

Smart Golf Course Irrigation

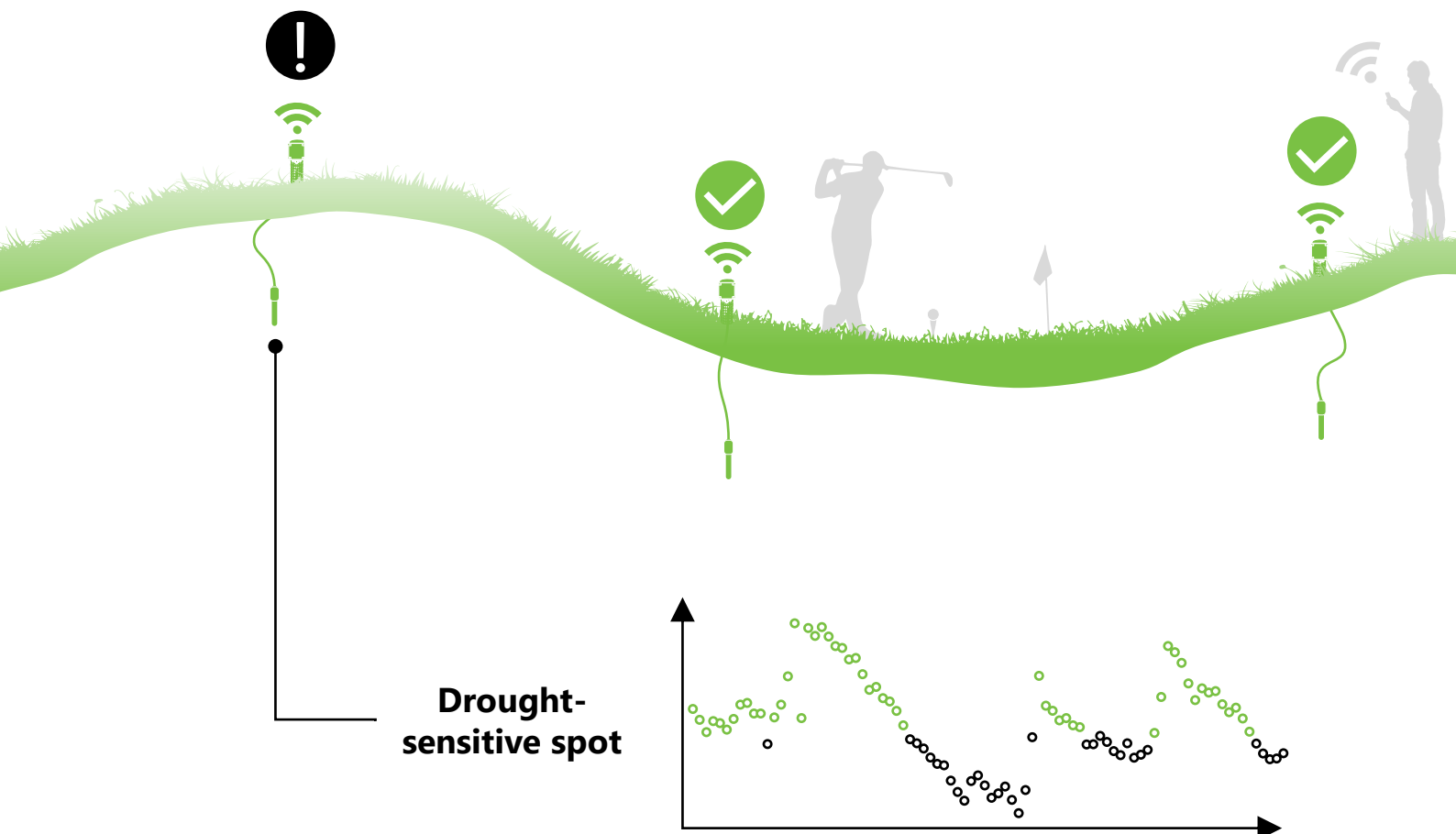
Plant-e Soil Moisture Stick

Optimise your greens

Efficient irrigation: The key to exceptional greens

As a greenkeeper, you know that keeping greens vibrant and playable while conserving water is no easy task. The right irrigation strategy ensures water is **delivered precisely** where it's needed, minimizing waste and promoting healthier, lusher turf.

With smart soil moisture measuring, you can irrigate more effectively, **reducing water use**, improving grass quality, and enhancing the overall **aesthetics** and **playability** of your course. It's not just about sustainability—it's about providing a superior experience for golfers and maintaining a course you can be proud of.



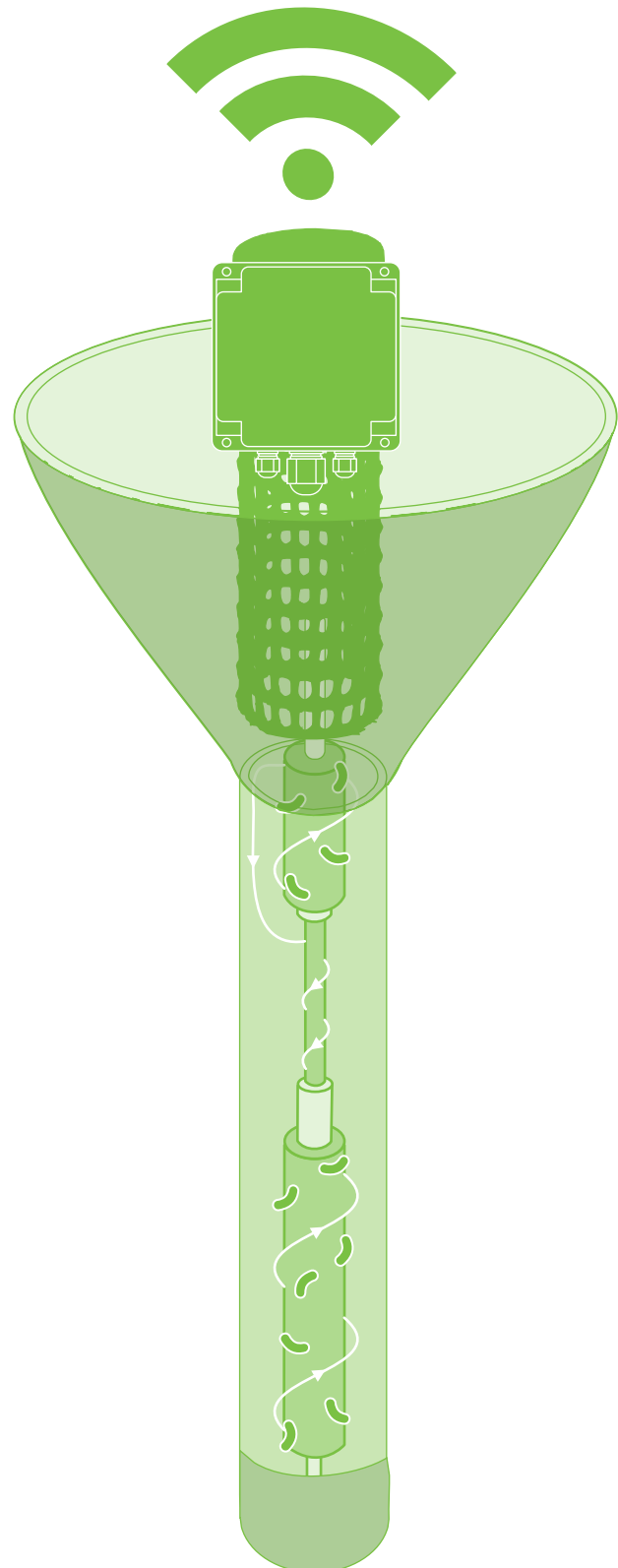
The Plant-e soil moisture stick

A greenkeeper's essential tool for soil monitoring

The soil moisture stick leverages cutting-edge technology to make your work **easier** and your course **greener**. Using natural interactions between soil microorganisms and plants, it generates its own energy, eliminating the need for batteries or external power. So, once installed, your green can stay **untouched for decades**, while this device provides your **data**.

This **self-sustaining** device powers a soil moisture sensor that provides **real-time data**, giving you the precise insights you need to manage irrigation with confidence.

Installation is quick and simple—place the soil moisture stick in the soil, and it starts collecting data immediately. Its **robust design** ensures reliable performance, even in challenging conditions, so you can focus on delivering outstanding turf quality.



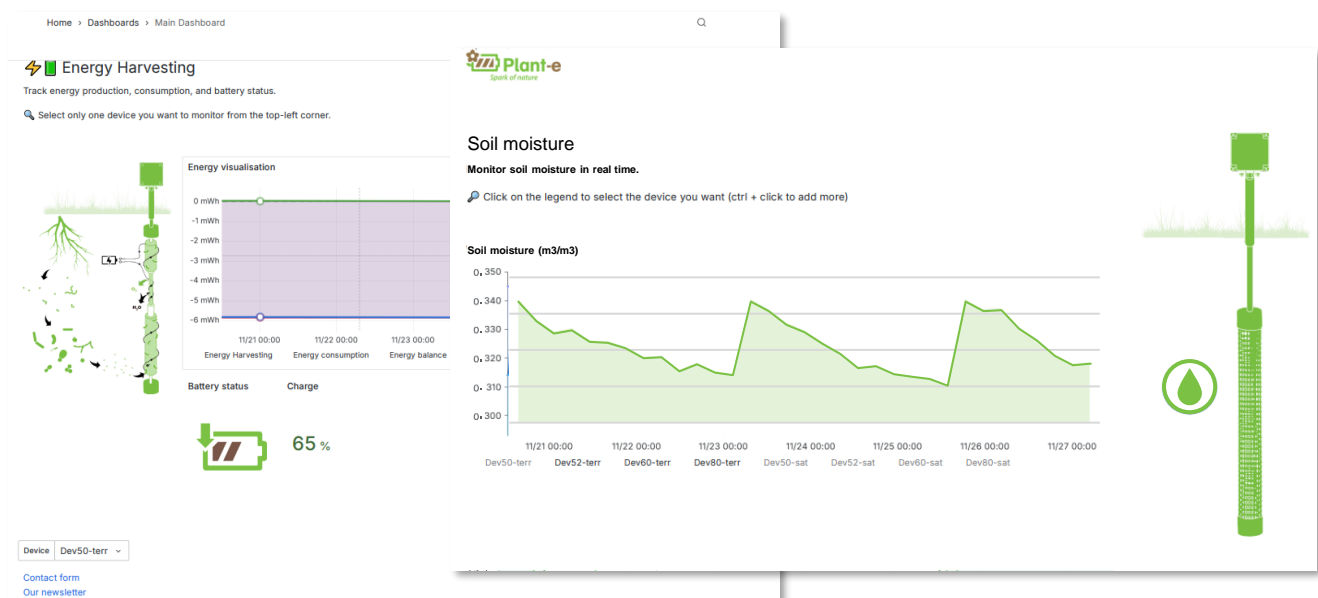
Technical specifications



Reliable operation in any patch of your golf course, whether it be grass, sand, water, or shrub.

General information

Data type	<ul style="list-style-type: none"> • Soil moisture • Power source status
Lifespan	<ul style="list-style-type: none"> • > 50 years
Power source	<ul style="list-style-type: none"> • Plantpowered
Data transmission protocol	<ul style="list-style-type: none"> • LoRa • Satellite
Transmission frequency	<ul style="list-style-type: none"> • Weekly • Monthly
Precision	<ul style="list-style-type: none"> • $\pm 0.03 \text{ m}^3/\text{m}^3$
Impact resistance	<ul style="list-style-type: none"> • High



How it works

#1 Organic matter

Plants release **organic matter** in the soil through their roots and above-ground parts.

#2 Microorganisms

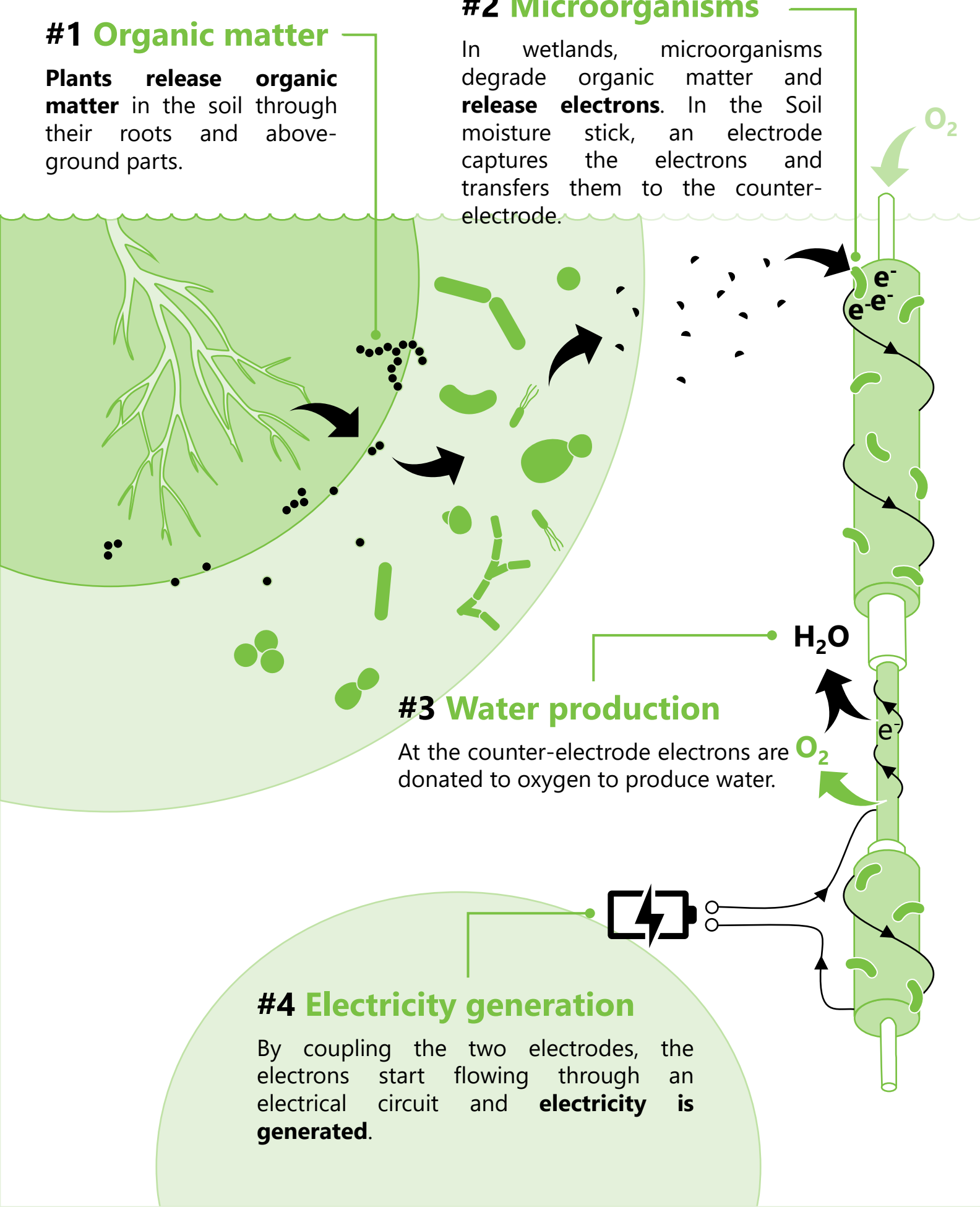
In wetlands, microorganisms degrade organic matter and **release electrons**. In the Soil moisture stick, an electrode captures the electrons and transfers them to the counter-electrode.

#3 Water production

At the counter-electrode electrons are donated to oxygen to produce water.

#4 Electricity generation

By coupling the two electrodes, the electrons start flowing through an electrical circuit and **electricity is generated**.



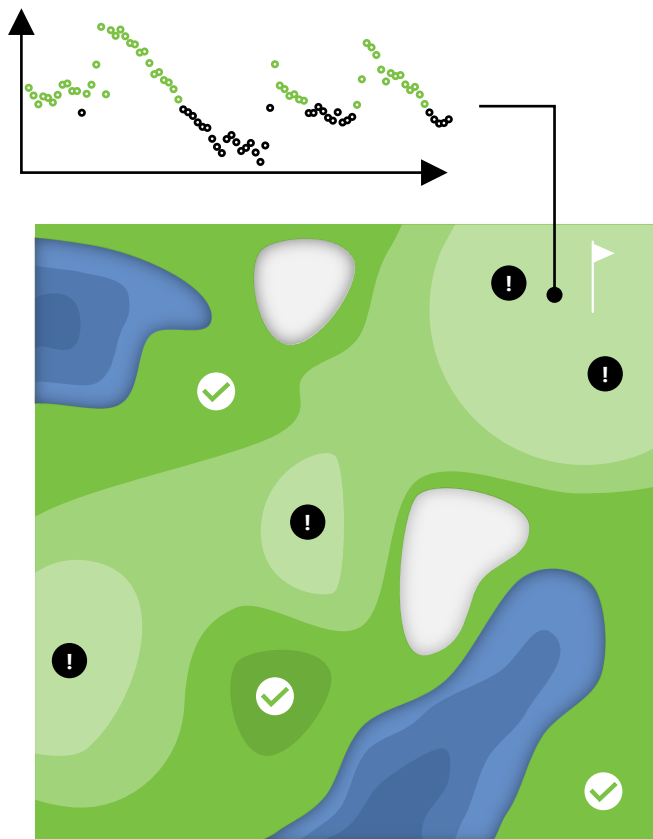
Installation

The Soil moisture stick's "all-in one stick" design allows for quick and easy installation using an auger.



#1 Course assessment

We work closely with you to assess your course's unique soil and irrigation needs. Together, we'll pinpoint the critical areas where precise water management can enhance turf health and playability.



#3 Startup and operation

The Soil moisture stick begins working instantly, providing you with real-time insights into soil moisture levels. Access this data through a user-friendly dashboard to make informed decisions that improve turf quality while conserving water.

What our customers say about us



"Plant-e has installed soil- moisture sensors on two golf courses under our maintenance in 2023. Since then, the natural battery works as expected and data is uninterrupted delivered to our dashboard."

Plant-e has equipped 5 golf courses with Plant-e's remote **soil moisture** sensors since the first project. Plant-e's project with De Enk Groen & Golf showcases the potential for significant water savings and a more sustainable future for golf courses.



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in



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