

# Robots and digitalization

**The time calls for new solutions:** Climate change, labor shortage, automation, biodiversity, consumer demands, energy prices, environmental protection, resource scarcity, and legislation.

4.0

AI

 **COMPLEKS**<sup>®</sup>  
Outdoor Mobile Robots



# The future - we invented it yesterday

**The time calls for new solutions: Climate change, labor shortage, automation, biodiversity, consumer demands, energy prices, environmental protection, resource scarcity, and legislation.**

Now also ESG reporting that will challenge business models and shift market shares - determine creditworthiness and define tomorrow's winners. The headaches are lining up.

Fortunately, we can address these tough challenges with new technology: Robots and digitalization! Created by people with insight, imagination, and attention.

- CONPLEKS® ROBOTECH  
We are leading specialists in outdoor mobile robots for agriculture, sports facilities, and municipal vegetation control and maintenance services
- CONPLEKS® INNOVATION  
We develop groundbreaking software with artificial intelligence (AI), cloud solutions, and user-friendly apps

### **Robots and innovative technology can reap many benefits**

- Solves staff shortages
- Prevents work accidents and wear and tear

- Works efficiently over long distances
- Reduces consumption (water, feed, fertilizer, herbicides, etc.)
- Replaces fossil fuels with electricity
- Reduces expenses for costly machinery
- Control via user-friendly apps on smartphone or tablet
- Collects data and statistics in a unified cloud solution
- Improves financial overview and strengthens the basis for decision-making
- Collects precise and reliable data
- Creates the foundation for ESG reporting
- Streamlines economy and daily operations
- Integrates with other systems (municipalities, housing associations, agriculture, horticulture, etc.)
- Prevents unpleasant surprises in budgets
- Provides access to data from already more than 2,000 active units around the globe
- Works extremely precisely (down to 7 millimeters accuracy)

This is just a selection.  
We give the floor to five leading experts...

# “Cheering customers”

**Fasterholt Maskinfabrik has existed since 1958. We are Northern Europe’s leading manufacturer of irrigation machines for agriculture. The irrigation machines are self-propelled – driven by water pressure and solar panels. The machines operate without the use of fossil fuels.**

“We have collaborated with Compleks for the past five years. Together we have developed a control system that ensures the irrigation machines do their work properly and efficiently at the right time and place without wasting precious water. In short: We have made the machines smarter. From applications on a smartphone or tablet, the farmer can see and control irrigation with great precision and, in the slightly longer term, gain access to a long range of data: Temperature, humidity, and weather forecast. And yes, even simple manuals for minor repairs.

Both at home and abroad, the reactions are overwhelming and positive: Customers cheer and clap their hands enthusiastically. Because we deliver top quality, good service, and develop solutions that minimize manual labor for the farmer.

Climate changes are happening fast now. Drought periods are more frequent and prolonged. Irrigation has never been more important than now. The yield of a field can easily drop by 30-40% if the plant is hindered in its growth. In the coming

years, we will work intensively with irrigation from nozzles close to the plant rather than conventional water cannons. Nozzles will reduce evaporation, make irrigation extremely precise, and reduce water consumption for the benefit of the environment and climate, but certainly also the individual farmer’s operating economy.

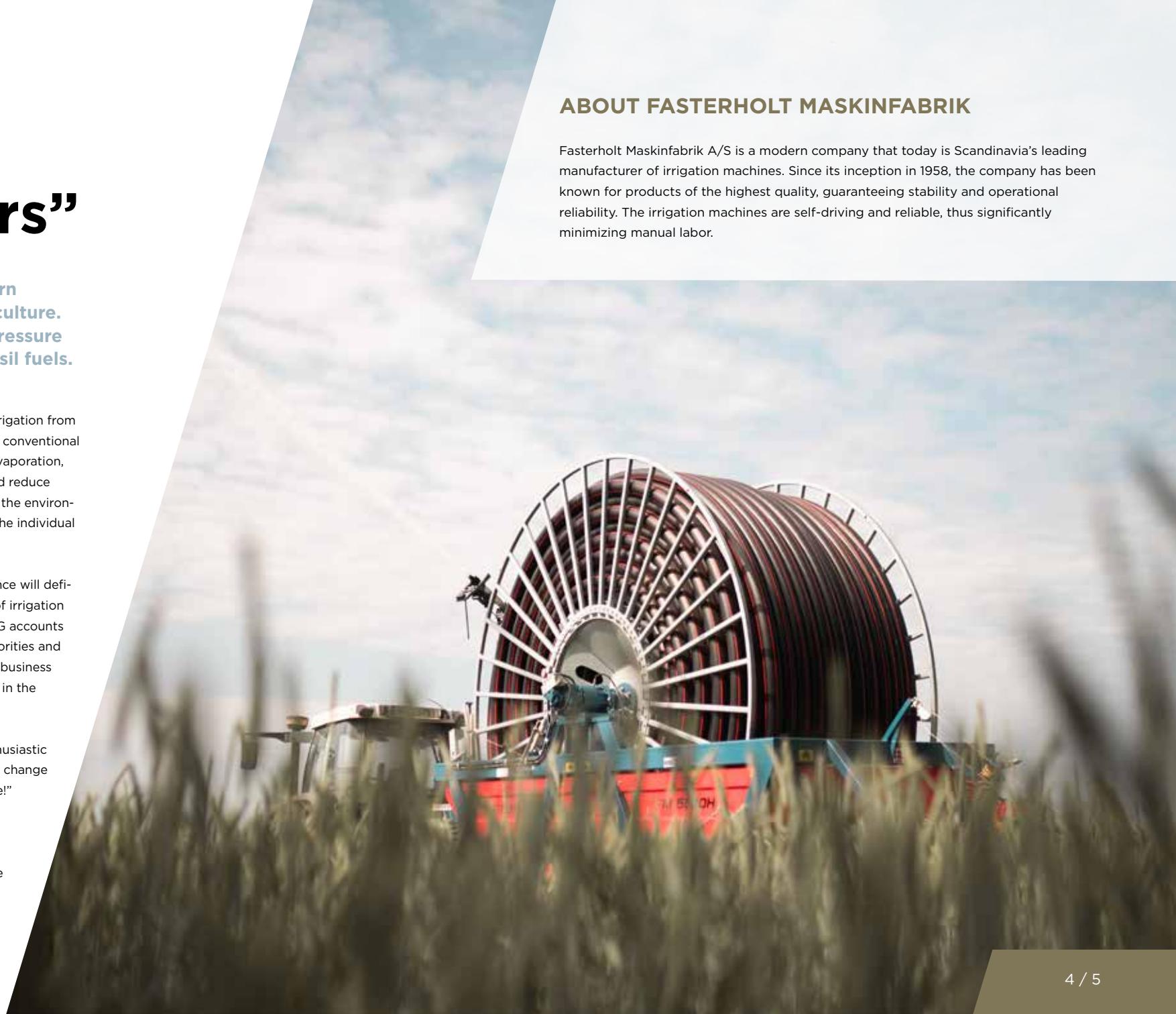
Data collection and artificial intelligence will definitely play a major role in the future of irrigation with ever-increasing demands for ESG accounts and reporting. Not only to meet authorities and legislation but also to strengthen the business model and maintain creditworthiness in the bank.

One thing is certain: Farmers are enthusiastic – few are as concerned about climate change as they are. Their livelihood is at stake!”

Danny Hansen  
Factory Manager  
Fasterholt Maskinfabrik A/S in Brande

## ABOUT FASTERHOLT MASKINFABRIK

Fasterholt Maskinfabrik A/S is a modern company that today is Scandinavia’s leading manufacturer of irrigation machines. Since its inception in 1958, the company has been known for products of the highest quality, guaranteeing stability and operational reliability. The irrigation machines are self-driving and reliable, thus significantly minimizing manual labor.



## CUSTOMER CASE

### ABOUT RAYMO

Since the beginning in 2019, Raymo has quickly become one of the leading suppliers of professional remote-controlled lawn mowers for use in parks and roads, sports facilities, solar farms, and airports. Raymo's machines are 100% electric, quiet, have zero emissions, and provide sustainable grass cutting that promotes biodiversity and leaves the smallest possible carbon footprint. Raymo is also actively working to make its machines into self-driving robots.

# “They deliver above and beyond”

**“At RAYMO we believe in biodiversity and sustainable landscaping with silent, yet powerful electric and emission-free commercial grade mowers that are safe, easy, and inexpensive to operate.**

We are headquartered in the Czech Republic - operational in 31 markets in Europe, North and South America, Asia, Australia, and New Zealand.

We came across Compleks in various research and development projects a decade ago and have cooperated closely for the past three years on modern fleet management with tracking, monitoring, and real-time data.

Their capacity to deliver above and beyond in a timely manner has built an enormous amount of trust between us. The engineering skills, dedication and commitment to projects are second to none. With Compleks we found a perfect partner always striving to improve and innovate.

Our partnership with Compleks has had an absolute and very positive influence on our business enabling RAYMO to differentiate from competition bringing life cycle, remote diagnostics, and fleet management features into the game. Customers highly appreciate those functionalities.

We continue our cooperation by focusing on bringing elements of automatization to the grass cutting industry. Safety and lack of manpower are the main drivers for outdoor mobile robots. One example: Picture the huge solar energy parks - they benefit tremendously from electrified and automatized vegetation control.

In general, I would say the electrification has an immediate and very positive effect related to major challenges such as the environment and climate changes. The emission produced by one engine-powered push mower is equivalent to emissions produced by 40 cars over the same time scale. In the context of safety, zero-emission, noise-reduction, biodiversity, and low-cost operation outdoor mobile robots are a significant part of the solution. I would be careful to characterize AI as climate friendly, though. Hopefully it will become over time, but we are not quite there yet”.

Jan Formánek  
Co-founder and business development  
Raymo Electric

# “They make the darn thing work”

**As a researcher, I have worked with Conpleks since 2011. The collaboration has primarily been about robots, automation, and safety.**

“At the university, we have plenty of knowledge and know-how, but running a high-tech R&D laboratory is expensive. Therefore, it has been politically decided to outsource that part to companies.

Even if our ambitions in research projects may be very high – Conpleks will make the darn thing work. From Day 1.

Robots are born dumb. They can follow a plan and do what we ask of them. There is a lot of talk about artificial intelligence, which we really should call by its proper name: machine learning. Previously, one of the big challenges in robot technology has been that the machines have worked on an insufficient data basis.

Basically, it's like believing we can learn to drive a car by playing GTA on the computer at home. Reality out in traffic is just different.

The algorithms are clearly improving these years. For example, Conpleks has Clara Cloud, where large amounts of data are gathered and stored efficiently. It doesn't make the robots “smarter,” but larger data volumes make the algorithms deeper. The more zeros and ones that reach the robots in the algorithms – the better the systems become able to correct and optimize. Simply, with artificial intelligence, we put more intelligent eyes on the robot.

The students we have are bright and know that exciting project courses and jobs in companies like Conpleks await them. Climate change and biodiversity captivate the young, but fundamentally they are students: Curious with a desire to prove that they can personally solve a challenge. This is a strong driving force.”

Rasmus Nyholm Jørgensen  
Senior Consultant and Ph.D.  
Aarhus University

## ABOUT AARHUS UNIVERSITY

Curiosity is our driving force and has been since the founding of Aarhus University in 1928. From the students in the reading room to the researchers at the workbench, laboratory, and clinic: all of us are driven by the urge to delve deep, create in the present, and work for society. With roots in deep expertise, we build bridges between the university and society, between knowledge and solutions – and between Denmark and the world. Conpleks has participated in research projects with Aarhus University since 2012.



## CUSTOMER CASE

### ABOUT TURF TANK

Intelligent Marking, later Turf Tank, developed the world's first autonomous robot for marking football fields in 2015, in collaboration with Conpleks. The robot was later developed to mark fields and lines for many other sports. Additionally, the robot can also paint beautiful logos on various types of surfaces, such as grass, gravel, and synthetic materials. The robot navigates using ultra-precise GPS technology.

# “We achieved our goal in record time”

**Together with a former classmate, I came up with the idea for the world's first line marking robot. I was 16-17 years old and attended a business high school with innovation as a subject.**

“In my free time, I played football. I come from a farming family, where it has long been commonplace to use GPS in fieldwork. One day it struck me; there must be a smarter way to mark football fields than having a person drag around a chalk cart. The creative idea became a real project in the third year of business high school. Through a patent office, I got in touch with Conpleks in Struer.

When I set my mind to something, it will succeed, but without Conpleks, we were not likely to have moved from A to B so quickly. Their technological platform enabled us to develop the prototype in record time. I'll never forget it: Prototypes in agriculture normally take 5-8 years to develop. We were ready after just a year and a half! On July 23, 2015, the robot was presented at the Dana Cup in Hjørring, which is the world's second-largest football tournament for amateurs. It was a gigantic success. Even the news helicopter from the Danish television channel TV2 was in the air broadcasting.

The first customer was Odense Municipality, which bought a robot for a quarter of a million Danish kroner for the municipality's 250 football fields.

After eight months, they returned to buy a second one - the first had already paid for itself. What previously took 6-8 hours of manual labor, the robot does in 24 minutes. Moreover, the robot is significantly more precise than humans. A football field is typically 105 meters long and 68 meters wide. Even a few centimeters of inaccuracy are very noticeable when the 10.4 centimeter white chalk line is on a green background.

Robots, artificial intelligence, and automation are highly relevant. Technology does not take jobs away from people - it removes tedious tasks. The technology is rather an efficiency improvement. The 6-7 years with Intelligent Marking were filled with pioneering spirit. I sold my share in 2019. Conpleks deserves a huge part of the credit for the success. They are fabulously good at technical geekery and have a formidable network of subcontractors.”

Anders Ulrik Sørensen  
Entrepreneur, founder, and former CEO of  
Intelligent Marking (today Turf Tank)  
Turf Tank Robot

# “Insanely strong at driving projects”

**The rethinking of the agricultural sector will define our future. A lack of labor is the main driving force towards automation, and fortunately, Denmark has a unique leading position here.**

“We are a pioneering country, and the rest of the world knows it. Our status has grown out of an exceptional environment for R&D.

Large companies abroad will challenge our rank. Therefore, we must use the new stringent environmental requirements as a launch pad to create intelligent technology that protects the environment, makes us CO<sub>2</sub>-neutral, restores biodiversity, solves labor shortages, and motivates sustainable business models. We have all the prerequisites to become world champions in this field. And believe me: We will become world champions if politicians listen to and follow the 15% who are visionary, have the power to act, and dare to lead the way.

Nature conservation and, not least, agriculture are in the midst of a gigantic transformation. I come from a farming family and I am very optimistic. The progressive part of the industry faces a great future.

The sheep will be separated from the goats in the next 10 years: Some will become flag-bearers in a revolution that will transform agriculture from A

to Z. Those who are ready for change and dare to embrace new technology will win big. Agriculture will become an extremely interesting industry that young people will be attracted to.

I have collaborated with Conpleks for 10 years on various research and development projects. The team in Struer, Denmark are incredibly strong at driving tasks at the intersection between companies, universities, and investors. Conpleks always shows up with openness and generosity – they give more than they take.

As the Innovation Fund does, we should honor, celebrate, and provide financial support to the few and raw who dare to venture onto the ice without knowing for sure if it can hold. The pioneers – who with research and development make the ice stronger – so that it can later carry the majority that follows.”

Bjarke Falk Nielsen  
CEO  
Maybe Robotics

## ABOUT MAYBE ROBOTICS

Maybe Robotics is an engineering company specializing in technical solutions primarily for agriculture, food, and natural areas. Maybe Robotics provides neutral technical knowledge and project management to customers within both industry and municipalities.



# Compleks Growth

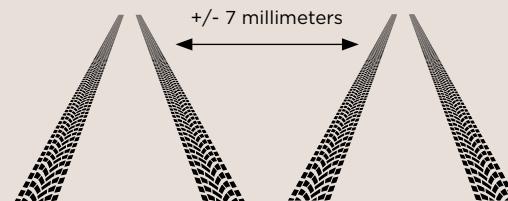
- 2010 Compleks Innovation founded (2 employees)
- 2013 GrassBots (robots for harvesting biomass)
- 2015 World's first mink feeding robot
- 2015 Partnership with Intelligent Marking
- 2016 Compleks Robotech founded (10 employees)
- 2016 World's first line marking robot (sports facilities and logos)
- 2017 Lykketronic invests in Compleks
- 2018 Precise positioning in urban environments (< 1.0 cm)
- 2018 SqM-Farm (R&D using an observation robot for agriculture)
- 2019 Collaboration with Fasterholt Maskinfabrik
- 2020 Partnership with Raymo Electric
- 2021 AI-based camera vision for mobile robots (AI Denmark)
- 2022 Compleks Robotech-controller no. 1,000 (14 employees)
- 2023 IoT, Cloud, and artificial intelligence in strong growth
- 2024 More than 2,000 robots connected to Compleks Clara Cloud
- 2025 SAVA (research in AI-based robot safety)

## Global Positioning

+/- 7 mm accuracy with RTK-GPS

Advanced algorithms regulate the robot's movements 40 times per second

The interworking between route planners and navigation ensures precise results



# “It is not a problem - we invent a solution”

**Just like robots and software, Compleks as a company has two sides: A hard and a soft one!**

In our universe, technology and values go hand in hand. We are passionate about robots, technology, and engineering – but above all, we are flesh and blood humans. Technology is there for us – not the other way around.

We take pride in letting enthusiasm and creativity be intimate friends with consideration. Our global perspective has taken root in the prudent Northwest Jutland – just like the venerable Bang & Olufsen, where the two founders of Compleks early in their careers learned to create great results in an imaginative environment of excellent technological expertise.

Our mantra is to be skilled as individuals and even better as a team. Compleks is youthful – in a mature way.

We are young with drive and older with experience. We are women and men, Danish and foreign. Our differences make us strong together.

We are comfortably at home in all environments within research and development. From the university's delicate laboratory to the oil-stained concrete floor of the agricultural machinery workshop. For entrepreneurs and investors, we have proven several times that we can turn dreams into reality with commercial success.

And yes, we believe in a brighter future. Robots and technology are a means – the goal is to make life easier. For people and the planet we live on. Such things take time, require hard work – call for many wise heads and skilled hands. Therefore, we are naturally a preferred internship location for young engineering students from Danish and foreign universities.

We prefer to be on the team with those who give more than they take. Some call it corporate social responsibility. We think it's common sense. A trait we greatly value in Northwest Jutland.

# Feel free to contact us for a non-binding conversation

We are always looking for partners in new research and development projects. Let's create something new and groundbreaking together. We look forward to hearing from you and will bring our strongest team: Artificial as well as genuine human intelligence. An autonomous robot brought into the world by a living person.



 **CONPLEKS**<sup>®</sup>  
Outdoor Mobile Robots

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