

Customer Škoda Transportation s.r.o.

Design & development of undercarriage tubes
for Loco 109E



Introduction of the Customer:

The history of ŠKODA TRANSPORTATION s.r.o. dates back to 1918 and today it is one of the leading European railway industry players. Locomotive production has been one of ŠKODA TRANSPORTATION's main businesses and since 1993 they broadened their sphere of activities to encompass the public transport. They included especially production of the modern low-floor tram cars 14T, 16T and later on 15T – For City Prague.
<http://www.skoda.cz/transportation>

Project description:

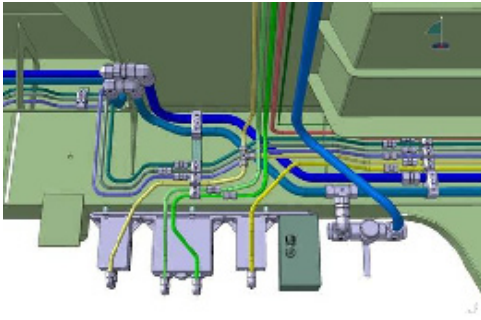
Locomotive ŠKODA 109 E is primarily intended for operation on tracks not only in the Czech Republic, but on main corridors of the European Union. It is a three-system electrical locomotive and it is intended for priority trains, where the locomotives power, speed and interoperability could be fully applied.

ŠKODA TRANSPORTATION requested us to develop and design undercarriage tubes and tubes on the bogie frame.



Task for Inter-Informatics:

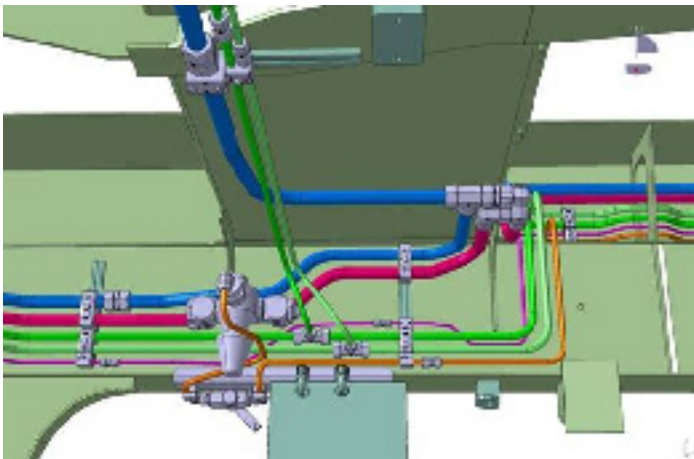
According to pneumatic schemes we should prepare comprehensive 3D models and drawings including support during production of pneumatic distribution on the undercarriage of Locomotive 109E.



Inter-Informatics' solution:

We had a 3D model of the car body shell of locomotive 109E as an input. We prepared a 3D model of the pneumatic circuits according to input data and pneumatic distribution schemes. Clash detection and investigation between pneumatic circuits and locomotive bogie and further equipment on the undercarriage was done in parallel. Once a complete clash investigation and a final validation by the customer were performed, we began a detail design of individual tubes, seals, fittings, brackets etc. Finally, it was followed by 2D creation and drawing documentation and prototype production support.

The project was executed in 2007. It was done in a 3D system Catia V5 and in the customer's PDM system SmarTeam. About 1100 hours were spent on the execution of the project.



"It was a really great opportunity how to get in contact with locomotive development, design and finally prototype production."

Ondřej Slavík,
Senior Designer

Benefit for the customer:

» Inter-Informatics prepared a comprehensive solution for the customer. Our specialists managed to solve all problems on their own, only with occasional supervision of the customer. This project plus previous one – design and development of tubes on bogie frame - **solved all pneumatic circuits in Locomotive 109E.**

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