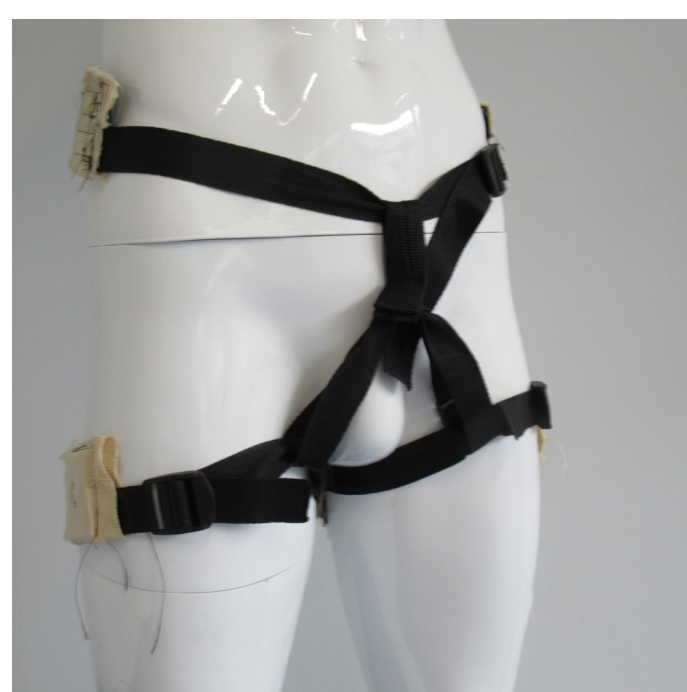


Prototype Progression

Multiple design sprints led to the final design. At the end of each design sprint prototypes were tested and the most promising was continued

1.



2.



3.



4.



DESIGNING A KITEFOILING HARNESS FOR THE 2024 OLYMPIC GAMES



The goal of this thesis was to propose a new design for a kitefoiling harness for the Dutch Olympic team, which does not cause major discomfort, stays in the same location on the body and properly supports the body of the athlete. In the discovery phase, three main problems with existing harnesses were found.

1. As the harness is pulled up the body while kitefoiling, the legstraps put an uncomfortably large amount of pressure on the groin.
2. Ideally the attachment point between the harness and the kite sits around the crotch, but as the harness is pulled up the attachment point moves as well. Furthermore, the attachment point moves around too much in general.
3. Last, the shape of the harness does not always fit the athlete well, causing weird pressure points, which are perceived as uncomfortable.

The design approach for this project was prototype focussed, with every design stage being tested and validated. First, general concept directions were designed and evaluated. Two subsequent design sprints were then completed to solve two pain points identified during evaluation. The outcomes were tested with members of the Dutch Olympic team.

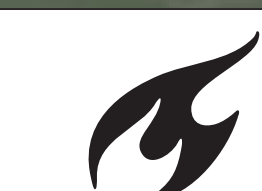
The final proposed design is radically different than existing kitefoiling harnesses on the market. The new design removes the spreaderbar and makes the attachment point much smaller. Additionally, it contains much bigger legstraps that keep the entire harness in place and are connected to a hard belt that is custom moulded to the shape of the back of the athlete.

During final testing it was found that, overall, the new design does not perform better than the current best harness on the market. The freedom of movement is greatly reduced and the leg straps were perceived as very uncomfortable, partly due to a much higher pressure from the kite in manoeuvres than anticipated. Even though the design is currently not better than the compared harness, some suggested adjustments could have a positive impact on the discomfort that the athlete perceived.



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