



Interdisciplinary Product Development

EvoBus Interior Comfort and Climate Interface

Marcel Erbe, Irina Jäger, Matt Severin, Sarah Lindne

Integration of Entertainment and Comfort systems

USB Charging, Climate Controls, Phone Holders and SetraConnect



The focus of this project was the enhancement of passenger comfort within the confines of the interior of EvoBus coach buses. This was achieved through 3, separate parts that work in conjunction with one another to interface into a thermal fabric prototype that would allow for individual control of seat climate. For this process, a dual system approach was taken to generate both an electronic, app based controller and seat mounted physical controller. The physical controller (featured above and left) uses LED indicators to identify the climate mode (heating or cooling) and intensity of the thermal fabric. Additionally, a USB was mounted internally to allow for more convenient phone charging, while the shape of the buttons act as a cable wrap to reduce interior clutter. This works extremely well with the integrated phone holder shown above in the middle pictures. With the addition of a small nylon loop into the seam stitching of the chairs, the clear plastic phone holder gravitationally orients, negating the issues created by reclining the seat in front of you. These physical portions of the designed solution also work to enhance the SetraConnect app platform (above right), which currently provides wireless access to climate controls, real time trip data and entertainment features with room for scaling to meet different needs.



Setra coach bus interiors are modern, stylish spaces that attempt to maximize passenger comfort through clever ergonomics and precision engineering. However, even with all of these features, traveling long distance inside a bus is still a choice of convenience and cost, rather than comfort. To stay competitive in evolving travel markets, bus interiors must evolve as well and offer features that distinguish themselves from the competition. The Tether project, takes personalized climate control and entertainment, and places it in the hands of bus passengers. Through a clear thermal textile interface, travelers can increase or decrease their seat temperatures to maintain a comfortable level. Additionally, the climate control contains an integrated USB charging port and a slim, cable wrap design to minimize cabin clutter. The design of the control conforms to the design aesthetic of the interior allowing the piece to be seen but not dominate the interior space. The cell phone holder works in conjunction with these design ideals, offering passengers the ability to watch movies or listen to music effortlessly, while charging their phones. When not in use, the small nylon strap is unobtrusive to the clean design of Setra interiors. The SetraConnect app platform represents the final piece of our design solution. Offering passengers integrated infotainment options wirelessly, interconnecting passengers and increasing the utility of the bus interior.

Kontakt

Prof. Dr. Martin Luccarelli
martin.luccarelli@reutlingen-university.de
+49 (0)7121 / 271 - 8039