Sustainability
Case Studies

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Case Study
BamCore.

BamCore Showcases its Carbon Impacts via Autodesk Ecosystem

BamCore uses biogenic fibres, such as bamboo, and industrialised construction processes to efficiently decarbonise the built environment. Each house they build contributes to the climate clean-up, reducing building material, time, and labour; that's why they say, "it is the best way to build".

Through the Autodesk Foundation, Symetri's Co-Innovation Lab and BamCore worked together to easily demonstrate the value of BamCore's products. Using Autodesk's design analysis ecosystem, Symetri developed a digital solution to demonstrate BamCore's products' benefits on energy and carbon impacts.

BamCore can now rapidly obtain comparative energy and carbon impacts through the custom workflow developed and present the outcomes to their customers as a part of the result.

NEED.

The challenge was that BamCore needed to clearly communicate their solutions' impact and value in a digestible format. Educating their customers to make strategic and informed decisions when comparing BamCore's products to traditional ones. Furthermore, BamCore's products presented unique challenges; that complicated digital predictive analysis for the Out-Of-The-Box solution.

Symetri creates and provides technology solutions and services for design, engineering, construction and manufacturing businesses. We empower people to work smarter for a better future by ensuring they have access to the expertise and technology they need to improve their performance and sustainability.

Symetri is supporting **BamCore** in their mission to make construction more sustainable through innovative solutions using biogenic fibres, such as bamboo, and industrialised construction. One solution BamCore developed is bamboo as a construction material for building framing panels. In addition to offering savings on operating costs and a better building envelope, bamboo panel houses have a far higher carbon benefit than traditional framing houses.

SOLUTION.

Symetri developed an optimised workflow, ensuring consistency and significantly reducing modelling time and project cost. Symetri presented a process to give BamCore a fast and accurate Energy Use Intensity (EUI) regardless of model condition.

Symetri introduced BamCore's distinctive framing panels with their unique values to the Autodesk Insight plugin with the idea that the user could convert detailed building elements (i.e., walls) into analytical surface overrides. This allowed BamCore to quickly select their products and generate multiple iterations to determine the most optimal and impactful solutions as they evaluated their wall types against the proposed design intent.

All BamCore's wall types were benchmarked and indexed. This index allowed the insertion of carbon computations into schedulable parameters. As a result, BamCore could swiftly understand carbon consequences for all assemblies when modelling.

SUSTAINABLE BENEFITS.

The outcome through Symetri's innovation allowed BamCore to showcase the operational and embodied carbon impact to their customer in a more digestible format by leveraging the BIM model and data via a dashboard.

BamCore developed these tools with Symetri to demonstrate that Bamboo has a far higher carbon benefit than wood and should therefore be considered when calculating carbon credit.

A recent study found that the thermal difference between traditional framing houses and BamCore panels houses over the life cycle of 70 years of a 2000 ft2 (185 m2) house reduces more than 200 metric tonnes of carbon emissions, which is approximately equal to the emissions of driving 500,000 miles (805 000 km) in a traditional combustion engine car. This is in addition to savings on operating costs and a better building envelope.

Case Study
Kite Rise.

The Future of Energy Storage Created with 3DEXPERIENCE on Cloud

The Kite Rise founding team are experienced automotive battery developers who are now on a mission to deliver the world's first sustainable high-performance energy storage system.

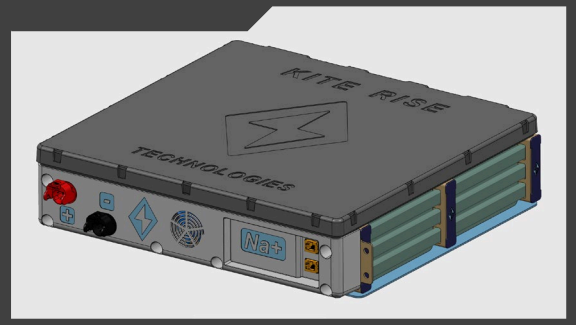
Kite Rise's solutions are based on sodium-ion technology, a more sustainable and safer alternative to conventional lithium-ion batteries. Unlike lithium batteries, all the raw materials can be responsibly sourced, distributed, and discharged.

NEED.

The Kite Rise team needed a ready-to-use CAD solution that would enable them to collaborate optimally from any location. Kite Rise also has a vast number of requirements to manage and control in order to deliver a power storage solution with optimized performance, maximum security, and flexible capacity while being readily recyclable and constructed from entirely environmentally friendly materials.

Challenges for this case included:

- To manage thousands of requirements
- Design development and collaboration between employees
- Minimal IT structure, including no own servers



TECHNIA is an Addnode Group company, a global provider of solutions for digitalizing products or facility's entire lifecycle – from idea, design, simulation and manufacturing to sale, aftermarket, and recycling. For our customers this entails shorter lead times, greater innovation, and increased efficiency and traceability, making product creation sustainable.

TECHNIA is supporting **Kite Rise** in their mission to make a sustainable high-performance energy storage system from sustainable resources using sustainable manufacturing processes. Through close cooperation with universities and research institutions, the young company promotes the exchange of knowledge and wants to do its part to further expand Austria's pioneering role in the field of renewable energies and sustainable storage systems.

SOLUTION.

TECHNIA are supporting Kite Rise in their mission to make a sustainable high-performance energy storage system from sustainable resources using sustainable manufacturing processes.

The 3DEXPERIENCE platform helps Kite Rise manage requirements, plan development projects, and develop highly efficient energy storage. It's a ready-to-use solution boasting zero requirement for resource intensive customization. Implementation - including onboarding - takes only a few hours to complete.

SUSTAINABLE BENEFITS.

For Kite Rise, it's vital that they're able to develop and produce products efficiently and sustainably. This is one of the many reasons that Kite Rise chose TECHNIA as their 3DEXPERIENCE partner. Their Green Power batteries are designed to provide a long service life coupled with a compact form factor and they're exclusively manufactured using sustainable raw materials.

As this is a cloud solution, no new hardware had to be purchased. Kite Rise saved time and money on potential hardware and operation requirements. Essentially, any device can be used, even smartphones (e.g., for releases).

With the 3DEXPERIENCE platform and tools in place, the Kite Rise team are now improving project control, requirements management, and materials compliance

Case Study
Ragn-Sells.

Increased Efficiency in Plant Development for Ragn-Sells by Utilizing Geodata.

Ragn-Sells is one of Sweden's leading environmental companies. Ragn-Sells offers innovative and efficient solutions for collection of waste and removal of environmental toxins, so that valuable raw materials can be reused.

For Ragn-Sells, Sokigo delivers the tools TopoCad and CSM. TopoCad is a tool for keeping geodata up to date and producing maps such as new construction- and base maps. CSM is a complete web-based GIS-solution enabling easily accessible information between all users.

NEED.

The environmental permits for Ragn-Sells' facilities require reporting on the handling of different types of water. In addition, because Ragn-Sells' facilities are under constant redevelopment, with processes spanning over multiple years, there is a need for easily accessible information regarding the current facilities. Furthermore, a large part of the work takes place out in the field, which creates a need for everyone to always have access to the same information both via computer and mobile.

Sokigo is an Addnode Group company specializing in delivering solutions and services for private and public sector based on own software supplemented with business-related services.

For **Ragn-Sells**, Sokigo has provided the tools TopoCad and CSM. Systems used for storing and updating geodata and distributing them efficiently with all users. TopoCad is a tool developed by **Adtollo**, used for updating and storing geodata.

CSM is a complete web-based GIS-solution enabling both a full-scale web portal as well as easily accessible web clients for distributing geodata. CSM replaces the need for traditional GIS- or CAD systems through modern web- and mobile based interfaces. Enabling administration, visualization, analysis, editing and integration of geodata and business data.

SOLUTION.

Using the tools TopoCad and CSM from Sokigo and Adtollo, Ragn-Sells can store and update geographic data and information on their facilities and efficiently distribute the information within their organisation. The need for reporting on the handling of different water types is facilitated by storing information about water pipes and sampling points. The planning and application for building permits are simplified with up-to-date geodata as a basis.

SUSTAINABLE BENEFITS.

By utilizing geodata systems, Ragn-Sells can develop their existing facilities faster and more efficiently, a necessity as total waste in society constantly increases. Allowing for better recycling and waste management and enables efficiency in planning, designing, building, and commissioning new recycling plants.

Additionally, sustainable benefits include:

- Increased safety of handling environmental toxins.
- Reduced risk of polluting water and surrounding nature.
- Ensures complete and correct documentation of recycling facilities for reportage to governing authorities.

Case Study

Sustainable Development Goals

BamCore.

BamCore is a customer developing more sustainable alternatives to traditional building materials. Through Symetri's services, BamCore can develop and showcase the benefits of their products better. The green building materials provided by BamCore's solution can significantly contribute to waste reduction through recycling and reuse, thus contributing to SDG 12. Building materials have a huge capability to mitigate the impact of buildings in the GHG emissions using energy-efficient, green, environmentally friendly alternative to traditional building materials. Thus, contributing to SDG 13.

Kite Rise.

Kite Rise is a customer that develop sodium-ion batteries for houses. Through TECHNIA's services and support, Kite Rise can better develop efficient and sustainable energy storage systems. Energy storage systems are related to the SDG 7, 11 and 13, as they can enable the use of renewable energy sources, such as wind and solar power. This can help to reduce dependence on fossil fuels, which are a major source of greenhouse gas emissions and contribute to climate change. In turn, the transition to renewable energy sources is also a requirement to make our cities and communities more sustainable.

Ragn-Sells.

Ragn-Sells is an environmental company providing waste management and recycling services. Through Sokigo's services, Ragn-Sells can more efficiently develop their recycling sites. Enabling for faster expansion and environmentally safer planning of their sites. By providing employment opportunities and training to workers, the plant can help to promote full and productive employment and support the transition of workers from the informal to the formal economy. Additionally, by promoting the use of recycled materials and reducing waste, the plant can contribute to sustainable economic growth and help to protect the environment, which can support the achievement of SDG 8 and 12.