



# THE HARD- WORKING HELPER







The latest generation of iMOW robotic mowers not only look completely different, they are also truly multitasking. They mow the lawn autonomously, can be controlled through an intuitive app, and can even talk. But how does an iMOW feel throughout a long working day? Read on to find out!



**H**eimo is the perfect family member: hardworking, loyal, obedient, reliable, and takes great care of the lawn. Although Heimo can talk, it is not human. It is an iMOW 7 EVO, the next generation of STIHL robotic mowers. The mission of the hardworking helper is clear: to provide Sarah and Björn Wagner, members of its family, with a perfectly cut lawn on which they can relax. To achieve this, Heimo reaches deep into its bag of tricks: in just a short time, it mows autonomously, climbs steep gradients, detects obstacles, and uses its built-in rain sensor. Good communication is also important. Not only can Heimo talk, it can also handle nonverbal communication. Using colored LED strips and icons on the hood's control panel, it shares important information with its family.

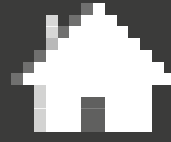
Just because the smart STIHL iMOW 7 EVO features many different individual parts and electronic components, this does not mean that Heimo has no feelings. Some working days are more strenuous than others for it, too. Gain an insight into its inner thoughts and find out how the robot feels over the course of a day.

»Most people need a coffee in the morning. For me, electricity provides the necessary energy.«

iMOW



# GOOD MORNING!



DOCKING STATION



The first rays of the sun cause the morning dew to glisten on the green lawn in front of me. This is my favorite way to start the day. Most people need a coffee first thing in the morning, but I prefer to draw my energy from the electricity in the docking station. Today, I also need full power because my mowing plan tells me I have to spruce up the whole of my family's lawn by 5 p.m. I'm already looking forward to it! But I still have time before I need to start, so I'll continue to nap for a bit and soak up the sunshine that's warming up my gray housing. It's a tough life, isn't it?

Luckily I'm a very light sleeper. Sarah has just asked me to start mowing the lawn right now. Using the STIHL "MY iMOW app," Sarah and Björn can send me tasks or query my status from anywhere. A quick stretch and then off I go! At last, fresh green grass under the wheels again. Thanks to the perimeter wire, I always know where to mow. My three free-running mowing blades cut every blade of grass to the same height. The finely shredded grass clippings fall back onto the lawn where they act as nutrient-rich fertilizer. Quite clever, right?

## CHANGE IN PLAN



INFO VIA APP



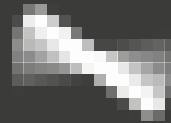


## OBSTACLES? NO PROBLEM!

A passerby watches me. He tells his wife that I don't know what I'm doing because it looks like I'm just going back and forth over the lawn haphazardly. That's not the first time I've heard that, but it no longer bothers me. The experts know that my method is highly efficient. Through individual and randomized turning maneuvers, I can flexibly respond to my surroundings while covering the entire lawn.

But want to show them what I can do, so I immediately dash off. The curious man at the garden fence is not the only one to notice what looks like a plant pot in my way - luckily my ultrasonic sensor spots it, too. So I brake briefly in front of the obstacle, approach the pot at a slower speed, then gently nudge it. This way I also mow the tufts of grass in front of the obstacle. After that, I go back to full speed. The skeptical passerby is still watching. But I think I detect a little acknowledgment on his face. So I step up a gear: there's a slope ahead, which seems like Mount Everest for a little robot like me. But it isn't! I can climb even gradients such as this easily and continue mowing freely without any interruption. My silent observer's eyebrows are now fully raised and he nods appreciatively. I may be small, but what a performance!

MOWING



»I learned to speak with a human being. That's why my voice sounds so natural.«

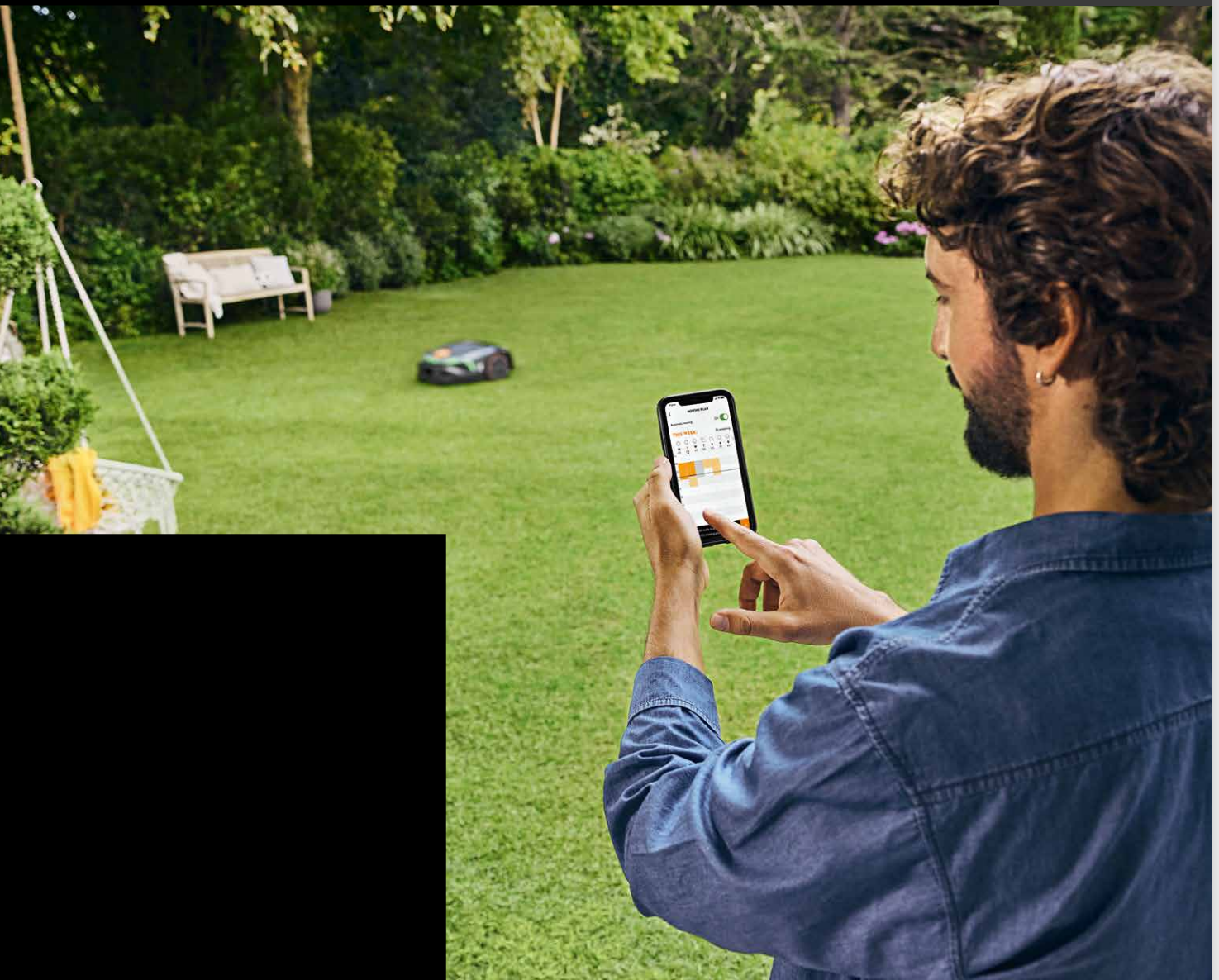
iMOW



Sarah and Björn are carrying the barbecue onto the terrace. They are planning a garden party – meaning a big job for me. Sarah greets me with a gentle press on the voice response button. I let her know that I need another half an hour for my day’s work. Unlike other robots, my vocabulary is highly developed and varied, which explains why the communication with my family works so well. I have also trained a long time for this. A human taught me how to speak, which is why my voice is so natural. I also send regular status updates to the “MY iMOW app” via my mobile connection. I’m not exaggerating when I say that I’m small and multitalented.

## WHAT’S NEW?

INTERACTION







## WHEN IT RAINS ...

Alarm! My rain sensor registers the first gentle drops from the dark clouds in the sky. I am prewarned, but not put off.

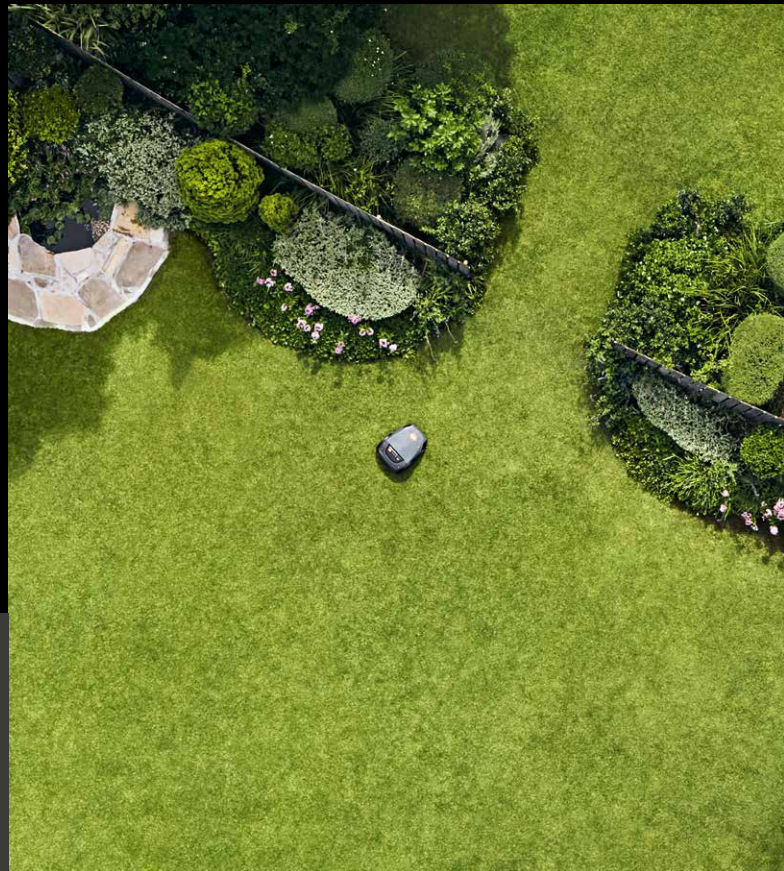
It looks like I got my hopes up too soon. It's really pouring now. That's too much for me. For Sarah and Björn's sake, I would continue cutting the lawn even in this weather. But I have received instructions via the app to return to the docking station when it rains. It's probably better that way. It means I protect the lawn from damage when the ground is wet. I turn and go the quickest route to the docking station and take a break.

RAIN



## HOME STRETCH

The rain has stopped. Now I'm waiting until the grass is dry enough again. I've made the most of the break and quickly charged my battery so that I can go again at full speed. A long life is important to me and my family, which is why I also look after myself. When I have a lot of time, I reduce the charging current and preserve my most important organ: the battery.



CHARGING







SUCCESS



## AFTER THE WORK IS DONE

Phew, the last few meters were strenuous. But the hard work was worthwhile. I'm delighted to have relieved Sarah and Björn of the job so they could use the time to prepare for the party.

When the guests enter the terrace, I return to the docking station exhausted but also happy to have managed it in time. One of the guests walks barefoot on the lawn and sings its praises. I like hearing that. Luckily, my gray cover hides the fact that compliments like this make me blush a little.

»I am especially happy that I can help Sarah and Björn with the work in the garden.«

iMOW





# MASTERING THE COMPLEXITY

The new generation of STIHL iMOW takes automatic lawn care to the next level. The robots have a short mowing time, they are easy to operate, and their smart features are very impressive. Harmonizing all of these factors was the task of an international, interdisciplinary development team. **MARTIN ULLRICH**, head of the IA01 project and manager of iMOW design at STIHL's founding company in Waiblingen, talks about the development process of the largest product project in STIHL's history.

## What do you like the most about the new generation of iMOW robotic mowers?

**MARTIN ULLRICH** I am a fan of the high-quality impression they make and the successful design, as this embodies the product's STIHL quality. In particular, I like that we now offer models in a

sleek gray design as well as the classic white and orange. However, I naturally like the built-in technology the most - because I'm an engineer, after all. Even though you don't see it from the outside, the new iMOW is more complex than any other STIHL product.

## What makes it so complex?

**MU** The next-generation iMOW is a fully connected product with highly complex software and wide range of mechanical components, actuators, and sensors. In addition, the electronics are distributed over various circuit boards. The equipment itself is embedded in a digital ecosystem, in which a wide range of data is exchanged between the tool, app, and other systems via the Internet of Things (IoT) platform.



- STIHL locations involved
- Partner companies involved

**IN JUST**  
3 **YEARS** STIHL developed the next-generation iMOW. Given the complexity of a robotic mower and the supply chain disruptions, this was record time.

This connection allows STIHL to conduct remote diagnostics using the newly developed Service Portal and to continuously improve the iMOW functions via updates.

Overall, the biggest challenge in the development was to synchronize all the teams involved so that the right design measures could be completed at the right time.

#### **What is the significance of the new generation of iMOW for STIHL?**

MU This iMOW is a milestone for STIHL. During the development process, we laid the foundation for additional products. In terms of technology, we have built up tremendous knowledge in the fields of electronics, software, and mechanics. On the organizational side, we have grown stron-

ger within the overall STIHL Group and created methods and structures to facilitate work for similar complex projects at STIHL.

#### **How did it feel at the end to see the finished robotic mowers in action?**

MU Seeing what we have achieved together was a great feeling. Above all, if we look back over the entire course of the project, we encountered setbacks, but we also celebrated numerous achievements. We learned from our setbacks and launched these amazing little garden helpers in record time given their complexity. I am particularly pleased that the iMOWs received consistently positive feedback in prelaunch tests carried out during the summer of 2022. The hard work was worthwhile.