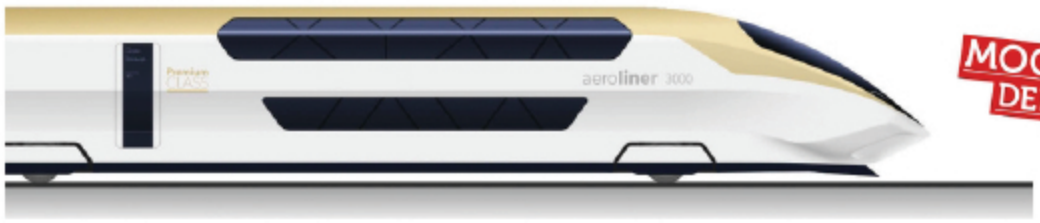
Railway Interiors International - July 2016



MOCK-UP DEBUT

INCREASED CAPACITY

A full-scale model will be used to demonstrate the Aeroliner3000 concept from **Andreas Vogler Studio** and the **German Aerospace Center (DLR)**, at the DLR's stand. Funded by the RSSB, the concept is designed to enhance the capacity of existing lines in Great Britain at dramatically reduced costs and environmental impact. The double-decked high-speed train concept was designed in line with the HS2 Classic Compatible Train Specifications 2012 for a maximum speed of 400km/h. Designed in line with the GB PG1 gauge, it is compatible with existing infrastructure on the majority of the rail network in Great Britain. Preliminary studies have also been conducted for possible application in high-frequency commuter service.

The mock-up, built by GETA Wangen, is being displayed to show the concept's feasibility, ergonomics and aesthetics. Components include electronically dimmable windows by Vision Systems, lighting by OLEDWorks, a new passenger seat by RICA, carpet by Forbo, leather by Lantal and fabric by Kvadrat.

Hall 2.2, Stand 405

133,595
TRADE VISITORS ATTENDED INNOTRANS 2014

NEW LAUNCH!

TRAM PREMIERE

The new ForCity Plus tram from **Škoda Transportation** has a capacity of 345 (including 69 seats). The fully air-conditioned vehicles are equipped with a visual information system, which also includes devices to enable visually impaired passengers to communicate with the driver. A tilting platform facilitates entry and exit for passengers with restricted mobility. A system with six internal and six external cameras is installed to ensure passenger safety. The vehicles have a gauge of 1,000mm and comprise five sections. The first and last bogies are fully pivoting.

Škoda Transportation will also debut its new double-decked multiple unit for push-pull operation by DB Regio on the Nuremberg – Ingolstadt – Munich route in Germany.

Hall 9, Stand 302

CUSTOM LEATHER

Its ability to create custom leather solutions will be the main focus at **Boxmark**'s stand. The company says it can offer an almost unlimited variety of styles for both prototypes and serial products. Design options include perforation, embossment, printing, laser engraving and contrasting or decorative stitching.

Boxmark's Emotions structural embossments are available for many colors in various leather collections – there are more than 3,000 options. Unique effects can be produced on embossed surfaces through additional processing using special dyes and gloss techniques.

The company has an in-house sewing room and saddlery. Its skilled staff can produce everything from functional seams to ornamental and custom ones. The company also works to ensure an ergonomic design and precise fitting, aiming to optimize comfort and ambience.

Hall 3.1, Stand 214

MAIN: There are two toilets per car, on the lower level

BELOW: A cross-section showing the stepped-height floor/ceiling between the lower and upper levels

The studio also reports that very promising preliminary studies have also been conducted regarding the train's possible use for high-frequency commuter service in and out of London with a maximum line speed of 160km/h. Fitting into the GB PG1 gauge, the double-decked train could operate on most of the rail network in Great Britain, and it is fully compatible with existing tunnels, bridges and platforms.

The 200m trainset comprises 20m end cars and 17m coaches. Each has four individually powered and controlled wheels at the very end, forming a virtual Jacobs bogie. The train has a maximum axis load of 17 tons. However, the individually controlled active wheels are designed to minimize wear on the tracks and wheels.

Light reading

Vogler says lightweight construction techniques can reduce the weight of the car body by 16%, while optimized aerodynamics would reduce operating and maintenance costs while also limiting carbon dioxide and noise emissions. "Using lightweight construction principles we can create a double-decked car for the GB PG1 gauge that also saves space, enabling us to meet TSI-PRM requirements."

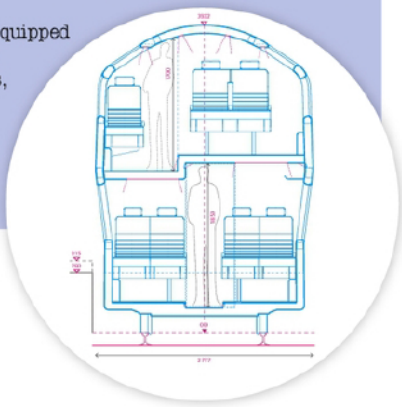
The lightweight coach structure would consist of curved steel tubes that are laser-welded together. The design includes large windows with very slim diagonal posts. Each coach would have two small airline-style toilets and six priority seats on the lower deck.

FULL-SCALE DEMONSTRATOR

In the space of two years the AeroLiner3000 train has made it through a feasibility study and now a 1:1 demonstrator is being built by GETA Wangen. The demonstrator will be shown at InnoTrans 2016 in Berlin, Germany on September 20-23.

In addition to allowing the industry to preview the interior design and ergonomics, the demonstrator will also be used to test passenger flow, maintenance and at-seat service. Both the upper and lower level will be accessible.

The demonstrator will be equipped with electronically dimmable windows from Vision Systems, illumination by OLEDWorks, a newly developed seat from Rica Seats, and various materials from Forbo, Lantal and Kvadrat.



ABOVE: The lower deck features 39 standard-class seats, with six priority seats per car

Many comfortable and even luxurious means of travel don't offer full standing height – for example small private jets, some yachts, cars and helicopters – but they are still elegant

Andreas Vogler, founder, Andreas Vogler Studio

Flexible interior

The AeroLiner 3000 coach has been designed to enable maximum flexibility. For example, the split-level floor could be modified to accommodate seats of various sizes. The central coach is envisaged with a multifunctional interior that would give flexibility to the operator. It would feature platform-level wheelchair access and a toilet on the lower deck. The upper deck could be used for an automated container-based luggage transportation system, currently in the early conceptual stage. The 200m trainset could accommodate 627-700 seats.

"Passenger comfort would be achieved at 830mm seat pitch using thin aluminum seats made by Finnish manufacturer Fica Seats," says Vogler. "Comfort would be further increased by minimizing noise, vibrations and pressure variations, improving air-conditioning and including interactive smartphone-based passenger information and control."

The windows would feature electronically dimmable glass, which could control the amount of sunlight entering the cabin, subtly preparing passengers for upcoming tunnels while also supporting the HVAC system in all seasons.

Although the main objective was to demonstrate the viability and configuration of a double-decked train for Great Britain's infrastructure, the designers also made a considerable effort to create a feeling of elegance that would enhance passengers' experience of the space and the large windows.

"The stylishness of train travel in the Victorian era has mostly been sacrificed to vandalism-proof functionalism," says Vogler. "Trains also often lack the elegance found in airline cabins."

Andreas Vogler Studio is home to architects and industrial designers with experience in space-travel and airline design, who are familiar with designing small spaces, while DLR has long-standing experience in high-speed double-decked train design, with its ongoing NGT research project. "Many comfortable and even luxurious means of travel don't offer full standing height – for example small private jets, some yachts, cars and helicopters – but they are still elegant," points out Vogler.