

Accelerating the Path From Prototype to Production



ABOUT THE COMPANY

Instagrid is a pioneer of off-grid portable battery systems that provide a sustainable alternative to high-pollution combustion generators. With its compact and lightweight design, the instagrid ONE platform enables mobile professionals in sectors such as construction, landscaping, and events to have reliable access to electricity from renewable energy sources no matter their location. Instagrid has established a strong customer base across the European Union (EU), partnering with companies such as Strabag International, Skanska Rental, and Swiss Federal Railways SBB.

AT A GLANCE

Mission

To help professionals work toward a zero-emissions future

Best Thing About Arena

Aggregates the entire product design to ensure interoperability and manufacturability

Bottom-Line Impact

Enables instagrid to quickly progress from the prototype stage to production

Key Benefits

- Provides single source of truth for teams to collaborate on the latest designs
- Reduces engineering change order review cycles
- Keeps dispersed supply chain partners in the loop
- Minimizes production errors that lead to costly product delays
- Intuitive and easy to use with minimal training required
- Integrates seamlessly with engineering design solutions
- Ongoing support from Arena PLM experts and industry thought leaders

BUSINESS CHALLENGES

How do you turn the concept of a more sustainable and cost-effective portable battery into reality?

Each year an estimated 50 million industrial mobile machines (e.g., gardening equipment, generators, forklifts) are built with combustion engines, which account for approximately 2% of greenhouse gas (GHG) emissions in the EU¹.

Instagrid recognized the need for a professional-grade power supply that would enhance efficiency across the mobile workforce while reducing its environmental impact. To fill this gap and bring their innovative portable battery technology to fruition, the company searched for a solution that could expand their product development capabilities and accelerate time to market (TTM). "As a startup, we needed a system that would enable us to maintain a lean operation while taking our product from the prototype phase to production," stated Andreas Sedlmayr, Co-Founder and CEO of instagrid.

Previously, instagrid relied on Excel spreadsheets as well as a cloud-based MCAD/ECAD system to manage their product designs and bills of materials (BOMs). As the designs progressed to later stages and more assemblies were added, it became difficult for engineering teams and external suppliers to identify the latest revision and stay on the same page. Additionally, these disconnected point software solutions did not provide instagrid a way to ensure revision control and manage engineering changes.

SOLUTION

Arena provides instagrid a single source of truth to manage and control the entire product design from concept to production.

“ After evaluating several systems, we ultimately chose Arena PLM for its cloud infrastructure, ease of use, and extensive capabilities. It had the functionality that we needed for bill of materials (BOM) and engineering change management. We also liked the ongoing education and support offered by Arena’s expert team of success coaches and solution architects.

—Robert Riegraf, Mechanical Engineer, instagrid

By aggregating all the mechanical, electrical, and software components into a single system, Arena’s cloud-based product lifecycle management (PLM) solution enables instagrid’s multidisciplinary engineering team to collaborate more effectively to ensure both interoperability and design for manufacturability (DFM). Having all the product assemblies, design files, quality documents, and other essential records in a centralized platform also enables instagrid to gain greater control and traceability throughout the entire lifecycle.

Because automated engineering change processes and revision controls are applied to parts, BOMs, and documents, instagrid’s internal team and external supply chain partners always have access to the latest product information. This eliminates confusion around designs and minimizes production errors that could lead to costly product delays.



KEY BENEFITS

Since implementing Arena, instagrid has integrated the system with Altium and SOLIDWORKS engineering design solutions to streamline the handoff between electrical and mechanical design teams.

Instagrid's electrical engineering department uses Arena to compile printed circuit board assembly (PCBA) data for their external supply chain partners. In turn, mechanical engineers are leveraging the system to build BOMs that encompass technical information as well as parts for product accessories and service kits. Additionally, the quality assurance staff uses Arena to manage quality processes and expedite engineering change orders (ECOs).

The entire product team can now share, review, approve, and release designs quickly through automated engineering change notifications and routings. With secure, permissions-based access to Arena from any location, instagrid's external suppliers are also able to stay apprised of the latest design changes and quickly provide real-time feedback to keep production on track.

Looking ahead, the company plans to integrate purchasing and get Tier 2 supply chain partners

on board with using Arena to further streamline production. As instagrid continues to lay the foundation for a more sustainable future, it now has a scalable PLM solution to drive the successful expansion of its product portfolio and support the business as it evolves.

“**Arena scales with our growing business and affords us the opportunity to effectively meet the market demand for smart, customized energy solutions. We like the holistic approach with Arena, which integrates mechanical, electrical, and software design information in a single system for a centralized view of our product record.**”

—Andreas Sedlmayr, Co-Founder and CEO, instagrid

References

1. http://carbonneutralcities.org/wp-content/uploads/2019/06/2.Market-Analysis-for-Non-Road-Mobile-Machinery-Sector_FINAL.pdf