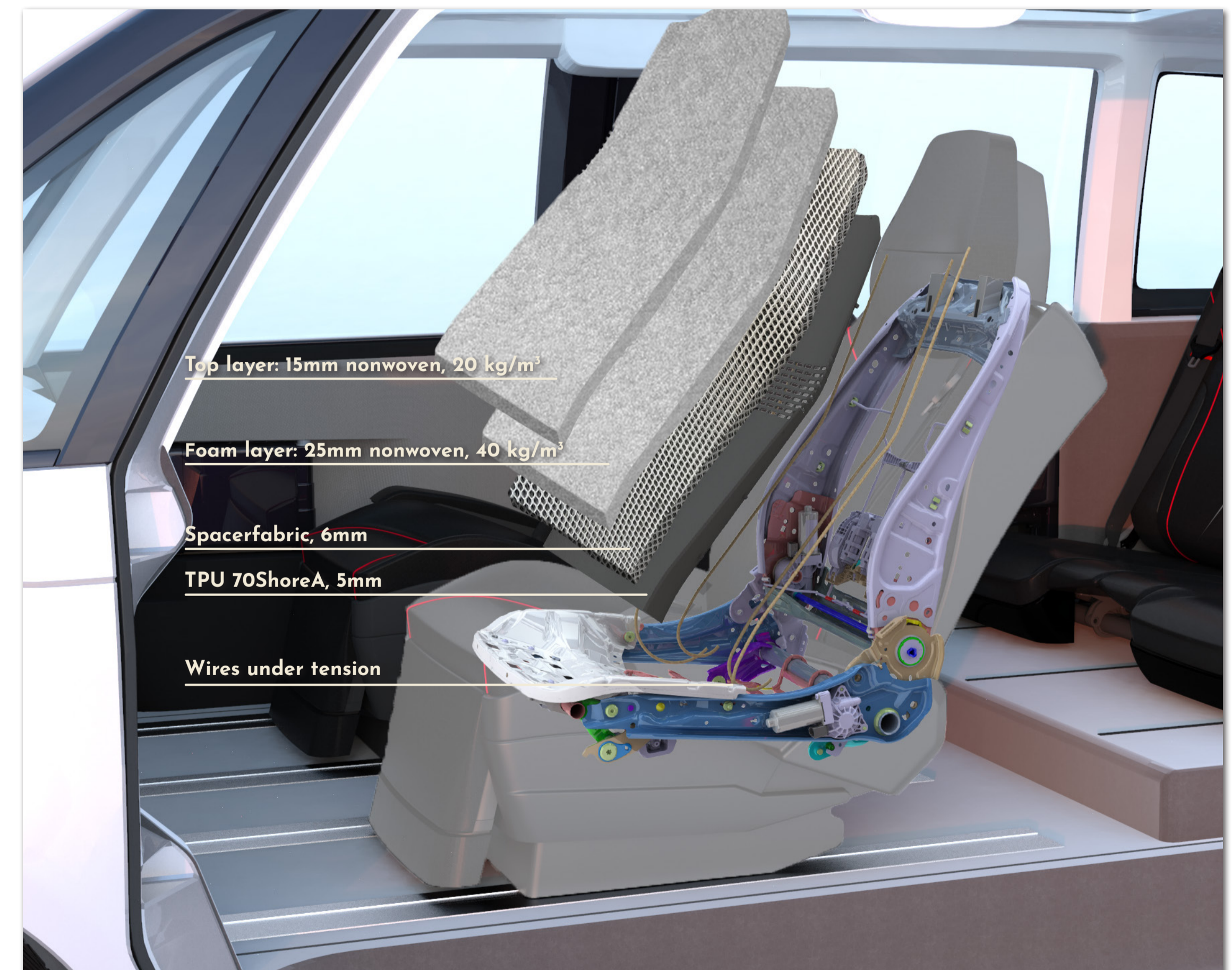


A CONCEPTUAL DESIGN FOR A RECLINING CAR SEAT BASED ON SPINAL CURVATURE

The automotive industry is looking at improving their new cars in different ways. Comfortability is a hot topic since it is dependent on so many aspects. The entire interior of the car influences how comfortable the end user is. Furthermore, autonomous vehicles are rising. That means that people have a lot of time to do other things while commuting, an activity that sticks out is relaxing and sleeping. The reclining of a car seat usually is arranged in one joint between the seat pan and the backrest. That means that the entire backrest is straight. However, the spine moves differently. This research shows that especially in a laying position the spine is quite rounded. To be able to support the body and optimize comfort, it would be ideal to have the seat follow this movement of the human body.

Therefore the objective of this thesis was to create a working principle for a reclining car seat that follows the spinal movement. After the research, ideation and conceptualization were performed. From this, a final concept direction was chosen and improved on the hand of anthropometric design. In the end, a simplified working prototype was constructed. The evaluation test was perceived as relatively good but also showed improvement points, as stated in the final recommendations. To conclude, the principle of creating a more rounded backrest works, and the prototype scored slightly lower on comfortability than the original seat. The concept has the potential to improve the comfortability of car seating.



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seat based on spinal curvature
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Integrated Product Design

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