truly mobile. The so-called 'Macintosh Portable' was heavy, weighing in at 7 kilos and cost \$6500.

Nintendo introduces the Gameboy. The most popular game on the Gameboy was Tetris. 20 years after the first edition of the Gameboy, it was sold over 100 million times. This makes the Gamboy the best-selling computer game of all times.

The Internet was invented by Sir Tim Berners-Lee. The world famous cartoons 'The Simpsons' and 'The Little Mermaid' made their debut.

The need to combat pest and diseases in a food safe way increased. This boosted the development of hydroponic cultivation. The added benefit was a better control of irrigation.



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With the beginning of digitalization, Hoogendoorn introduced the first internet platform for data communication and data registration in horticulture.

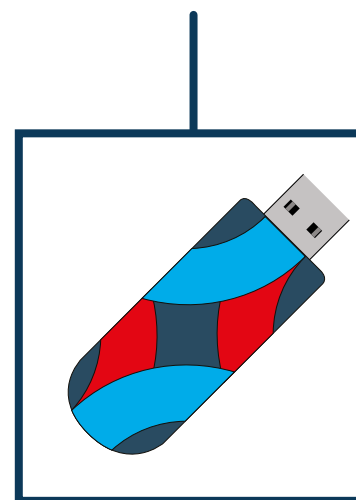
2000

The feared 'Millennium bug' stays out.

The Japanese 'J-Phone J-SH04' was the first mobile phone with an integrated camera. The camera had a 0.11 megapixel resolution, a 256-color display and was able to share photos wireless.

The first USB drive was introduced and replaced the CD-ROMs and floppy disks at a rapid pace.

Vegetable production increased, margins decreased and costs increased. This led to an upscaling of the horticultural industry in the 2000s.



Opening of the youngest Hoogendoorn office in Beijing, China.

2014

The first King's Day was celebrated. We used to have Queen's Day, which is still popular abroad. Even though it doesn't exist anymore, many tourists still come to celebrate Queen's Day.

The iconic fresh food market 'Markthal' in Rotterdam was opened.

Gangnam Style was the first video to be viewed 2 billion times on YouTube.

It was the first time that a vehicle designed by man, called 'Philae' has set foot on a comet, after travelling a decade through space.

Although the first steps were taken in 2006, the Next Generation Growing only became popular in 2014.



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What else happened in the same year?

Connected horticulture

Like Batman and Robin, innovation and collaboration are a dynamic duo. We believe that collaboration and knowledge stimulate innovation and greatly contribute to industry-wide progress. In our opinion, this goes beyond product development and technology. The very nature of the partnerships and connections with the various innovations contribute to and support the development of new solutions. Peter Hendriks, Manager R&D: "Technological developments are very fast, in all corners of the world. Horticultural knowledge is available to us. As long as we combine this knowledge with our technological expertise and we choose the right partners, we will continue for many years."

The customer as compass

As automation firm we are driven by innovation, with the customer as our compass. To contribute to workable solutions to the world food challenge, we focus on the solutions of today but also of tomorrow. Not only do we look for solutions in the industry, but also beyond.

Collaborate on an innovative product

This means that we look at the wider horticulture than our own court. We enter partnerships both inside and outside the horticulture industry. Here we enter new areas and let ourselves be inspired by new insights. Researchers and account managers are in touch with the market and meet customers, partners and affiliates worldwide. They are constantly in the know of what is happening. Freerk Visser, Product Owner iSii: "Feature requests become known to us this way and sometimes this leads to a new partnership in which we develop a software program together with other parties. So together with our partners, we build on an innovative product."



Quest for progress

In our quest for improvement, opportunities and progress we discover new challenges. This may be the automation of new greenhouse concepts or the development of new or other crops, such as medicines, fish and protein-rich insects. We are currently working to develop new applications, such as working with thermal images and the enabling of guiding physiological processes in the plant within climate control,

such as the irrigation cycles based on crop transpiration. This quest includes the journey to discovering a healthy diet, with which we can minimize water and energy requirements.

It is important to dare to be critical, to have courage and to consider the future. We walk new and unfamiliar roads.

What impact will automation and robotics have on horticulture and other markets? What new opportunities will this offer? What will horticulture look like in 10 or 25 years? What changes can we expect?

Some innovative examples

NASA

An example of innovative developments in the field of healthy food is growing fresh nutritious food on the space station at NASA's Kennedy Space Center in Florida. Here, they experimented with growing different varieties of lettuce to provide the crew with fresh and safe food.

Mangoes in space

Another recent example is the mutation of mangoes in space. Chinese researchers had mango embryos floating in an orbit around the earth for 33 days. Here, the embryos were exposed to weightlessness, radiation, and a varying air pressure. According to the researchers, the mutations can lead to increased food safety.

These are just two examples of countless innovations that ensure innovation and progress. These studies and experiments contribute to global innovation. It broadens our thinking field and creates new opportunities which were previously unthinkable.

This growth and development is important to us as consumers, as well as being an automation firm in horticulture.

Dalsem, which merged with Poot Elektra, is one of the first partners of Hoogendoorn. Jan-Pieter Dalsem: "For generations together in horticulture business and hopefully for many more outstanding high-tech projects to come. Congratulations on this great milestone of 50 years in growth."

