

Dutch Caribbean Coast Guard



“The research and transformation towards a more operationally deployable vessel”



About DCCG



Save lives, prevent smuggling and protect the environment.

Staff Curacao Parera Naval Base

Substation Hato:

- 2x fixed wing
- 2x rotary wing

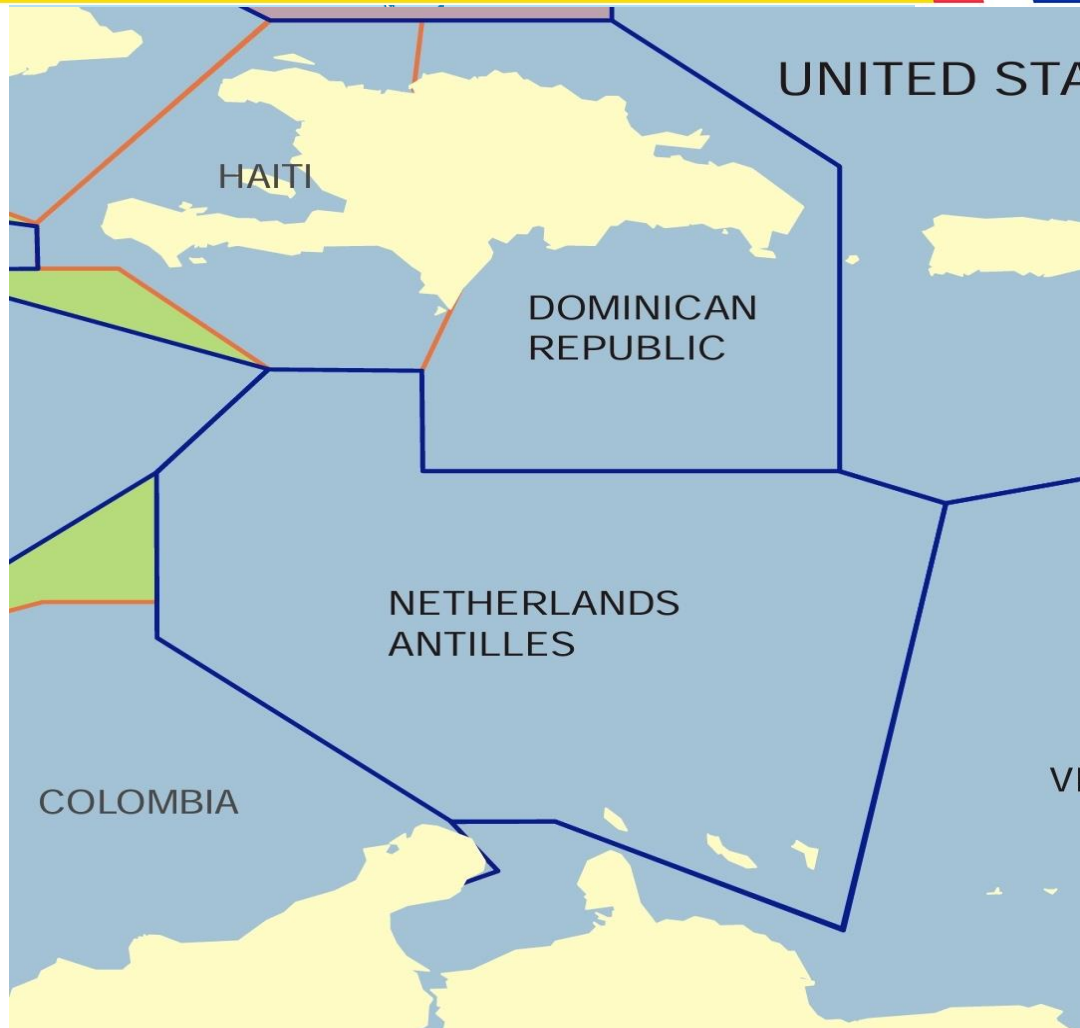
Maritime substations:

Curacao, Aruba, Saint Martin

- 3 x CG Patrol boats (42m)
- 12 x Alu Interceptor (12m)
- 5 x inshore patrol (7m)

Interesting facts 2024:

EEZ:	81.000 km ²
Narcotics:	15000 kg
Weapons:	6
Illegals:	88
Routine checks:	1500
SAR:	225 (420 people saved)



The Challenge



Introduction of 12 new 38ft interceptors in 2018 (FMS).

- SD+powerful engine (38kts), lower pilot house
- Protected
- Solid construction
- Happy on first sight

Areas of improvement:

- Trim
- Ergonomics, seats and injuries
- Failures and extreme maintenance costs SD



“Our operators are experiencing severe issues with the seats and stern drives onboard their craft resulting in crew health issues and injuries as well as increasing repair costs.”



The investigation (1)

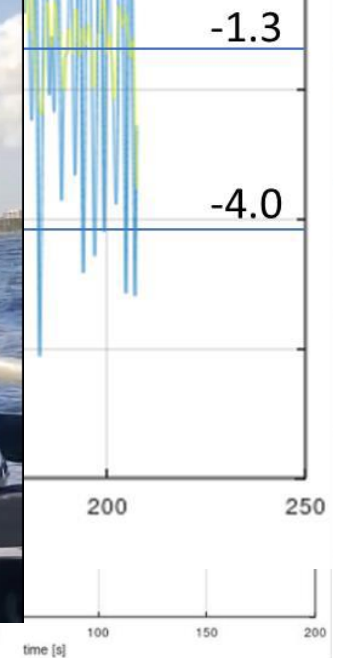
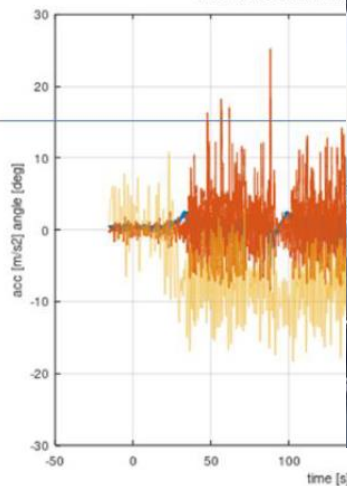
Underway testing!

- Trim, ergonomics and impact

Trim:

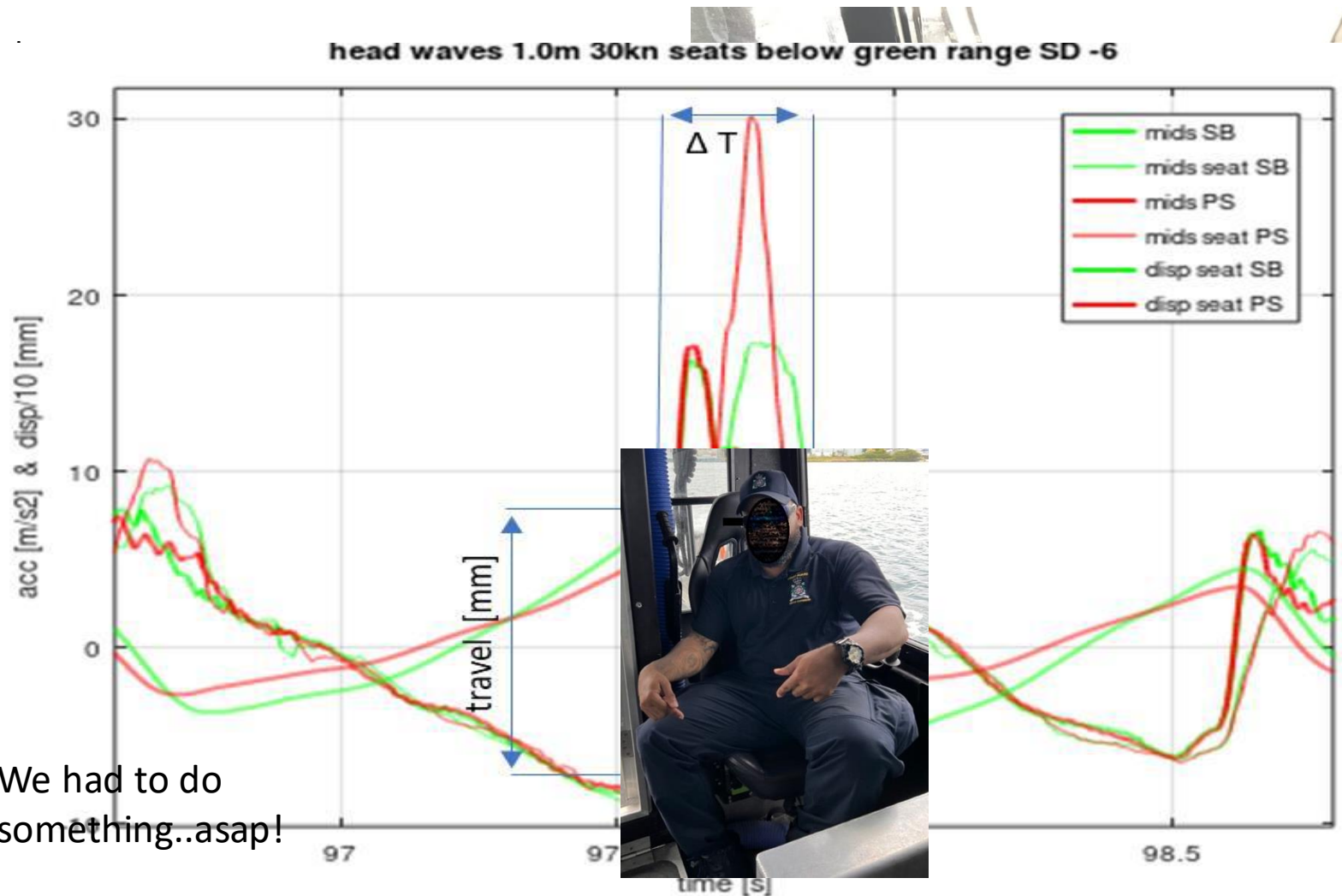
- Visibility
- More impact
- Hardly to go
- SD failures

head waves 1.0m idle + 30kn seats blw green SD -6





The investigation (2)





The solution

General says: “NO!”

Results in FRL:

- Correct trim angle
- Provide proper ergonomics for driver and navigator
- Change seats (10’')
- Reduce SD failures

Response:



Boat builder:

- Use interceptor plates
- Redesign console and integrating seating positions (3rd party)
- Upgrading COTS available seats (not 10’')



SD manufacturer:

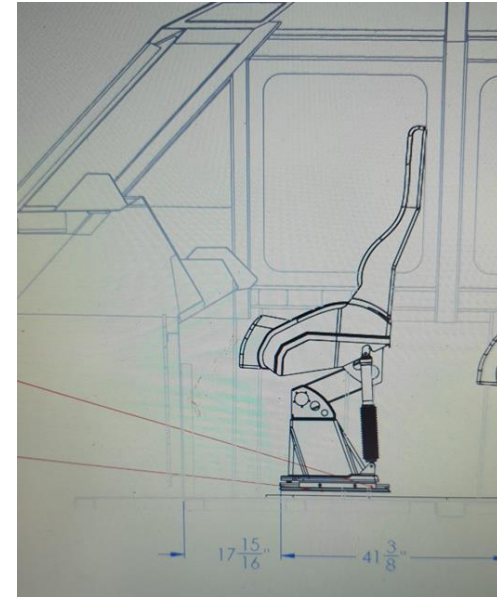
- Enforced gymball mount
- Use trimtabs



The solution

Ergonomics and seats

- Relax seating position
 - > neutral spine
 - > alignment with helm, throttle and window
- Adjustable (height and FWD) seat and footrest
- Great damping characteristics
 - Incl lateral impact
 - Crew confidence
 - > keeps them seated



Testing and finetuning



Underway testing:



The solution: trimtab vs interceptor plate



Tab:

- Corrects trim
- Manual control -> needs more knowledge/training
- Moderate maintenance
- Low pricing

Crews favorite

"We feel less drag and fall after a wave on tabs compared to interceptor plates and are thus able to better maintain higher speeds (above 25mphs)"



IC:

- Corrects trim
- Automatic control functions
- Easy to maintain
- High initial price

My favorite... ->dynamic testing



Conclusion and way ahead

Conclusions:

- Trim, seats and ergonomics improved
- Do (underway) testing.
- Find good partners-> nail the root causes

Way ahead:

- Repeated driver training ->ownership
- Operational envelope -> limits!
- Contribute in NATO study
- Adjustments in cabin (environmental)

Future boat -> suggestions?

Thanks for your attention!

