

From vessel to office

Designing work transformation

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Designing work transformation

Understand current work

- Reality is rich
- Pragmatic & psychological aspects

Understand future opportunities

- Stakeholders' assumptions

Method: Service experience design



Remote pilotage system as a service for pilots

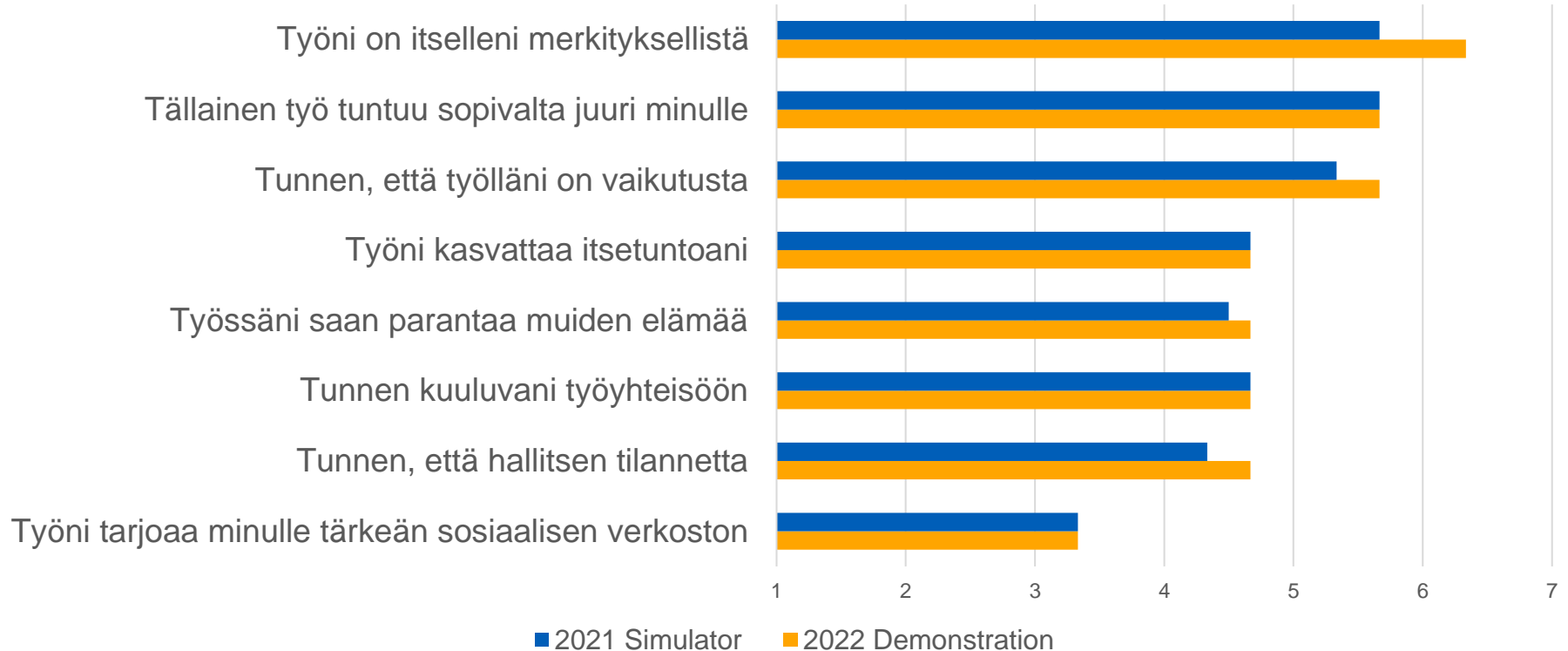
At this point of development, technology testing gets the priority

One day, new tools should

- serve the employee to excel at work, optimize workflow
- cover all services needed from the first contact to reporting
- support meaningful remote work

Meaning of work

Indicative feedback from 3 pilots only



From vessel to office – Positive

Saving time

No boat transportation

Improving pilot safety

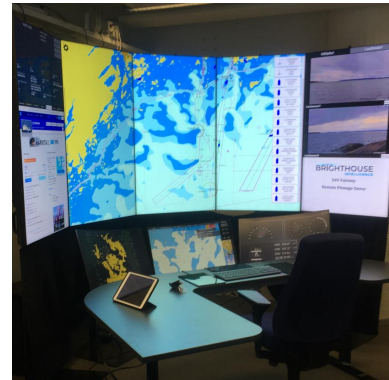
No dangerous climbing to ship

Fitness not a requirement

Remote work with a broken leg ok

Upskilling

Pioneer work can be exciting



From vessel to office – Negative

Decrease of social contacts

Thin contact to crew

Safety of vessels

Pilot is safe, how about the others

New tools, new challenges

The best solutions are not here yet

Increased cognitive load



From vessel to office – Mix new with old

Working hours

Pilots prefer the current rhythm:
full 1 week on duty, 1 week off

Remote control centre location

If old rhythm, no matter where:
Sleeping 1 week in the centre



The Harmaja lighthouse is an active pilot station with 10 pilots, 10 boat men and a cook.

<https://johnnurmisenisaatio.fi/en/pilots-save-the-baltic-sea-every-day-clean-baltic-sea-cruise-to-harmaja-and-suomenlinna/>

The Ship Sense

- **The current trend is that pilots physically navigate the vessel (approx. 50 – 90% procent of times depending on the fairway, vessel type and captain)**
 - From pilot station to harbour limit after which the captain takes over
 - From pilot station all the way to mooring
- **It has become a habit, reasoning in general**
 - Company policies
 - The lack of experience amongs captains to maneuver their vessel in Finnish waters
 - Challenging conditions e.g. Ice navigation, hard wind, new mooring position etc.
 - To avoid tug costs

Due to this, the pilots have gained a wide experience base of different type of vessel behavior, navigation and maneuvering in various conditions which supports decision making also in situations when they are not onboard.

- Future considerations: How to maintain this expertise also in the era of remote piloting?

Some Key Points

- **Work ergonomics**
 - It is more tiring to monitor and operate from a remote operation center than being on the vessel
 - Smart presentation of information to support SA and decision making (right information available at the right time, easily and clearly)
 - Work schedules, breaks – general coordination of work
 - Work station ergonomics, location of critical information sources etc.
- **It seems that during remote operations, the remote pilot tends to be more careful to ensure safety than onboard (e.g. bigger CPA)**
 - Technological development and experience creates trust in the system
 - Experience in the remote piloting operations and successful operations increase efficiency still maintaining safety
 - Or maybe this is just a good thing?