



ENSURING THE HIGHEST BUS SAFETY

ALTAIR SIMULATION HELPS GEMILANG ACHIEVE EXCELLENT ROLLOVER RATING

About the Customer

Gemilang Coachworks Sdn Bhd, a subsidiary of Gemilang International Limited, has a long tradition in producing the highest-quality mobility solutions. For the past 30 years, Gemilang has been focusing on delivering integrated solutions – from design, to manufacturing of bus bodies, to bus assembly. Gemilang's buses serve both public and private bus transportation operators and have been exported to over 10 markets including Malaysia, Singapore, Australia, Hong Kong, China and India. Today, Gemilang is one of the most trusted bus, and bus body suppliers in Asia. All of its bus bodies have been designed, manufactured and assembled in accordance to various international standards and regulations.

Their Challenge

Gemilang Coachworks prides itself in upholding the highest passenger safety standards. In order to achieve the highest ratings, Gemilang incorporates bus rollover tests at the very beginning of the product development phase. Gemilang needed a comprehensive simulation solution that provides true-to-life visualisation and data analytics capability, in order to overcome the cost intensive and time-consuming assessments.



LEFT: Gemilang produces a wide range of bus bodies, including the double deck coach shown here.
RIGHT: Early simulation allows to reduce costly physical testing on large bus structures.

Our Solution

In a bid to ensure highest transportation safety, today's bus rollover and crash test regulations have become even more stringent. To ensure all products achieve the safety regulations, Gemilang set up dedicated in-house testing facilities including a tilt test platform to assess the stability of the vehicle, and a rollover test platform to ensure bus safety in the event of a rollover accident.

Gemilang decided to leverage computer-aided engineering (CAE) simulation technologies to facilitate the bus rollover assessment during the early stage of product development and selected Altair as its technology partner.

Capitalizing on Altair's deep domain knowledge in automotive and simulation-driven design, Altair worked closely with Gemilang engineers to solve multiple engineering challenges and problems, including managing the repetitive cycles of testing – from bus rollover and crash tests, static analysis and durability analysis, which can be a lengthy and expensive undertaking.

Gemilang found that Altair offers a comprehensive and end-to-end simulation suite that covers all areas of vehicle and subsystem analysis. The Altair software is able to effectively handle the stringent bus rollover test requirements and enabled the team to meet the design and structural improvements in a much shorter development time.

Results

By partnering with Altair, Gemilang successfully delivered a few overseas projects, including a project that has been certified by Jabatan Pengangkutan Jalan (JPJ) for Bus Rollover qualification.

With Altair's solution and consistent technical support and training from Altair, Gemilang engineers managed to solve problems faced in the product development process and also meet the stringent safety requirements.

With Altair simulation products, Gemilang engineers were able to conduct all bus rollover tests in a digital environment, extracted data from a centralized source and then used them to improve the bus and body design and development in much shorter time. The predictive capabilities of Altair's tools permitted Gemilang engineers to make smarter decisions faster, which is key to design innovation.

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