

Autonomous interventions: Line painting robot

SESSION 5: Smart intervention

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Final Event

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Maintaining integrity, performance and safety of the road infrastructure through autonomous robotized solutions and modularization

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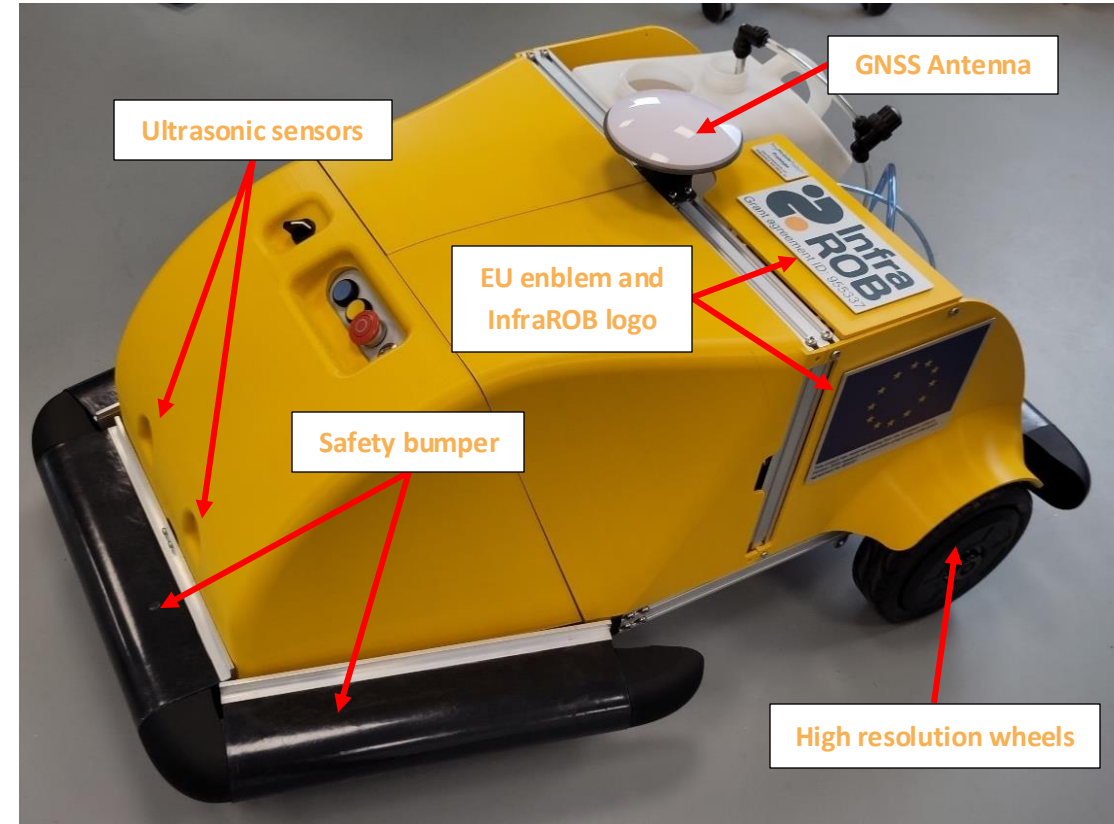
Objectives of the project

- Show that the robot can mark both solid and dashed lines
- The robot must paint lines on its own
- Painting accuracy must be within 1 centimeter
- The robot must operate safely at all times



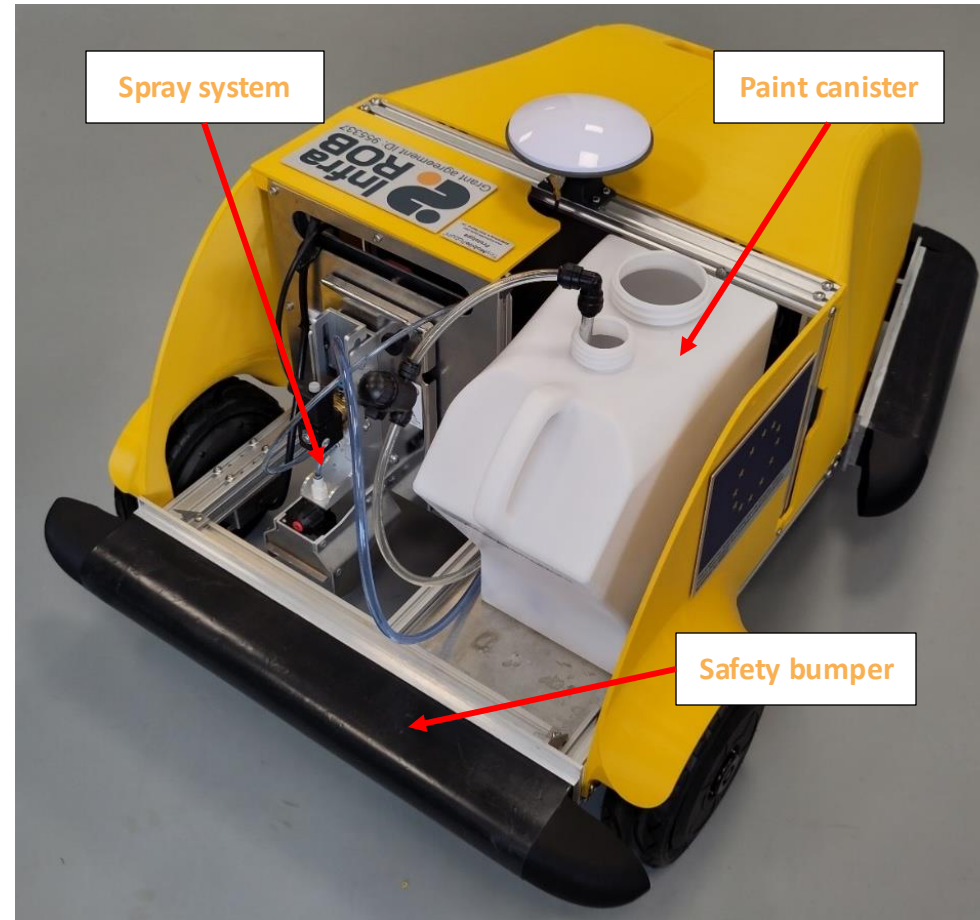
Overview of line marking robot

- Positioning technology – RTK GNSS
- Improved algorithm for GNSS hindered areas

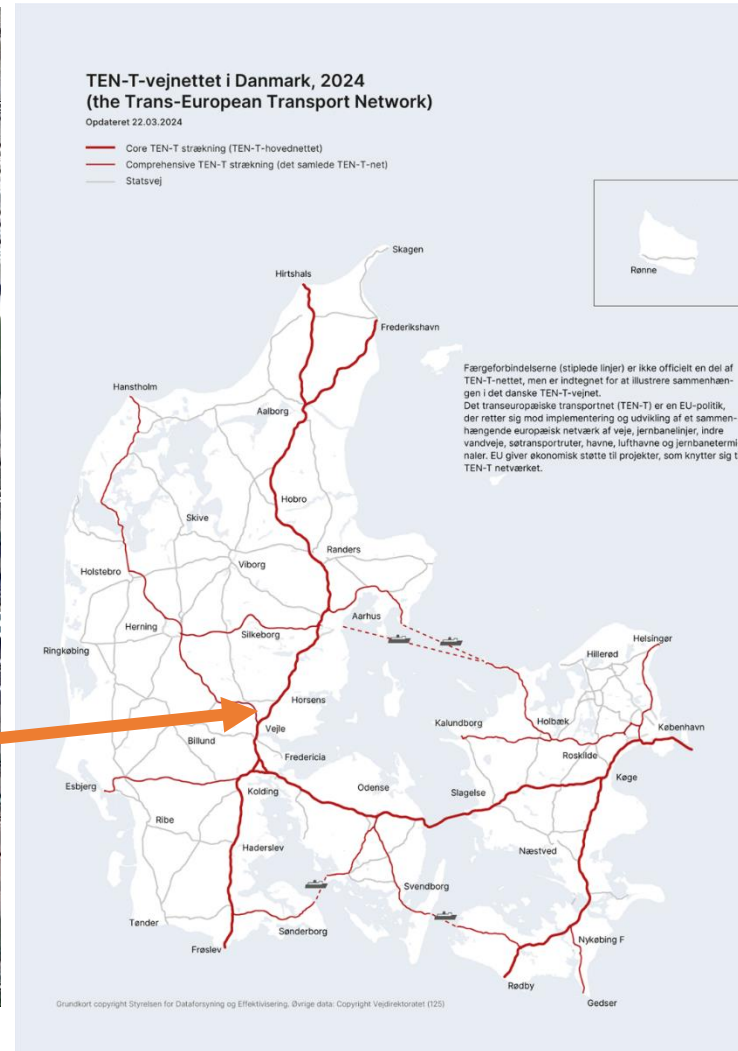


Overview of line marking robot

- 20 L Paint canistor
- Bumper on the back



Overview of the test site



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Overview of the test site

- Active test site in Hedensted Denmark



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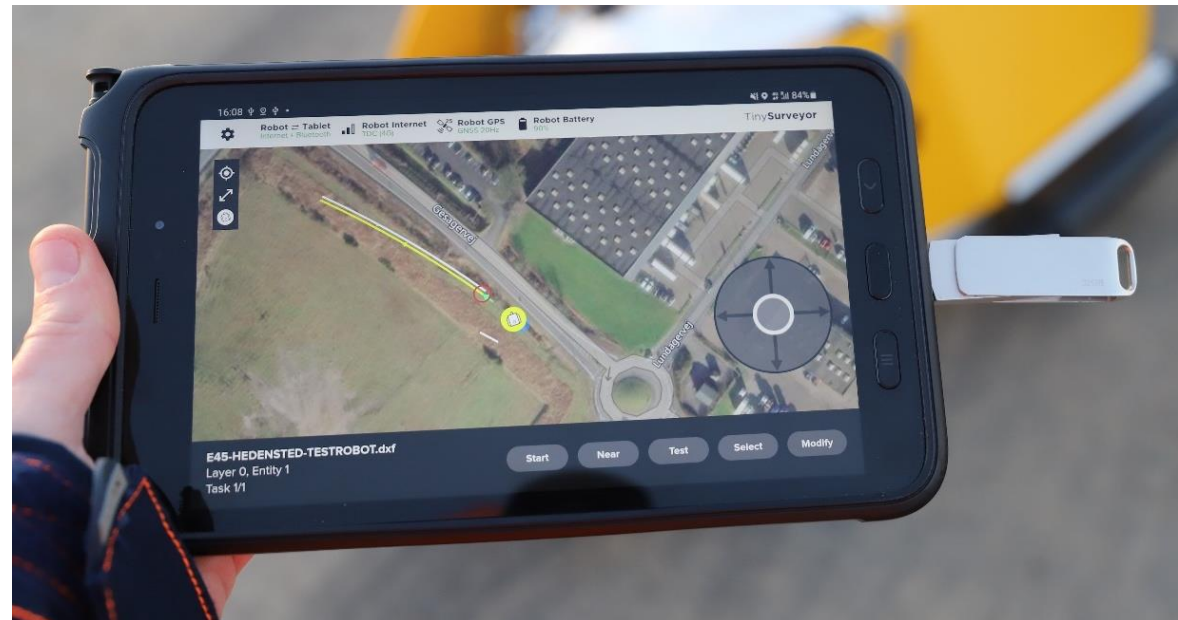
Overview of the test site

- Robot can be transported in small car
- Loaded/Unloaded safely using ramp



Demonstration of line marking robot

- Importing of dxf file – using USB
- Generated either manually from drawing or exported from BIM model



Demonstration of line marking robot



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Demonstration of line marking robot

- Line width – 10 cm
- Dashed and solid



Conclusion

- The robot painted both solid and dashed lines
- The robot painted autonomously
- Painting accuracy achieved was < 1 cm
- The robot operated safely at all times both in deployment and operation



Thank you for your attention



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