



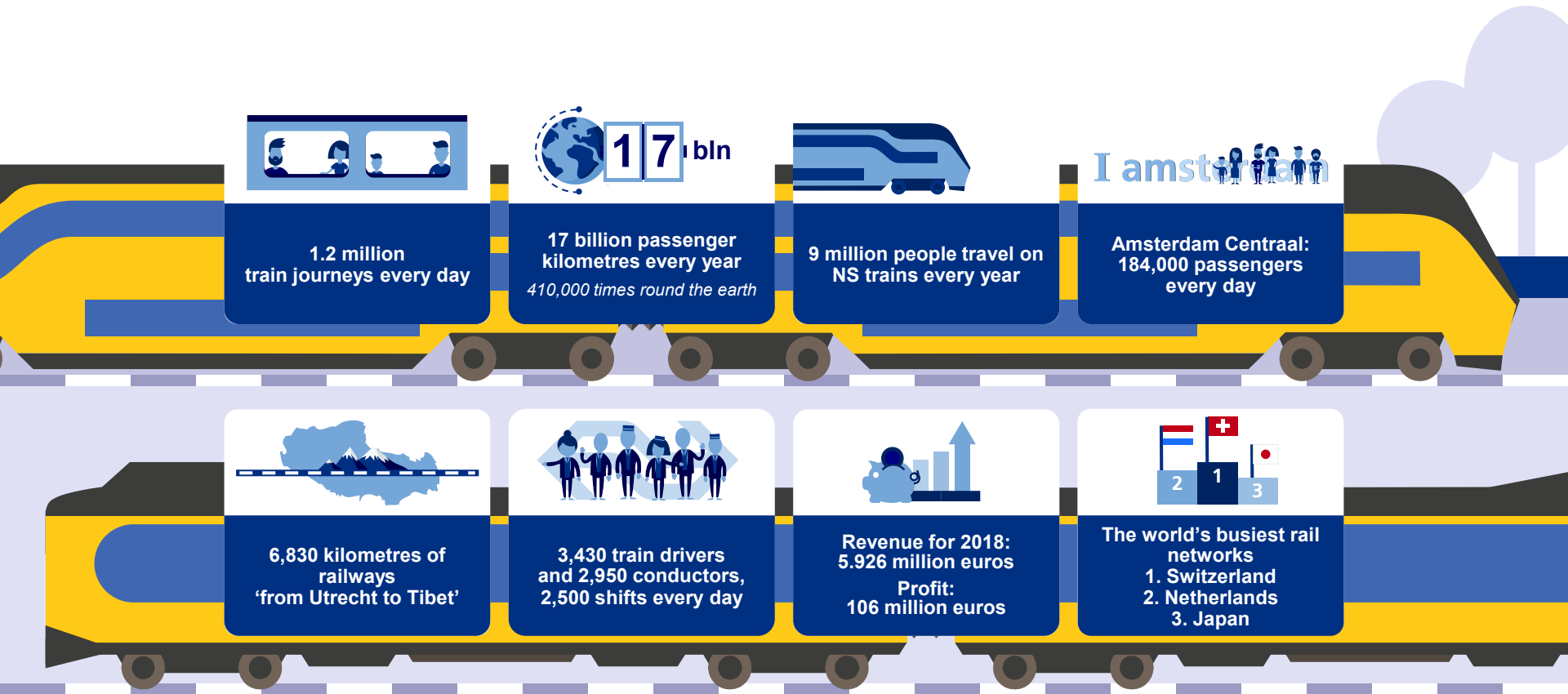
Human Factors at Netherlands Railways

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NS at a glance



Visual: Passenger trains per day in NL



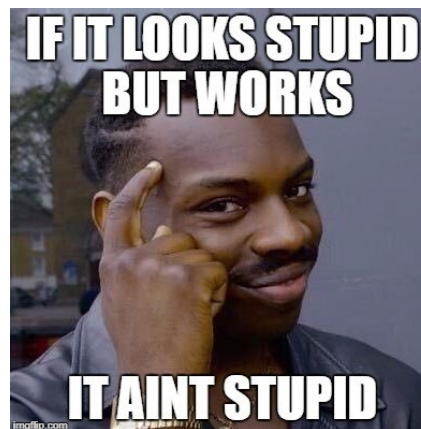
Source: Yannick Brouwer

What is Human Factors?

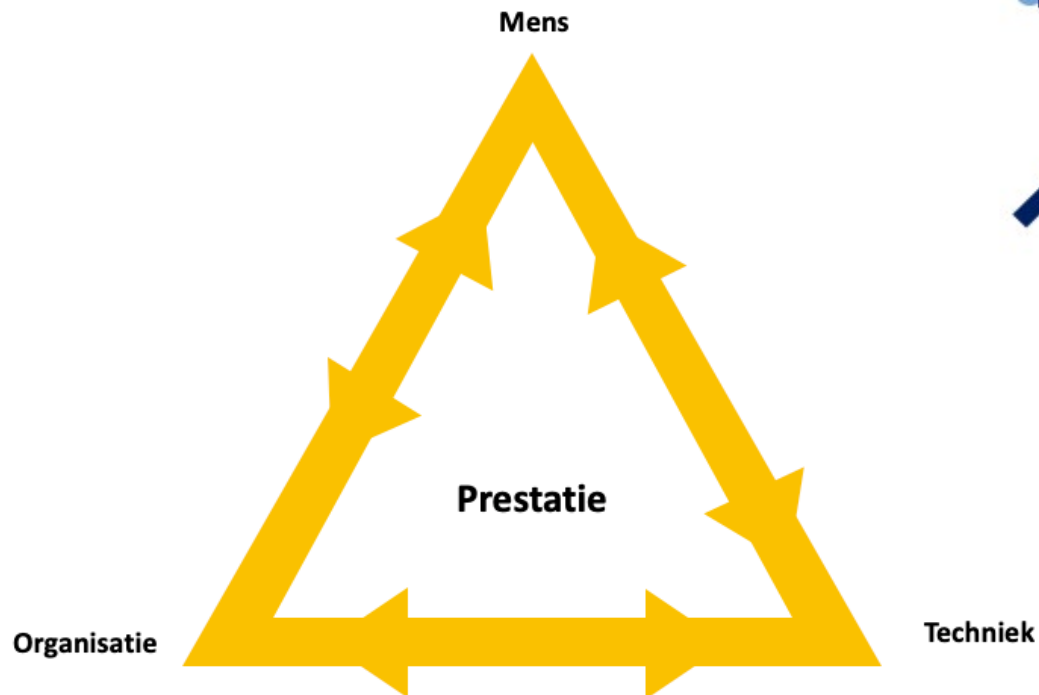
Why UX research is important



What is Human Factors?

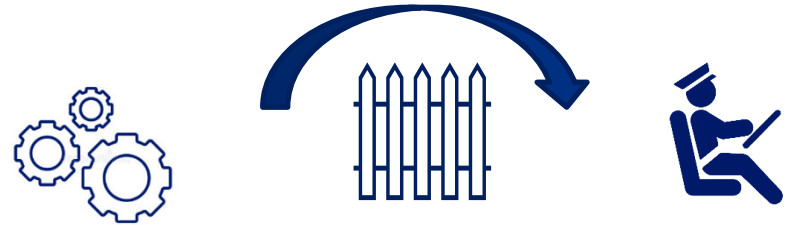


What is Human Factors?



Human Factors philosophy

- Classic 'left-over' principle



- 'Joint cognitive system'



Why does Human Factors expertise belong in projects?

Common misconceptions in projects and how to look at them differently:

From

To

'Left over'- principle in design



Explicit design of interplay between human and system

What does the user want



What *helps* the user

Technology driven



Performance driven

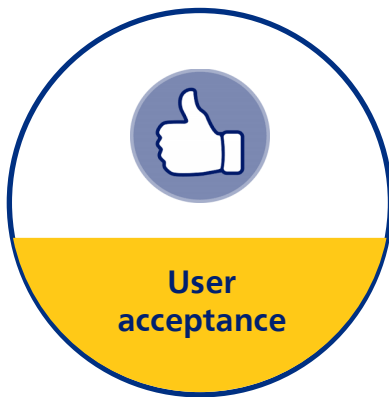
Assess impact on the user afterwards



Take impact on the user into account from the start

By integrating the perspective of human/ end user from the start of the design or process improvement, the conditions are created for a successful end result.

What are the benefits of Human Factors?



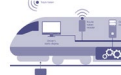
So... What exactly do we do?



Develop interplay between human and technology in designing innovations



Research impact on human factors (simulator, eye tracker, design experiments)



Study the impact of changes on human factors (i.e. new train designs, organisational changes)



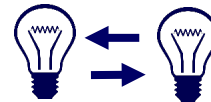
Incorporate human factors requirements in innovations



Develop and implement human factors interventions with impact (i.e. fit to drive toolbox)



Support incident investigations

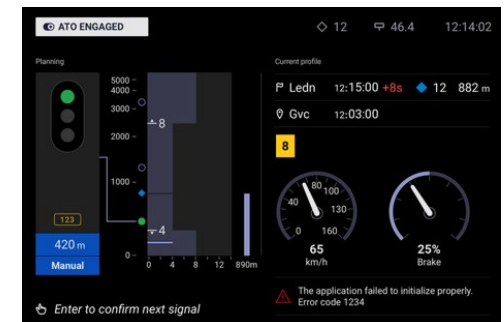
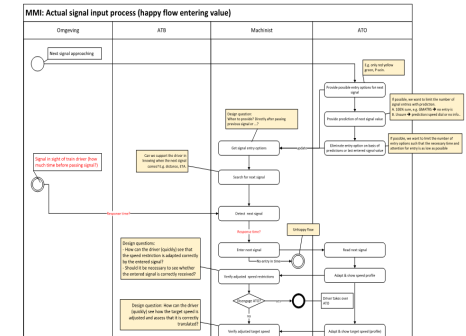
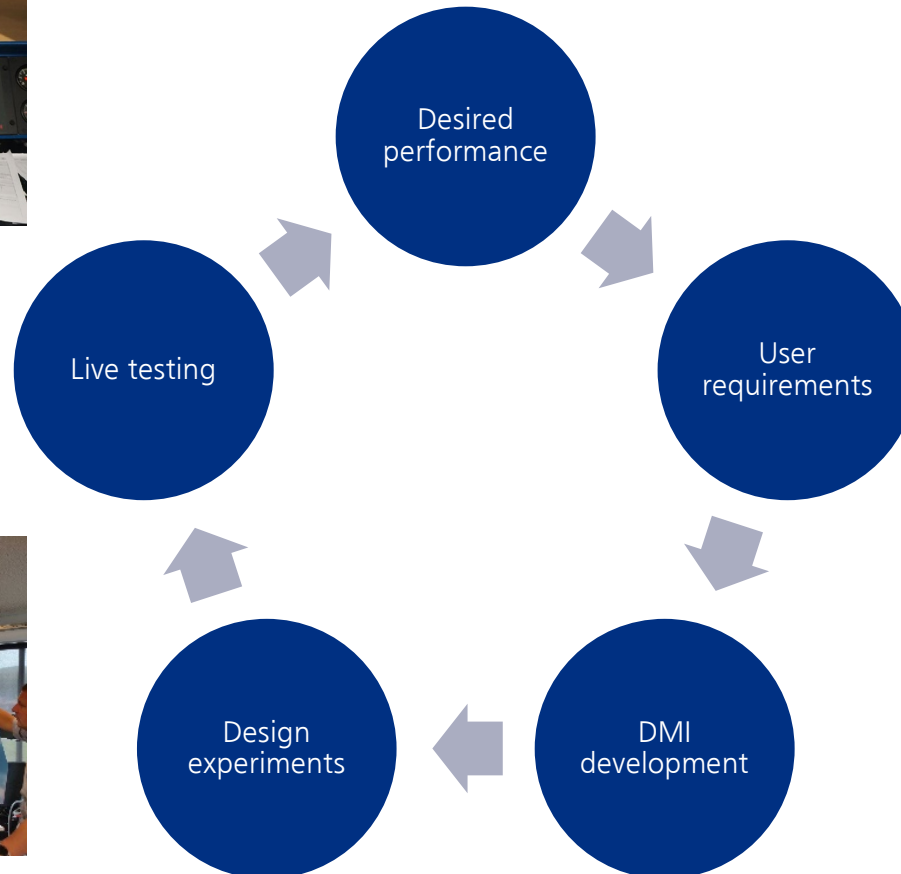


Develop long term strategies and knowledge in the field of human factors. Knowledge sharing

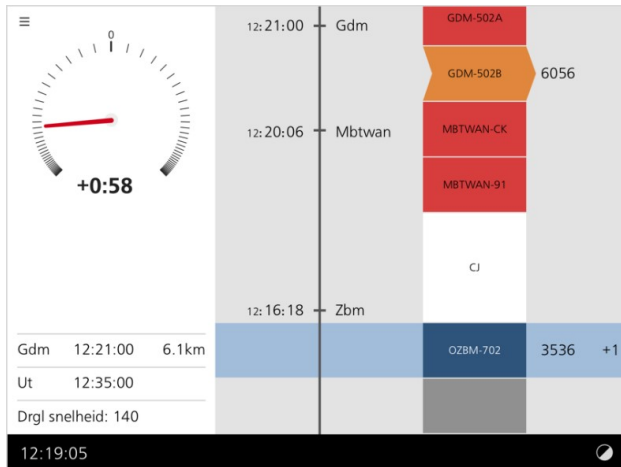
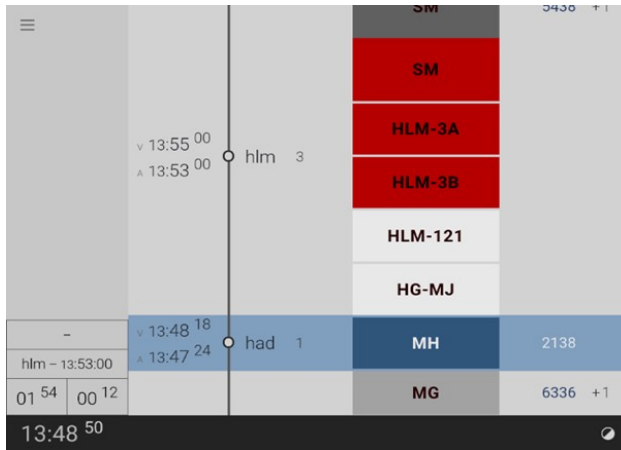


(Inter)national cooperation with experts in the field of railway and human factors

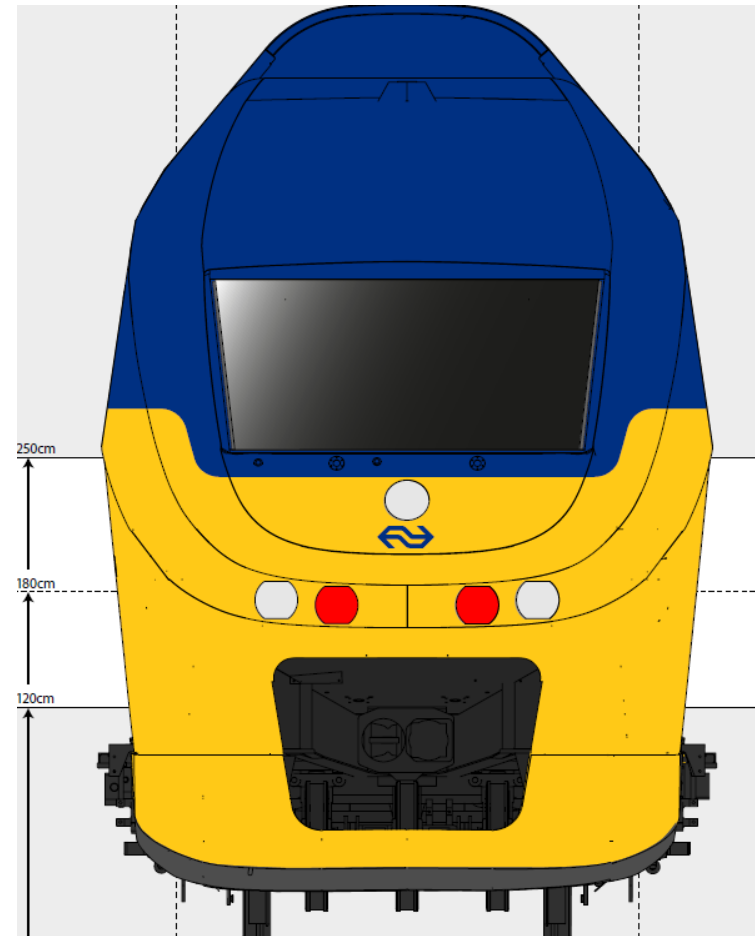
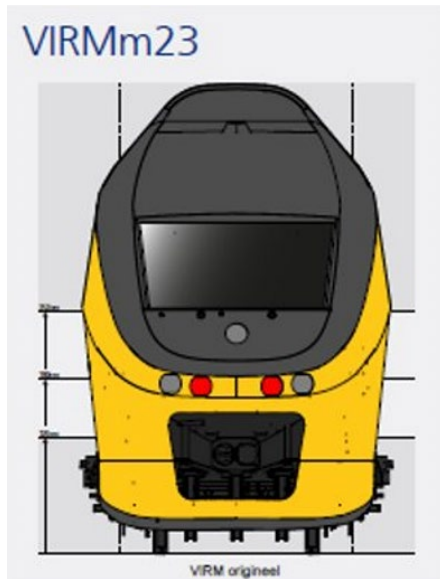
ATO human machine interaction



Development of Driver Advisory System



Specification & alteration of new train design



What's next?



Thank you for your attention!

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