

DESIGN OF PLASTIC INTERIORS FOR COACH

About Our Client

The client is a major player in the European bus industry, with a strong focus on the development and production of a wide range of buses, coaches, and chassis modules. The client's products are highly regarded for their quality, reliability, and innovative design, making it a preferred choice for customers across more than 30 countries.

Business Challenges

The client's project involved a comprehensive redesign of the front interior plastics for an upcoming double-decker coach variant. To achieve this, a collaborative effort was required from all stakeholders, including the customer, offshore and onsite design teams, styling studio, and supplier. The project's success relied on the timely completion of all plastic component designs, with adherence to strict project timelines.

To facilitate this process, the client relied on advanced design tools and methodologies to ensure efficient collaboration across all teams involved. This included the use of computer-aided design (CAD) software, finite element analysis (FEA), and other advanced simulation tools to optimize the design and production of plastic components.

The project also involved significant coordination efforts to ensure that all design elements were frozen and finalized in a timely manner. This involved frequent communication between the various stakeholders, as well as regular progress updates and design reviews to ensure that all parties remained aligned throughout the project.

Overall, the client's project required a high degree of technical expertise and domain knowledge, as well as effective collaboration and communication across multiple teams and stakeholders. The successful completion of this project will enable the client to deliver a high-quality double-decker coach variant with a completely refreshed front interior, meeting the needs and expectations of the customers.



Our Solution



The TAAL Tech team received the concept model, a partially available environment, and plastic A surfaces, from which the actual CAD model was to be designed as inputs from the client.



The project had stringent target deadlines to have adequate manufacturing lead time for the prototype, as well as built components. TAAL Tech team made changes to the CAD model and submitted it to the customer for review and approval.



To ensure the design met the required specifications and standards, a Design Failure Modes, and Effects Analysis (DFMEA) and a Design Verification Plan and Report (DVP&R) were carried out.



The team also worked closely with the styling studio to ensure that the design met the aesthetic requirements of the client. The project involved the use of CATIA V5 and the team was proficient in using the software to achieve the required outcomes.



The timely delivery of the CAD models ensured that the prototype was manufactured and built within the required lead time. The customer was satisfied with the quality of work delivered by the TAAL Tech team and the project has been deemed a success.

Results Delivered



The implementation of a suitable assembly sequence through the design phase resulted in a significant reduction of assembly time by approximately 14%. Furthermore, the manufacturing cost for the newly designed variant was reduced by approximately 6%, when compared to other variants in the same Coach Category. This outcome was achieved through the optimization of the design process, where the TAAL Tech team focused on reducing the number of parts, simplifying the assembly process, and improving the fit and finish of the final product. These measures helped to streamline the production process, resulting in higher efficiency and cost savings, ultimately leading to greater profitability for the client.



Reduction of assembly time by approximately

14%



Manufacturing cost was reduced by

6%

About TAAL Tech

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