

Electric Vehicle Manufacturer Reduces Material Usage of Clay, Foam, and Wood by 2.5 Tons with X-Rite Appearance Solutions



A groundbreaking electric vehicle (EV) manufacturer has made waves in the automotive industry with their innovative approach to design and sustainability. By leveraging digital design tools and advanced technologies, this EV manufacturer has not only transformed their design process but also significantly reduced material waste and energy consumption.

Challenge

Traditional automotive design processes often involve extensive physical prototyping, leading to substantial material waste and prolonged time-to-market. This manufacturer faced similar challenges as they sought to streamline their design process for their electric vehicles. Former employees with experience in traditional automakers like Ford and GM recommended the use of advanced technologies like X-Rite's appearance solutions and Autodesk digital design tools to streamline design workflows.



Industry:
Automotive

"We can measure a small sample of a material, bring it into the software and then apply exactly what we see physically, directly onto the 3D model. It's really allowing us to evaluate design properly, more so than we can on a clay model."

**Director,
Exterior Design**

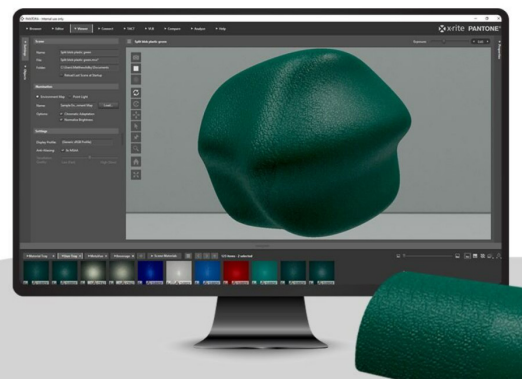
Solution

X-Rite's appearance ecosystem represents a paradigm shift in how companies conceptualize and develop materials for products. By capturing the visual appearance of physical materials and translating them into digital formats with unparalleled accuracy, designers and engineers at the company can explore a vast array of material options without being limited by traditional constraints during the conceptualization and design process.

One of the key advantages of this solution is the ability to capture intricate details such as texture, gloss, and reflectance with exceptional precision. This level of detail is crucial for automotive manufacturers, as it allows them to simulate how different materials will look and behave under various lighting conditions and environments. Whether it's the rugged texture of weather-resistant cladding or the luxurious sheen of premium upholstery, X-Rite's appearance ecosystem ensures that every digital material accurately represents its real-world counterpart.

X-Rite's appearance solutions also facilitate seamless collaboration between different teams within this EV manufacturer's design and engineering departments. By providing a common file format (AxF) that allows stakeholders to visualize and evaluate digital materials in lifelike scenarios, X-Rite's unique solutions streamline the decision-making process and accelerates the overall product development cycle. This collaborative approach not only enhances efficiency but also fosters innovation by encouraging cross-disciplinary insights and ideas.

Furthermore, X-Rite's appearance solution empowers them to maintain consistency across their product lineup while still offering customization options to their customers. By cataloging and digitizing a comprehensive library of materials, finishes, and colors, they can ensure that every vehicle they produce adheres to their exacting standards of quality and craftsmanship.



Results

1. **Cost Savings:** Saved over \$1M in product development costs annually by reducing physical prototyping and material usage.
2. **Material Reduction:** The company reduced the usage of materials like clay, foam, and wood by 2.5 tons for each vehicle design, contributing to significant sustainability gains.
3. **Time-to-Market:** By leveraging digital design tools, the manufacturer accelerated its design process and reduce design iterations by 2x, bringing vehicles to market faster while maintaining high-quality standards.