



Project within Sustainable Production Technology

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Date 24/6 2014



Test production of a city bus rear end using 3Dlitecomp technology



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FFI in short

FFI is a partnership between the Swedish government and automotive industry for joint funding of research, innovation and development concentrating on Climate & Environment and Safety. FFI has R&D activities worth approx. €100 million per year, of which half is governmental funding. The background to the investment is that development within road transportation and Swedish automotive industry has big impact for growth. FFI will contribute to the following main goals: Reducing the environmental impact of transport, reducing the number killed and injured in traffic and Strengthening international competitiveness. Currently there are five collaboration programs: **Vehicle Development, Transport Efficiency, Vehicle and Traffic Safety, Energy & Environment and Sustainable Production Technology.**

For more information: www.vinnova.se/ffi



1. Executive summary

The aim was to test the 3 Dlitecomp technology on a rear end of a Volvo city bus. The project was done in 3 steps.

1. Design of the rear end
2. Test of core filling technology
3. Building of the rear end

The result is that the technology functions and that the the production cycle time is about 3 min for the core filling. The design has been compared with a carbon fiber structure and is as strong and stiff as the carbon fiber structure but to much lower cost. The rear end will be heavier but light enough for this application. The final product will be built in the late fall of 2014.

2. Background

Volvo Bus wants to build light city buses for electric and hybrid drive train. We have therefore wanted to test 3Dlitecomp Technology for the rear end of a city bus.

3. Objective

The objective was to test strength, stiffness, production cycle time and cost for the rear end.

4. Project realization

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5. Results and deliverables

5.1 Delivery to FFI-goals

The project satisfies the FFI goals well by lowering the weight and production cost for the rear end of a city bus. The project has increased the research and innovation capacity in Sweden and secured the competition strength for the vehicle industry.

The project has:

- Developed international strong research in Sweden
- Increased cooperation between small and large companies
- Increased participation from suppliers
- Increased cooperation between industry and University
- Decreased the cost and weight for a city bus body

6. Dissemination and publications

6.1 Knowledge and results dissemination

We increased our knowhow in the area and Volvo bus aims to continue together with us. The demand for electric and hybrid city buses worldwide will speed up the implementation of the technology.

6.2 Publications

We are not going to publish any scientific papers until we have done more tests



7. Conclusions and future research

The conclusion is that the technology functions so far, but more tests on other structures together with development of joining technologies are needed.

8. Participating parties and contact person

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