

CLIENT CASE STUDY

Powering India's railway revolution

A new rail vehicle system test facility to help develop India and Asia's next generation inter-city railway fleet



Railway



A new laboratory for rail vehicle systems and modules testing & validation with capacity of up to 4 test rigs



Projects delivered commensurate with programme requirements (even during COVID-19)



The new Hyderabad facility reduced client product validation costs

Expleo transformed a bare shell building, in the city of Hyderabad, into a modern, state-of-the-art laboratory with tailored test rigs, designed to improve the efficiency, and therefore costs, of vehicle test validation and, ultimately, certification.

Project background & challenge

In India, over 22 million passengers use the railway network every day. Their safety remains a paramount concern. Our client, a world-leading train and infrastructure manufacturer, aims to create a comprehensive suite of Vehicle Systems Testing facilities across the globe to accommodate the testing requirements of several product families and as such, ensure that the costs of vehicle testing on the rail networks are reduced.

“In our business, there is generally the perception that engineering services providers, such as Expleo, exist solely to provide support for resourcing and to help to complete a given project. However, Expleo can provide much more, in terms of a value add and a much broader range of services. With new technologies, new and improved processes and working practices, we can deliver tailored and innovative solutions to support the development and validation of products. Expleo truly is a solution provider: We provide top people and their skills, with complimentary tools and methods to support and to manage projects to reduce client burden and promote project delivery success across new and existing programmes.”

Rob Hirst

Global Account Manager of Transportation, Expleo

However, in the region of Hyderabad in India, it was lacking an adequate suite of facilities for train systems integration and validation. As a result, there were considerable challenges associated with vehicle functional validation and train car delivery. This was due in part to bottlenecks in vehicle test validation. The client needed to create a new test facility but was struggling to find the resources and supply chain required to manage and deliver this project, especially during the COVID-19 crisis. They didn't have the bandwidth to undertake the works themselves and didn't have access to the adequate skills locally to support the programme of works.

Solution

First, Expleo modernised the basic existing facility to create test rig laboratory that would be safer, more “human-friendly” and watertight. We then provided civil engineering services and installed hydraulic, pneumatic, and electrical equipment, in line with health and safety requirements. The next stage was the completion of a first test rig in partnership with one of our suppliers, with more rigs in the pipeline as, eventually, the testing lab will be able to accommodate several different product family variants. We oversaw procurement, supply chain design, project management. Thanks to our expertise in rail, aerospace and automotive domains, we co-designed the entire supply chain for the civil engineering and test rig team with a key partner and delivered all the necessary commodities. We project managed the entire programme on behalf of the client.

As part of our innovation and digitalisation services, we supported the 'left shift' of V-cycle product validation by providing simulation and functional modelling to help promote the virtual iron bird and virtual modelling testing. Finally, we provided validation & certification services. We are now working with the client to support the vehicle test schedules to help minimise the number and complexity of challenges encountered during vehicle testing out on the rail network during certification.

Outcome

Thanks to our expertise in rail vehicle testing and our global footprint – with three offices in India, we were able to use our unique and vast range of services, from civil engineering to project management, procurement, commissioning and certification, and share best practices to create brand new testing facilities.

Expleo delivered the whole programme at a competitive price and in line with programme expectations despite the challenge of severe COVID-19 restrictions in India and the need to coordinate with various partners and teams, scarcity of local skills and expensive resources. Testing vehicle functionality as part of certification is very expensive and so, the new facilities will significantly reduce this cost for the client. During the 'grand opening' of the laboratory, members of the client's senior management team personally thanked Expleo for their contribution and excellent 'on-time' delivery.

For further information, or if you have any other questions, please write an email to info@expleogroup.com