Eijkelkamp
Soil & Water

Smart Sensoring
Meet the difference
Smart Sensoring by Eijkelkamp Soil & Water

To us, ‘smart’ means more than producing a mound of data: these data should also be given meaning and be linked to an action.

Eijkelkamp Soil & Water is involved in soil and water projects all over the world. We have historically been good at developing and installing measuring and sampling equipment, however, from our control room in Giesbeek we can also provide reliable soil and water data.

And it is exactly this unique combination that offers you unprecedented opportunities!

Eijkelkamp, meet the difference!
Frank Tillmann and Huug Eijkelkamp

“*We go to a depth of up to 300 metres, that’s our world.*”

Our data are objective and 100% reliable. Worldwide.

Smart Sensoring by Eijkelkamp Soil & Water
To us, ‘smart’ means more than producing a mound of data: these data should also be given meaning and be linked to an action.
Smart planet

Our world is getting smarter, and a smart world mainly generates action from measuring and monitoring – and by following this up with relevant actions.
Over the years, Eijkelkamp Soil & Water has shifted from product-oriented to solution-oriented thinking. While our classic vision has been product focused, smart sensoring moves us toward a platform of providing data. We’re not just providing sensors, but rather, completing the data cycle and making the city smarter. By measuring all aspects of the water cycle, our products provide automatic adaptivity for future extreme climate changes.

To monitor the groundwater, we install simple, smart and effective sensors that communicate over the Internet of Things. This allows us to make trees smart: they report it themselves if there is not enough moisture in the soil and automatically activate a sprinkler. Human intervention is no longer required.

How to develop the city?

Our data play a crucial role in this. We not only talk to the ‘management guys of the municipalities’ but also with urban developers. This is our new playing field, which also requires a different way of thinking. Due to the changing climate, a city can only be developed properly if you have insight into this climate change. And that means: adequate monitoring. This will allow an urban developer to prepare and implement a thorough plan.
**Flooding**

A severe downpour results in a sudden peak capacity. Our current infrastructure can accommodate this by buffering the water in additional underground basins. However, if we make the control of the sewer system permanently smart, such water problems can be managed much more efficiently. For instance, by using predictive models based on data from our sensors.

**Urban water**

Another example of the many applications is the water quality of a public city fountain. We monitor the safety of the fountain water for the managers. Are there any traces of medicine, drugs or urine present in the fountain water? And do they affect the water quality? We supply the data that provide 24/7 insight as to whether the fountain water is really safe. In the future, we endeavour to also share these data with end users via a mobile app. In other words, we operate in the city from the sewer system to the canal. In this same way, we also monitor the water quality at swimming events in open water.
If the water quality of surface water must meet certain safety requirements, samples need to be taken. We have the technology to measure blue-green algae, temperature and TOC in real-time. This allows us to indicate via a signal, whether the swimming water is safe in the summer months.

Most industrial sensors are designed to optimise processes. They signal and, for instance, a machine starts running slightly faster or slower. Our environmental roots mean that we have always focused on sampling and testing soil and water, but in the world of industry and pollution we go even further. While water boards often use complex equipment with reagents, we install sensors for control data on pollution regarding water treatment at the point of receipt and the point of discharge. We take the lab to the field. We provide insight into the parameters that are relevant to the permissible amount of discharge and link these to smart alarm functions. For monitoring, we have an advanced control room at our head office in the Netherlands. Here we collect, manage and validate all data. This means that we have the tools and we have the data, and that is what makes us unique, smarter and cheaper!

“Our control room in Giesbeek is an online dashboard for decision-makers.”
Within the agricultural sector, our solutions are used to perform measurements in the silage feed and manure produced by cows. What can add value so as to produce biogas? Or fertilisers for the land? The moment the farmer processes the manure, our sensors measure whether it contains nutrients. We know this at Farmer A where we pick up the manure and at Farmer B who wants to spread the manure on his land. The need the soil has is measured continuously. This way, our sensor system allows us to indicate exactly what the soil needs and in which doses: one litre here, ten litres there. The tractor on the land becomes an example of precision farming, and our data are essential to this process. Part of the crop returns to the silage, is eaten by the cow and the circle is complete.
Dyke reinforcement and dam monitoring are another field of expertise. Water boards use our equipment to continuously measure the stability of artificial and, in particular, naturally formed dams. And road builders in civil engineering use our equipment in the construction of roads and tunnels. There is a good reason for this.

After all, land is increasingly encountering problems which cause soil degradation. Erosion, desiccation, salinisation and subsidence are just a few examples. The result is that fertile top layers of the soil disappear, water infiltration deteriorates and discharge accelerates.

Natural resources

Eijkelkamp Soil & Water provides data on raw materials and auxiliary substances in the operation of mines and the waste from mining. Is the environment threatened by contaminated water? If so, we can monitor and actively control that process and raise the alarm if data fall outside set parameters. In addition, our soil sensors not only measure the groundwater level, they also collect composite soil data, such as soil structure and texture. If we go to a mining company, besides equipment, we also provide advice and training for the correct configuration for reliable measurements and exact position determination.

Land development and land degradation

Dyke reinforcement and dam monitoring are another field of expertise. Water boards use our equipment to continuously measure the stability of artificial and, in particular, naturally formed dams.

And road builders in civil engineering use our equipment in the construction of roads and tunnels. There is a good reason for this.

After all, land is increasingly encountering problems which cause soil degradation. Erosion, desiccation, salinisation and subsidence are just a few examples. The result is that fertile top layers of the soil disappear, water infiltration deteriorates and discharge accelerates.
Eijkelkamp Smart Sensoring has the resources, technology and services to produce relevant data for you. Data from which you can obtain valuable information or data for control signals for machines and equipment. That is the essence of what we do. We facilitate the data that allow you to shape things to your needs. We do, of course, deliver all the hardware, sensors, soil drilling equipment, cables and modems you require for this, and provide the necessary advice, as well.

Technical Projects & Eijkelkamp Academy
Our Technical Projects department travels around the world to install networks. Eijkelkamp Academy is the centre of expertise and provides worldwide training in the field of soil and water.
Royal Eijkelkamp is on track to become a worldwide preferred supplier in (total) solutions for soil and water projects. By working closely together and sharing knowledge, we continue to deliver sustainable added value to customers and partners. We respond innovatively to the fast-changing customer demands and will continue to do so in the future.

With over 100 years of experience and expertise in soil and water research, Royal Eijkelkamp provides a continuous contribution to a healthy and safe environment.