

Lightrock Power accelerates 8 solar farms' development processes using Sensat

Teams use visualisation software to access sites from their desktop and make more confident decisions.

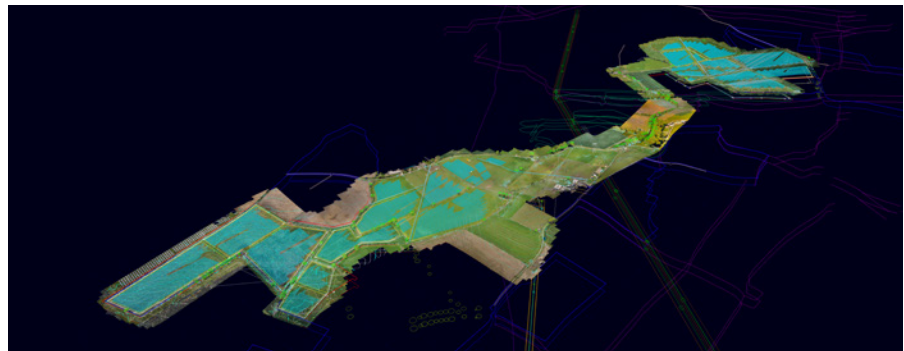


Introduction

Industry
Energy

Lightrock power was in the process of designing multiple mid-sized solar farms across the UK in a bid to fuel the grid with greener energy. The team had 8 potential remote project areas, data sets held in disparate systems and no way to easily access real-world context.

Gaining approvals for solar farms is a key challenge faced in the solar industry. Subsequently, Lightrock Power partnered with Sensat to visualise all 8 proposed solar farm sites as digital site replicas. Layering designs, topographic CAD, and survey data in one common environment enabled teams to better understand the constraints, make faster design iterations, and improve decision certainty.



Above Digital site replica of one of Lightrock Power's solar farms layering designs and the point cloud in one view.

Learn how Sensat helped Lightrock Power to



See information from different tools in one place



More confidently make the right decisions



Access sites remotely



Better understand and communicate project plans

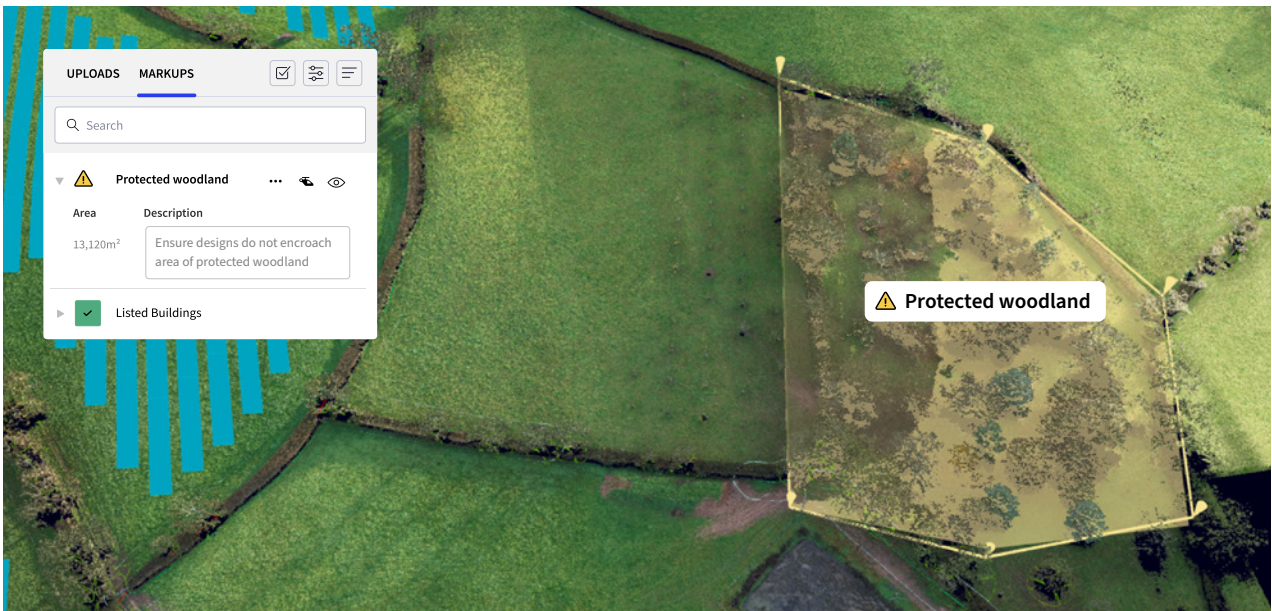
Challenge

It's difficult to share project information between teams

When designing multiple solar farms, teams held topographic data, CAD designs and constraint data all in different software. This limited easy access to the information, and once found, required someone to flick back and forth between multiple applications to gain insights. Previously there was no way to bring together designs and point cloud data, leading to inefficiencies and potential human error and risk.

There was also no efficient way to share these insights without sharing several files for the recipient to piece together. Lightrock Power's forward-thinking team looked for a more efficient way to view and share project information.

Below Lightrock Power have marked up environmental constraints in Sensat to inform design decisions.



Solution

See information from different tools in one place

When partnering with Sensat, Lightrock power was instantly able to upload their files into Sensat to create a visual layer for their information. This data was then layered on top of Sensat's survey data (captured using Unmanned Aerial Vehicles), to view the designs in the context of the real world.

Unlocking project information has encouraged more holistic decision-making between teams with the knowledge and foresight of potential constraints. For example, previously the solar farm design files were difficult to access and understand unless you were a design manager (with the correct software licence). Now, whether you are a design manager or farmer understanding a new land use, anyone can visually comprehend and gain insights using Sensat. This is helping teams to better identify hidden risk and make sure the best options are selected. ■

Challenge

Accessing sites is time-consuming and expensive

Accessing the solar farm sites posed several challenges for the Lightrack power teams:

- Sites were remote, spread across the UK, and time-consuming to access
- Site visits would cost around £1,000 per person per site visit and would require 3-5 people on site. For eight sites this would have quickly added up to £36,000.
- Land access permissions were required for each visit amounting to considerable time spent just requesting land access permissions.
- Lightrack power wanted a greener and more efficient way of accessing their eight sites.



Sensat has been key in speeding up the design, planning, and approval phases of our eight solar farm sites. Accessing all of our data in a single virtual environment has helped us to spot hidden constraints which would have had our design rejected, ultimately helping us to propose better outputs.

Chris Sowerbutts Co-Founder of Lightrack Power



Solution

Remote desktop access

Working with Sensat, the teams have been able to access all eight sites from their desktop. This has saved both hours of back and forth from the sites, alongside several thousands of pounds.

Teams utilised 24/7 access to all of their sites in both 2D and 3D, and when teams did need to go to site, everyone could arrive already knowing the conditions. By having a 'digital twin' of all the sites, Sensat has made it easy for teams to plan and design in a much more efficient way. Using desktop access teams have also minimised their carbon footprint, which has been particularly important to Lightrack Power as they aim to create green energy. ■

£36,000

saved per year by
minimising site visits.

Challenge

Gaining approvals for solar farm designs is challenging

Gaining approvals for solar farm designs is one of the key challenges faced in the solar industry. Teams need to take into account multiple factors including environmental constraints, layout optimisation, and ensuring that the solar panels' light is not obstructed. Not having a clear understanding of a site can lead to avoidable errors being accidentally embedded into designs.

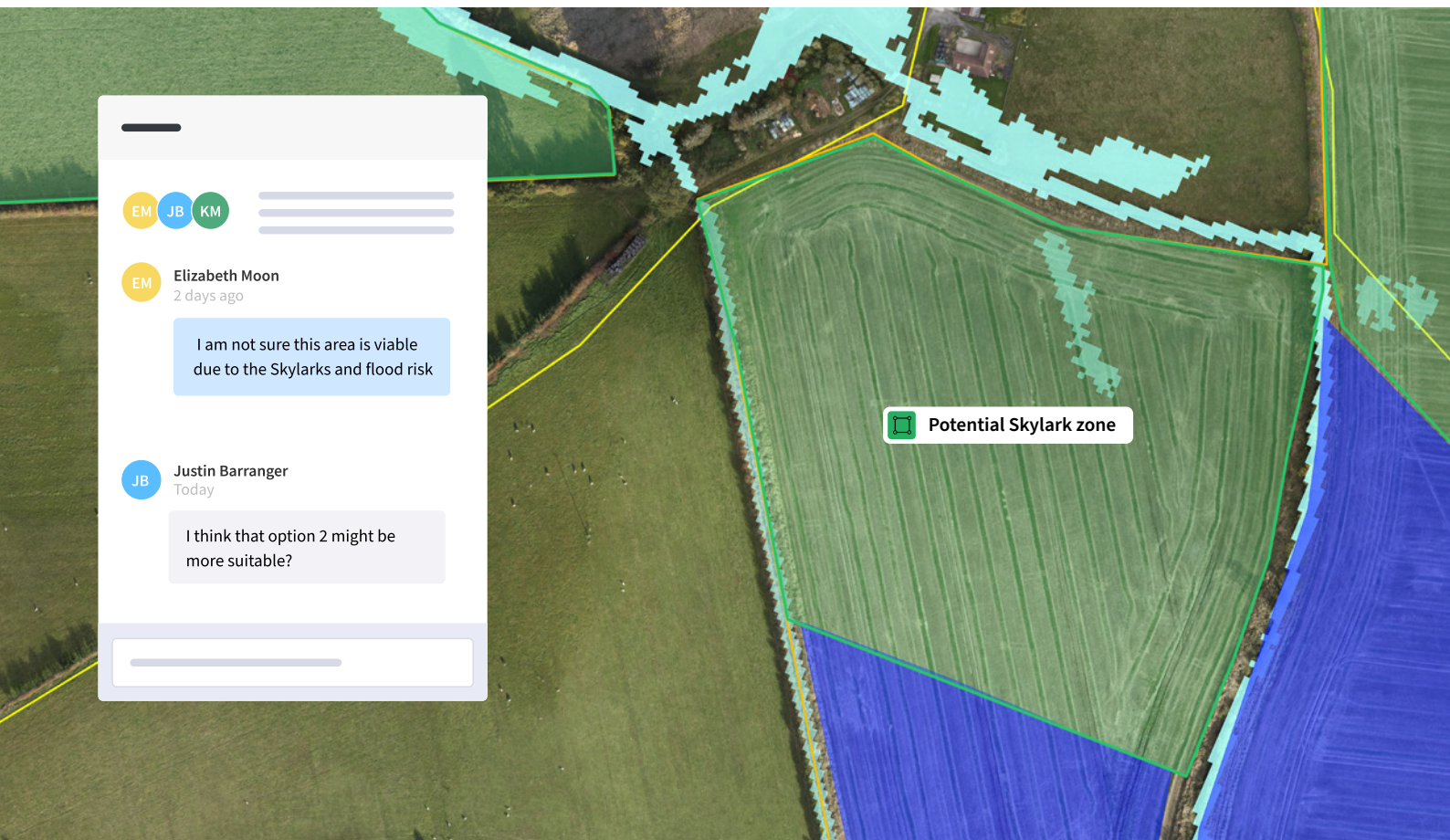
Solution

More confidently make the right decisions

To increase the likelihood of design approval across all of their UK sites, Lightrack power wanted to equip the teams responsible for design with the information they needed to confidently, quickly and effectively make the right design decisions. Thanks to the base maps of reality, in combination with their uploaded contextual data, the design teams were able to visually inspect the sites, spot constraints, and inform more suitable designs.

Once the designs are created, they then overlaid these plans in the digital environment for review. This created a rapid feedback loop for design iterations which helped speed up the design process. Thanks to the self-serve nature of the platform, Lightrack Power uploaded several design iterations as they optimised their designs before proposing them. ■

Below Conversations in Sensat around environmental constraints, preventing the need to flick back and forth between different software and emails.



Challenge

4.4t CO₂

Estimated CO₂ saved
through minimising
site visits

It will be difficult to bridge the gap between technical and non-technical stakeholders

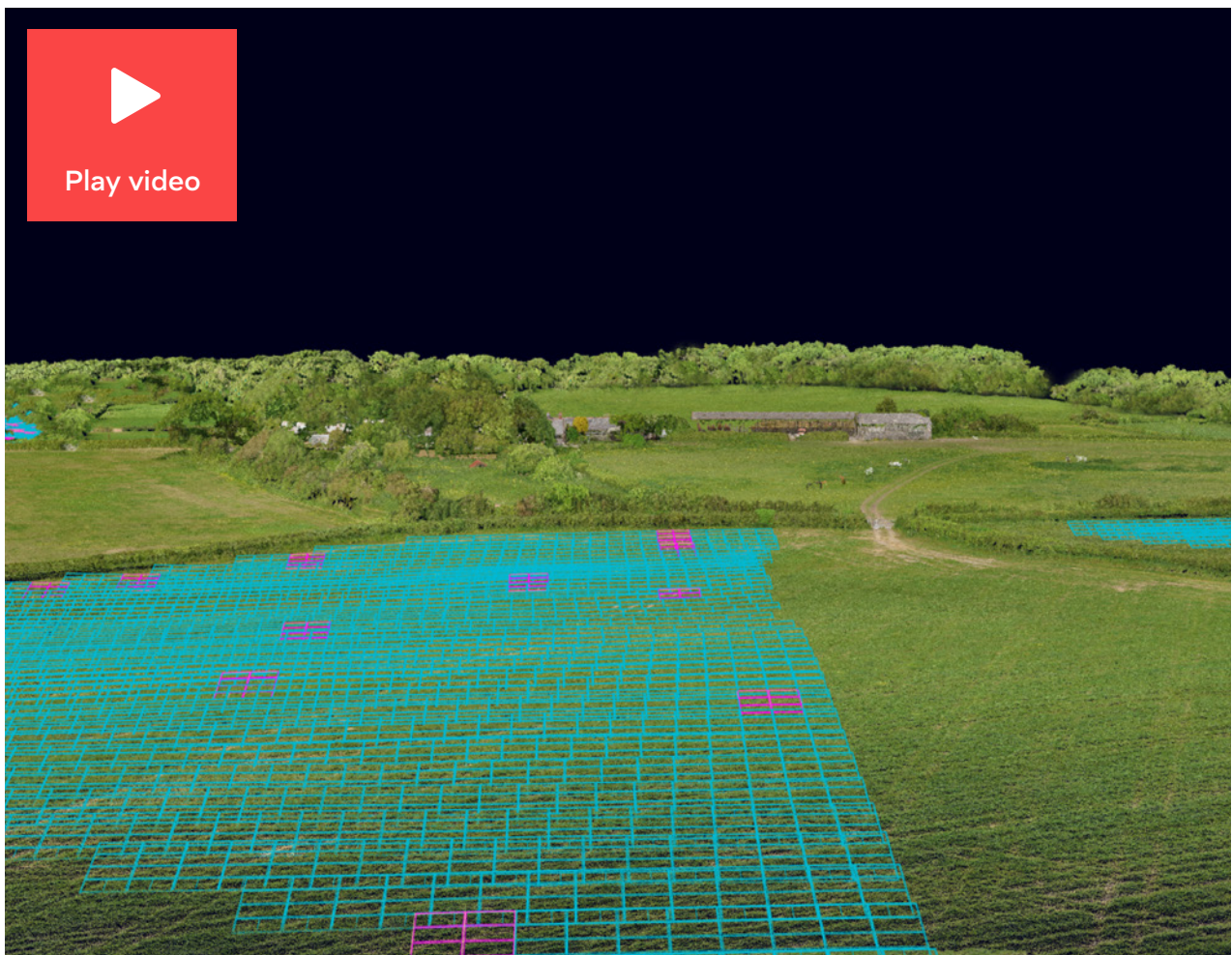
In various stages of the approvals process, Lightrock Power will need to communicate plans to all stakeholders including non-technical stakeholders such as members of the public. Traditionally viewpoints for members of the public would need to be mocked up to communicate plans visually, which is often a difficult and lengthy process.

Solution

Better understand and communicate project plans

When approaching this stage, Lightrock Power will be able to quite simply take screenshots from the Sensat and share them with the wider community. Alternatively in public consultation meetings, Lightrock power will be able to walk through the platform as a story and show stakeholders how the sites will look in one, all-encompassing platform for visualisation. ■

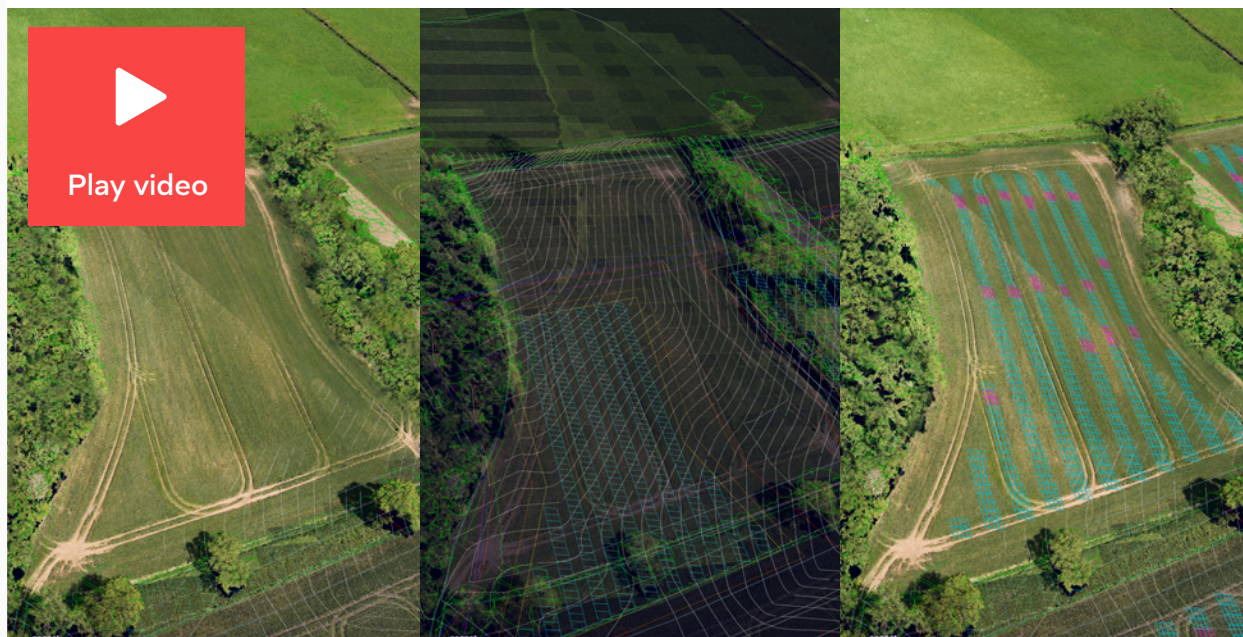
Below Visually comprehensive solar farm layout laid over point cloud data.



Use cases

Design iteration

Using Sensat teams have been able to layer all of their topographic, CAD and constraint data in one centralised software. Thanks to everything being in one place, design teams have been able to upload design files, review them in the real-world environment and make iterations so that they can propose the strongest design options.



Future stakeholder engagement/consultation

Looking forwards, Lightrock Power sees Sensat as a useful tool for stakeholder engagement/consultation. Thanks to the easy-to-understand visual layout, anyone, whether technical or non-technical can understand plans in Sensat.

Out-of-the-box value in 2 weeks

With Sensat's two-week value guarantee, the teams on Lightrock Power experienced out-of-the-box value from the get-go. Using a tried and tested 3-step activation plan, the team got started without needing to download specialist software or decide which team members needed a licence. Sensat held specific user drop-in sessions to help teams get to know the tools appropriate to them.



1 Refine goals

In a 1 hour co-creation call, Sensat will help to:

- Define project goals
- Define a timeline for achieving ROI



2 Build context

Over 2 weeks:

- Visualise project files within minutes
- Start gaining learnings from your data



3 Generate value

- Continue to invite users with Sensat's unlimited user licence
- Sensat can help run specific user drop-in sessions

Conclusion

Partnering with Sensat, Lightrock Power has been able to quicken the design process whilst improving the quality of designs. Layering all important information in one common environment has enabled teams to better understand the constraints, make faster design iterations, and improve decision certainty. Thanks to the well-informed environment, Lightrock Power reduced the risk of embedding errors into the solar farm designs, which is helping to increase the success in first time approvals.

Discover how we can help your project tellmemore@sensat.co.uk