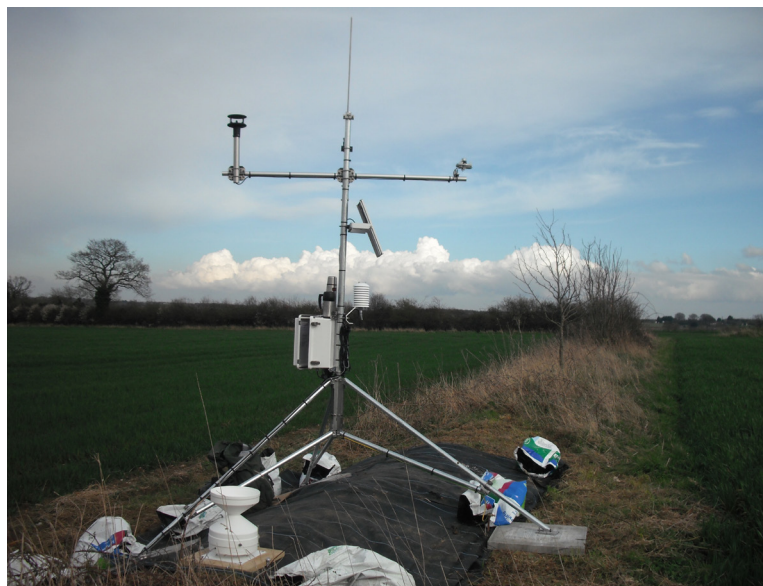


Agricultural monitoring station with Konect

Konect Data Service utilised to monitor soil parameters and PAR measurements from remote AWS in an agricultural application



The John Innes Centre (JIC) is an independent, international centre of excellence in plant science and microbiology who conduct research that makes use of a wide range of disciplines in biological and chemical sciences, including microbiology, cell biology, biochemistry, chemistry, genetics, molecular biology, computational and mathematical biology.

They receive funding from the UK Biotechnology and Biological Sciences Research Council (BBSRC) for four research areas that directly address BBSRC strategic objectives in food security, human health and industrial biotechnology:

- Growth and Development Underpinning Yield
- Biotic Interactions for Crop Productivity (in partnership with The Sainsbury Laboratory)
- Understanding Plant and Microbial Metabolism
- Wheat Improvement (a cross-institute strategic programme)

Ongoing research projects looking at the genetic control of yield components and disease in cereals at the JIC's Church Farm centre at Bawburgh, Norfolk, required various measurements to be made on-site with the data also made readily available to multiple remote users.

Cathy Mumford, managing JIC's field experimentation consulted with Campbell Scientific Applications Engineer Vim Mistry on the best solution in terms of specifying an appropriate station and sensors, the siting, installation and ongoing maintenance and, crucially, how data could be collected and shared securely and effectively.

Campbell Scientific were awarded the contract to supply an automatic monitoring station configured around a CR1000 datalogger with a range of sensors to measure air temperature, relative humidity, solar radiation, barometric pressure, precipitation, soil water content and soil temperature. The station was installed and commissioned by Campbell Scientific engineers. The system was supplied with a CS-GPRS modem for remote data collection by

Case Study Summary

Application:
Plant genetic research

Location:
Norfolk

Author/authors:
Vim Mistry and Cathy Mumford

**Contracting Agency (client)/
Participating Organizations**
John Innes Centre

Campbell Scientific Products Used:
CR1000
CS215
SKP215
CS106
ARG100
CS650
CS-GPRS Kit

Communication Link:
GPRS - Konect Data Service

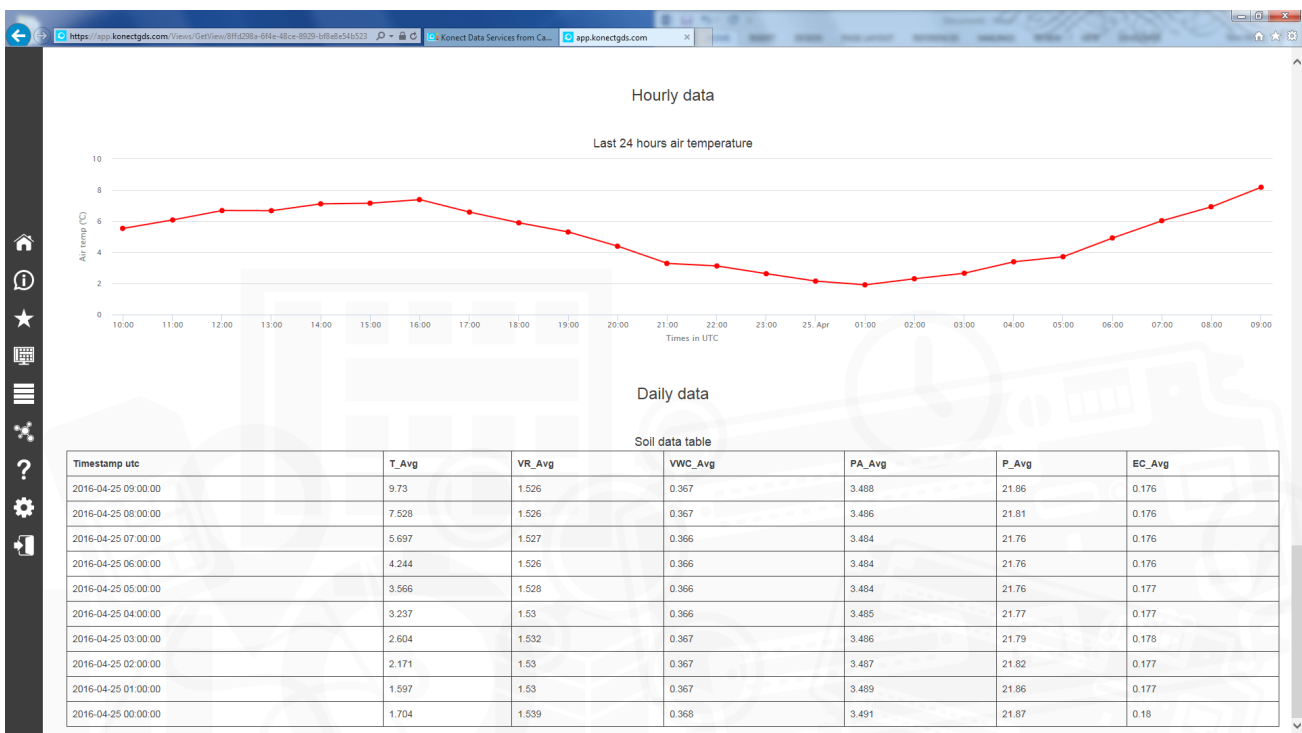
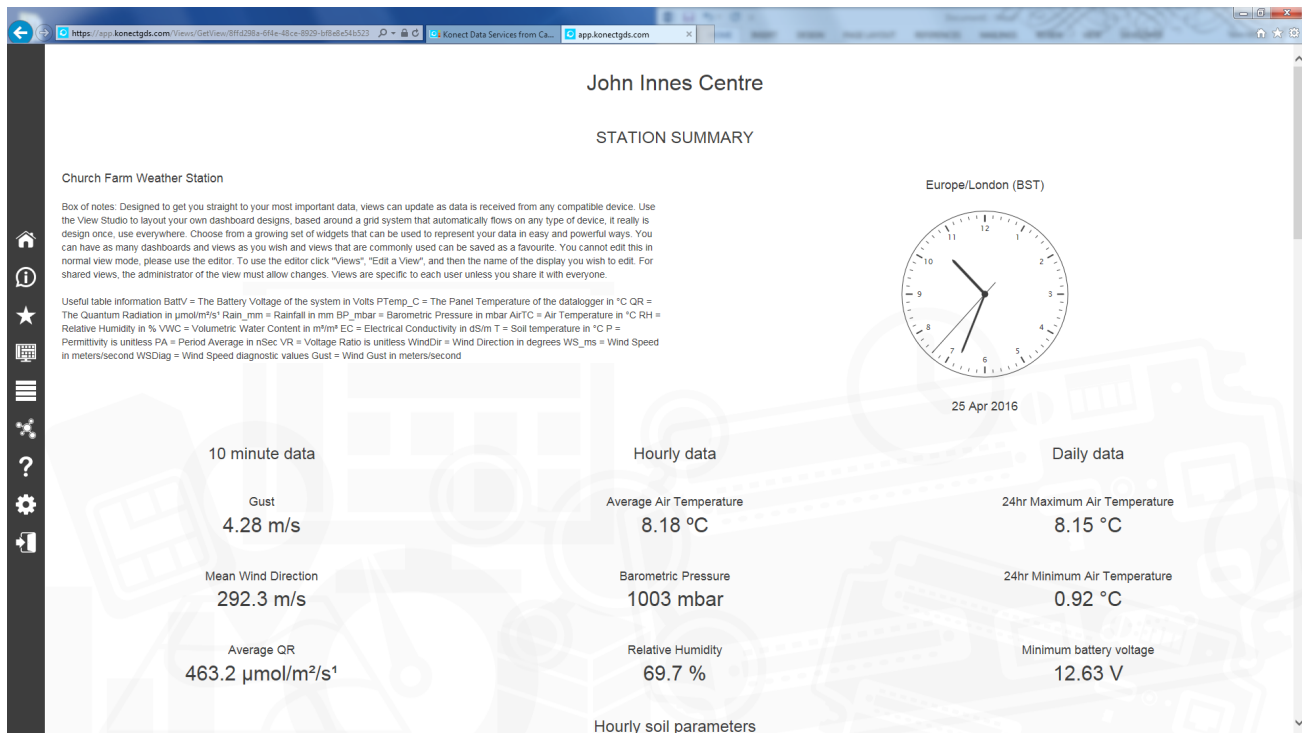
Measured Parameters:
Temperature
Humidity
Photosynthetically active radiation
Barometric pressure
Rainfall
Soil Water Content
Soil Temperature

Website Link:
<https://www.jic.ac.uk/>

Campbell's Konect Data Service for which an ongoing subscription was purchased.

Konect is a cloud-based data management platform developed by Campbell Scientific that provides data collection and archiving but also data relaying and secure browser-based data visualisation. For JIC this meant that secure internet access to the data could be provided to any authorised third party, no matter where they were located.

Applications Engineer, Vim Mistry, said "Getting the hardware right was as important as ever in this project but equally important was providing a solution whereby multiple interested parties could access the data. With Konect Data Service we were able to provide a full end-to-end solution that encompassed system design and configuration, installation and ongoing data collection and display. We have also been contracted to maintain and service the equipment to ensure that measurement reliability is maintained over time."



Data from customers live Konect screen