# We want to enhance course management and increase playing time
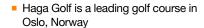
## Orange IoT Connect Anywhere



"The green-keeping function is critical to us, and we see great benefits in this tailored IoT sensor solution. We have started an innovative collaboration with Orange, where our employees can work more efficiently, and our members can use the course more often."

**Erik Solberg**
General Manager
Haga Golf

## Highlights

- Haga Golf is a leading golf course in Oslo, Norway

- The company wanted to modernize maintenance operations and introduce real time information about important conditions. Data monitoring of soil moisture, temperatures, conductivity and oxygen levels are key drivers for actions needed to protect and manage the courses

- Orange IoT Connect Anywhere uses soil and oxygen sensors placed on the greens to monitor changes in winter and summer conditions with data collected in LiveObjects, the Orange IoT and analytics platform

- Haga Golf now has a reliable, secure IoT data solution that empowers better management of its 27 greens and helps increase playing time on the courses during the season while reducing maintenance costs

**Based in Oslo, Norway**

**One of the largest golf clubs in Norway**

**27 greens**

**orange**™ **Business Services**

HAGA GOLF KLUBB

## Issues and challenges

Haga Golf, in Oslo, Norway, is a leading golf course with new facilities, including a pro shop and restaurant. It is open to private members, who have the opportunity to buy shares in the golf club, and for personal/corporate events. Effectively managing the links course – 27 greens – is critical to the success of the club. The climate in Norway imposes challenges for maintaining the courses, keeping the turf in good condition and ensuring that the grass survives the cold winters.

The club has recently undertaken a major upgrade to the course, including better grass, drainage and distinct links marks. Its ambition is also to provide the maintenance organization with data for operations. This would include monitoring soil moisture for safe irrigation and temperatures to avoid grass burn and conductivity as an indicator of fertilizer levels. This data, together with oxygen levels in the soil during summer, are key drivers for actions needed to protect and manage the courses. The challenge the club faced was finding a technology partner who could understand the nature of the business and develop and manage a tailored solution.

### The objective

Introduce data driven operations for supporting the course management and availability for players.

## The Orange Business Services solution

- Orange IoT Connect Anywhere
- Sensor selection and integration
- Soil sensors for moisture, temperature and fertilizer-level monitoring
- Oxygen sensors placed on the greens to monitor changes in winter conditions
- Data is collected in LiveObjects (the Orange IoT and analytics platform) and then transferred for analysis by the Operations and Service team

## The benefits

Orange Business Services is enabling Haga Golf to deliver improved course availability to its members.

- Secure, reliable IoT solution empowers course management by monitoring the impact of the ever-changing weather
- Better understanding of winter conditions on the course helps staff take preventative action
- Scalable, end-to-end connectivity between sensors installed on the course and the data management platform

## The results

- Ability to implement data-driven operations through autonomous monitoring of weather conditions
- Increased seasonal playing time on the course
- Reduced course maintenance costs

"The Orange solution will support us in reducing maintenance costs and help us to maintain optimal playing conditions throughout the season."

**Erik Solberg**
General Manager
Haga Golf

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**For more information about Haga Golf, visit www.hagagolf.no**

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