

Verifying quality in sustainable energy schemes

KSN Energy

The Challenges

- Digitise a complex, technical survey process
- Improve the allocation of jobs to inspectors

The Benefits

- Revenue growth from more effective job scheduling
- Annual time savings of 2,000+ hours
- Accurate survey data, gathered easily in the field
- Clear visibility of recurring quality control concerns

KSN Energy uses ArcGIS on rooftops, in attics and on factory floors throughout Ireland to verify the quality of products installed under a variety of government-backed sustainable energy programmes. The company can now more intelligently assign inspectors to jobs, collect more accurate data and operate more efficiently to increase revenue.

The Challenge

KSN Energy inspects newly installed heating systems, insulation, solar panels and other grant-funded energy-saving measures to ensure that they have been implemented in compliance with industry guidelines and regulations. With the introduction of a number of smaller grant-funded schemes and pilot programs, the company began to support the development of new inspection processes that did not benefit from digital assistance. These supplementary projects quickly increased from 10-12 site visits per year to over a thousand, posing two major challenges.

KSN Energy's primary goal was to find a way to convert highly complex paper-based surveys into mobile, digital operations. Second, a more efficient method of assigning Engineers with the necessary qualifications to inspections was required. "When we saw a demonstration of Esri's ArcGIS, we realised it could solve both of these challenges," says David Cadwallader, Communications Manager at KSN Energy.

The Solution

KSN Energy started with ArcGIS Survey123, creating a few digital survey forms for internal use. Convinced that this versatile geographic information system (GIS) could meet its requirements, KSN Energy then hired Esri Ireland experts to help the company modernise its client-facing inspection process.

The task was not easy. The new Survey123 app had to not only support long and complex inspection surveys, but it also had to run on multiple devices and be usable in cramped, dark spaces like attics, roofs and factories. "The expertise of Esri Ireland experts helped us get to where we wanted to go," Cadwallader says. "They were able to think outside the box, which was essential in this situation."

Subsequently, KSN Energy and Esri Ireland used ArcGIS Workforce to develop a job management platform for assigning work to inspectors based on their location, credentials and survey type. The software uses priority settings and due dates to better control which jobs are completed and when and how many assignments of various schemes are assigned to each inspector. KSN Energy currently uses this work management platform to allocate jobs across all of the 10+ energy schemes that it handles, not just those that use Survey123.

KSN Energy has also begun using ArcGIS Dashboards to see the status of several sustainable energy initiatives at a glance. Internal dashboards provide employees with a clear view of how many inspections have been completed in a given week, month or

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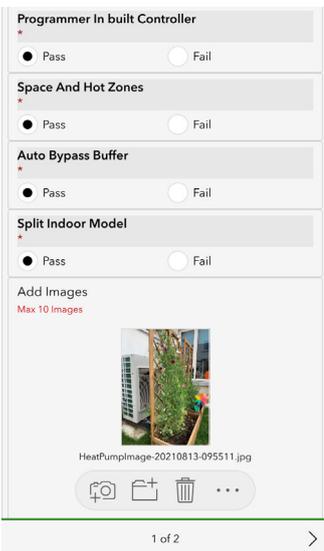
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year, as well as show trends in survey data. External dashboards provide clients with real-time, interactive updates on the status of inspections, allowing KSN Energy to reassure programme management that service level agreements (SLAs) are being met. “Utilising ArcGIS across KSN Energy has meant that all staff are now aware of the status of all projects; our team can tailor reports for clients and management; and we have reduced our carbon footprint because we no longer use paper for reporting because everything is stored on the cloud,” says KSN Energy Director, Michael Slevin. “ArcGIS is a truly innovative technology that we are thrilled to be implementing across the organisation.”

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Michael Slevin, Director, KSN Energy.



An ArcGIS Survey123 survey screen

The Benefits

Revenue growth from more effective job scheduling

For the first time, KSN Energy’s scheduler can see all jobs across all schemes on one map, making it easier for her to organise jobs spatially to optimise efficiency. The company can arrange large and small, domestic and commercial jobs, while providing all employees with the opportunity to meet specific goals and receive bonuses. “Because we are better able to manage our resources across all schemes, we anticipate being able to complete more work and, as a result, enhance our revenues,” Cadwallader adds.

Annual time savings of 2,000+ hours

KSN Energy’s use of ArcGIS has resulted in significant time savings in areas such as task scheduling, report production, field surveying and data sharing with clients. Cadwallader emphasizes that “the option to generate custom reports directly from Survey123 has been a big time saver. It saves two or more hours per day for each of the four programmes we handle with Survey123, amounting to more than 2,000 hours per year. What was formerly a time-consuming operation is now as simple as clicking a button.”

Accurate survey data, gathered easily in the field

Using Survey123, inspectors can now collect accurate data far more easily than using paper-based survey forms. Photographs may be quickly linked to surveys; color-coded menus clearly highlight which elements of the survey remain unfinished; and a summary verification screen allows inspectors to double-check the quality of the information they have submitted. “Our inspectors’ feedback has been unanimously positive,” says Quality Assurance Auditor Ian Donnelly. “We also have faith in the statistics because we know the inspectors went through a rigorous survey process.”

Clear visibility of recurring quality control concerns

KSN Energy now has the capacity to examine and analyse data in new ways, as well as discover reoccurring quality control issues, thanks to the development of ArcGIS Dashboards. It can, for example, detect recurring errors in the installation of individual measures and then offer specific training to improve the quality of future installations. Cadwallader observes that “ArcGIS makes it easy to spot trends that were always there but are now clearer.”

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