

ROBOT „SPOT“

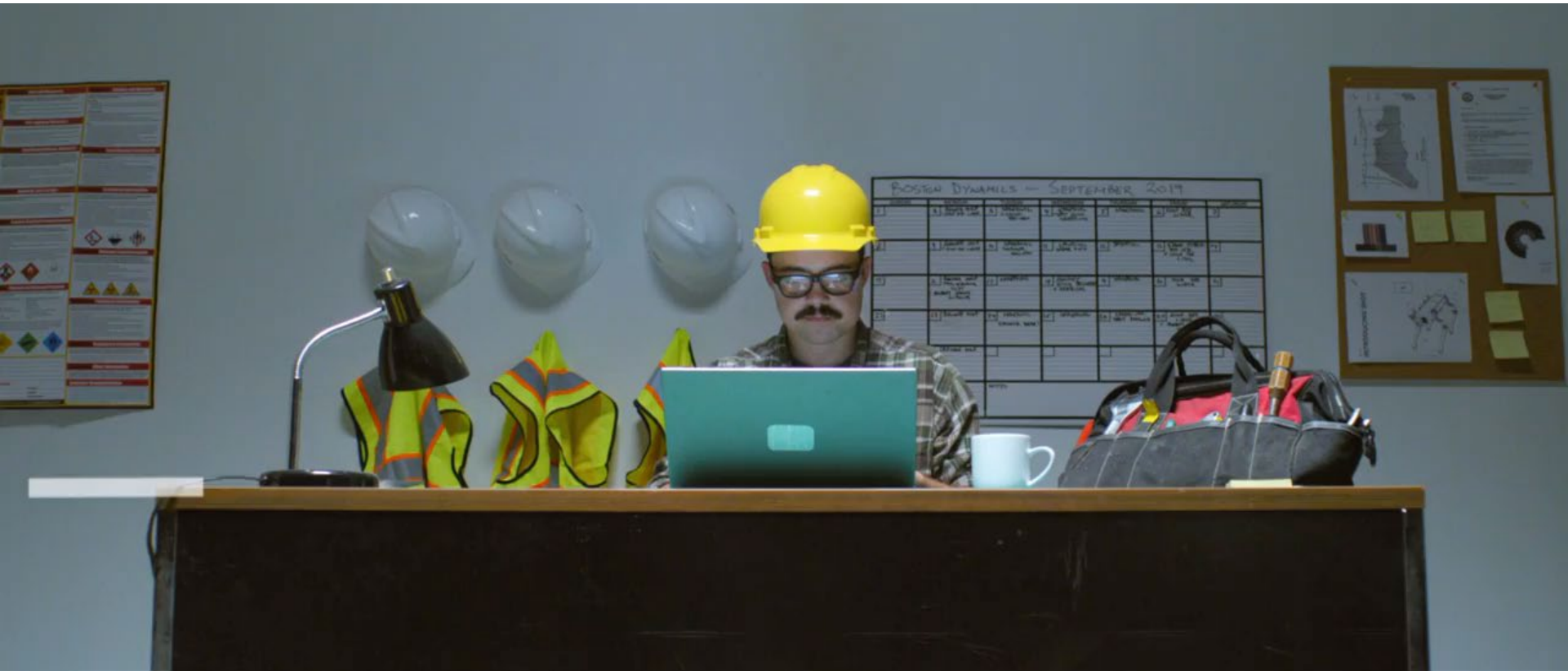
AS A BRIDGE INSPECTOR (ASSISTANT)

IAPH Sustainability Awards 2023

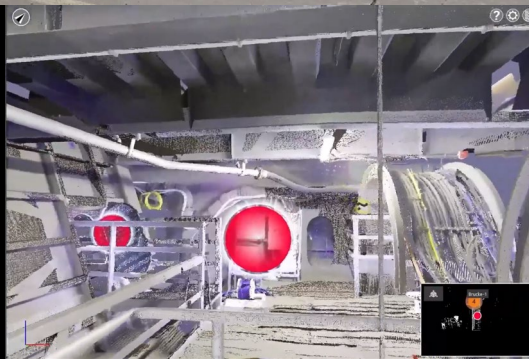
Uli Baldauf, Head of Research & Development, Hamburg Port Authority

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Who is SPOT?



Port Demo Day



Use Case: Bridge Inspection



Exploring the Inner Depths of the Bridge

Challenging working conditions inside the bridge: Poor lighting, sound, and temperature extremes

Conventional Tools for Bridge Inspections

Except for the digital camera there are not many digital tools...



Set Up a Project

Scope:

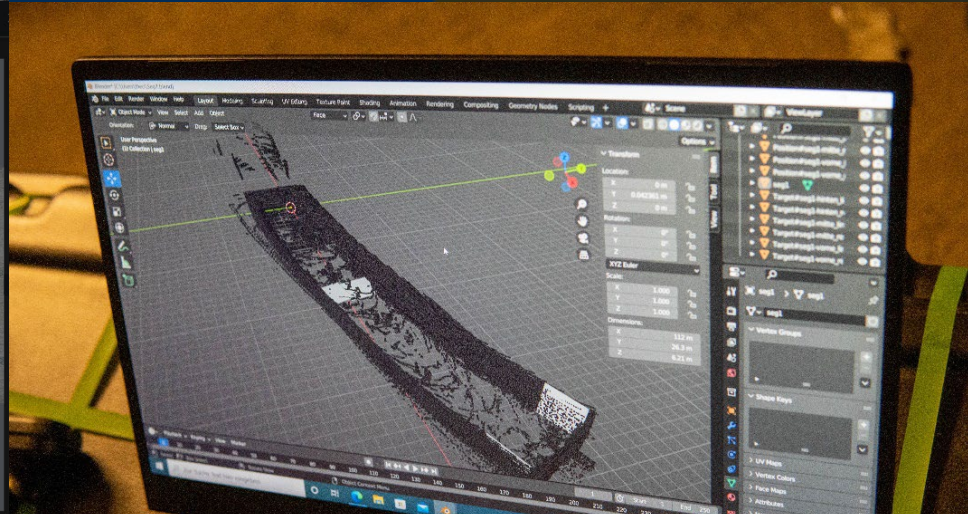
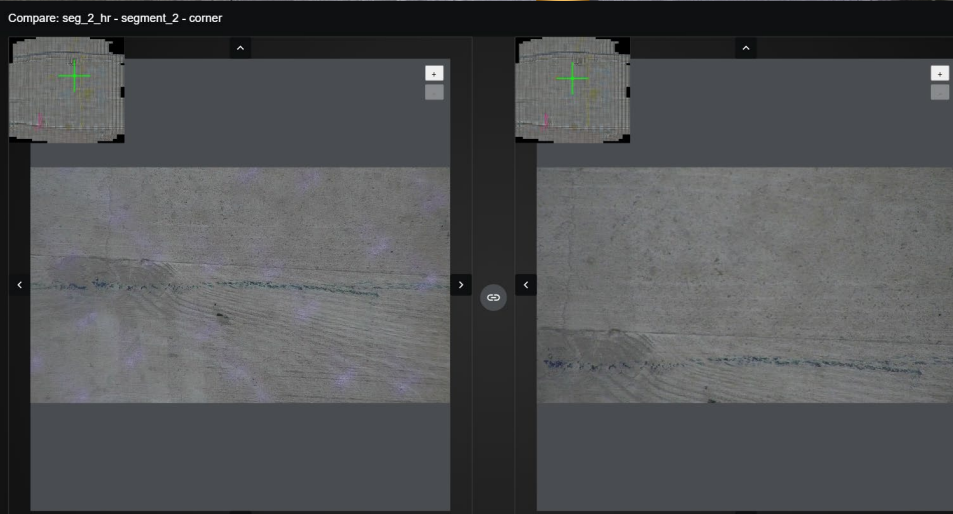
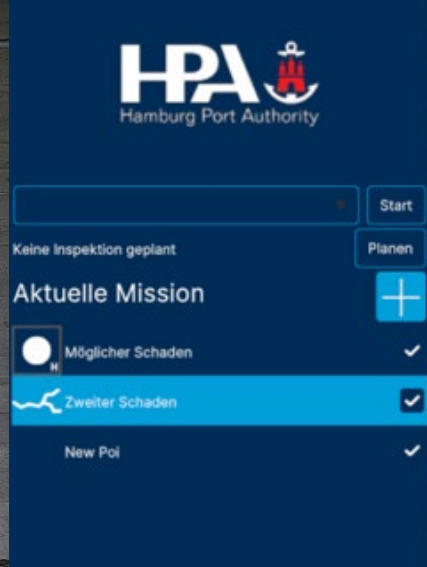
- Spot walks through 1000 m inside the bridge – autonomous
- Spot takes pictures with 30-times optical zoom
- Spot creates point clouds
- Digital Twin of the bridge is generated
- Pictures have coordinates and time-stamps
- A dashboard for comparison of pictures is provided
- Cracks and damages are assigned in the digital twin
- Cracks and damages are shown via augmented reality within the bridge (demo case)

Time:

01/2022 – 06/2023



Impressions



Thank You!



Uli Baldauf, Head of R&D



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