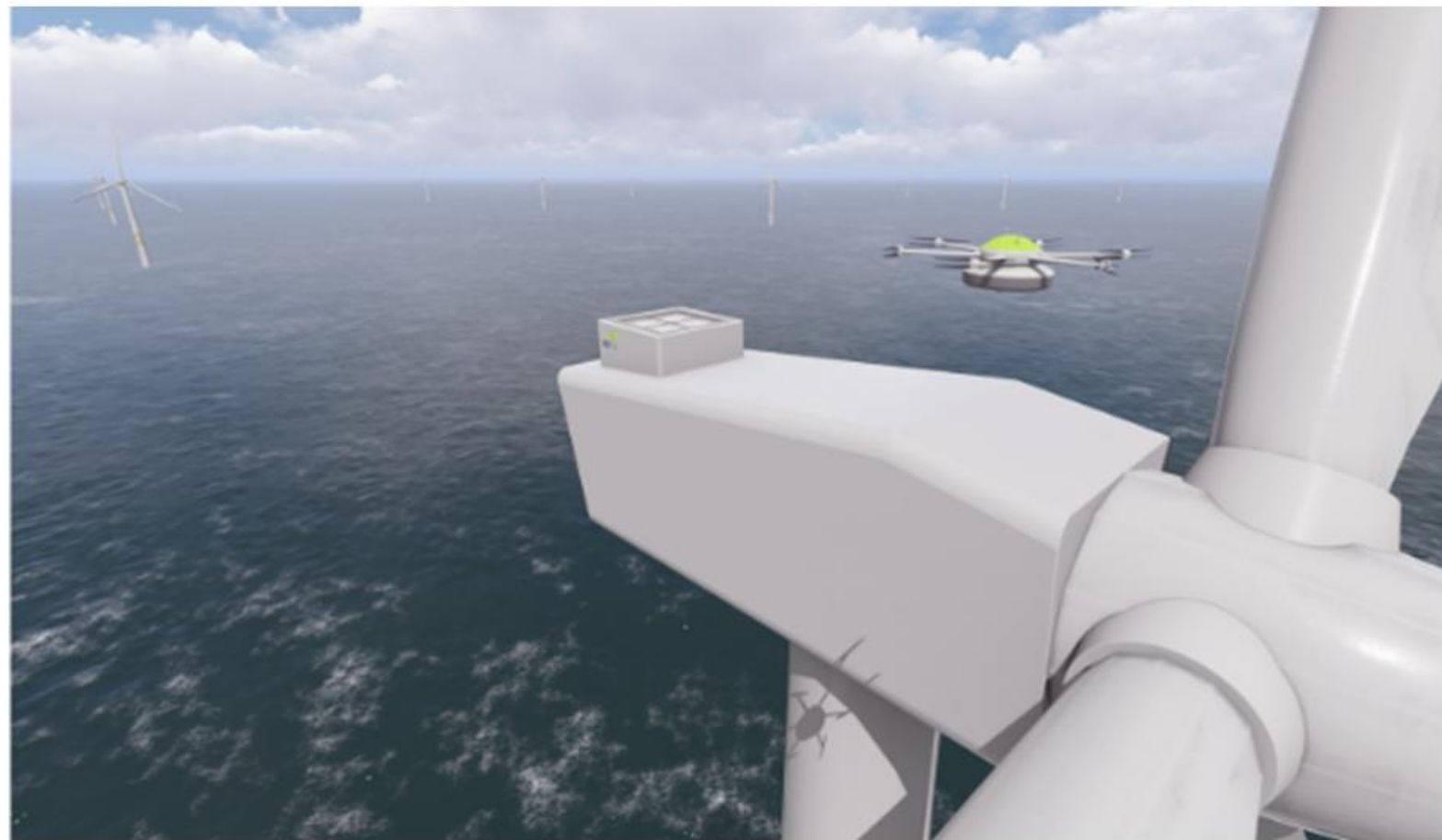




**Annual event**  
**Fieldlab Zephyros**  
**AIRTuB-ROMI**

**28 november 2025**  
**De KAAP - Vlissingen**



# Welcome

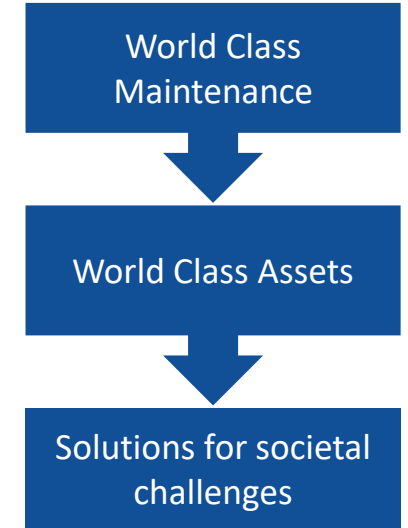


# Stichting World Class Maintenance (WCM)

- Network for Smart & Sustainable Asset Management
- FME Industry organization for professional maintenance
- Foundation for open innovation, research, and education
- WCM's mission is to be the primary connecting and facilitating party for innovation in maintenance and asset management, thus contributing to major societal challenges such as the energy transition, labor market issues, mobility, circularity, etc.
- Extensive experience in securing, developing, and disseminating knowledge in industrial environments



I M P A C T



Breda



Rijen

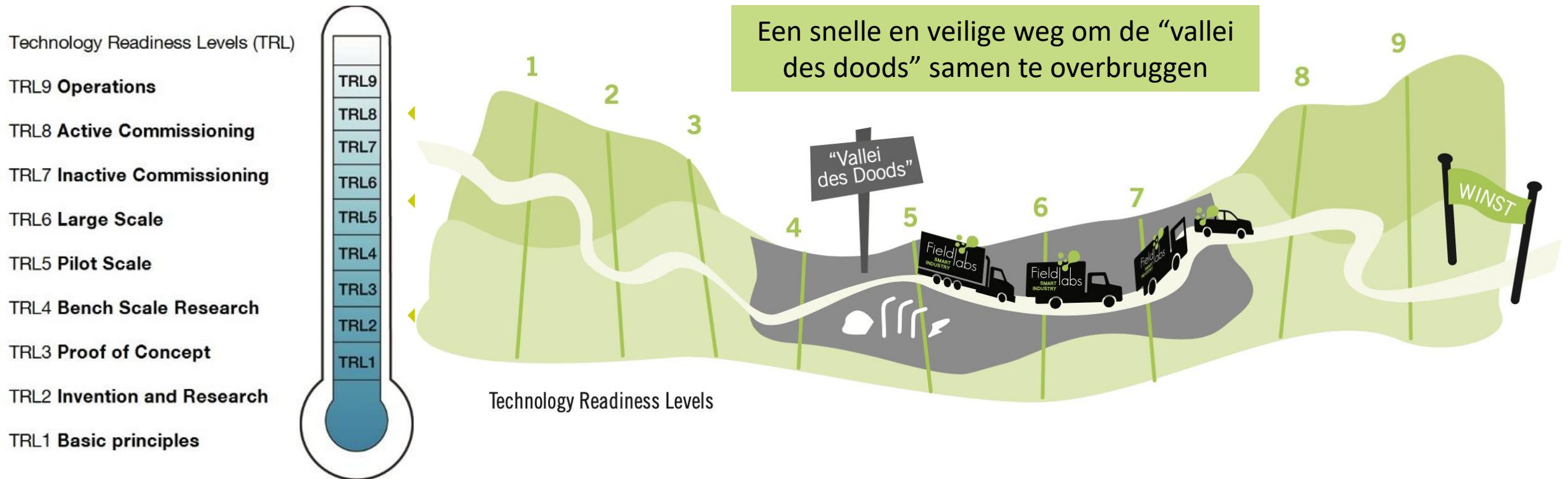


Zoetermeer



Vlissingen

# WCM projects bridge the “Valley of Death”







WORLD CLASS  
MAINTENANCE

***INNOVATION***



WORLD CLASS  
MAINTENANCE

***TOWARDS***



WORLD CLASS  
MAINTENANCE

***UNMANNED***



WORLD CLASS  
MAINTENANCE

# *MAINTENANCE*



**WORLD CLASS**  
**MAINTENANCE**

***IN***





WORLD CLASS  
MAINTENANCE

*OFFSHORE*



WORLD CLASS  
MAINTENANCE

***RENEWABLE***



WORLD CLASS  
MAINTENANCE

***ENERGY***



# Fieldlab

## ZEPHYROS



# Why are you here? (what can you expect?):

## Getting to know more about the AIRTuB-ROMI project:

- where do we stand with the project?
- what are our major challenges?
- How is the (large) team doing?

## Updates on other related innovation projects:

- What more is happening out there?
- How does that look in practice

## Inspiration to collaborate and join:

- gain new insights
- make new connections

# Automated Inspection and Repair of Turbine Blades



VATTENFALL



TNO innovation for life







# Program

Time	Activity	Presenter(s)	Room
<b>28-Nov-25</b>			
09:30–10:00	Arrival & Coffee		workshopruimte
10:00–10:10	<b>Introduction into WCM Fieldlab Zephyros and Unmanned Maintenance Offshore</b>	Ferry Visser and Jeroen Verschelling (WCM)	workshopruimte
10:10 - 10:30	<b>Setting the Scene Digitale Noordzee</b>	Steven Abdoelkhan & Martijn van Dijk (Rijkswaterstaat CIV)	workshopruimte
10:30–10:50	AIRTuB-ROMI Blade Sensors	Bart van de Hoek (WP1 leader AIRTuB-ROMI)	workshopruimte
10:50–11:10	AIRTuB-ROMI — Digital Twin, Dispatch Strategy & Dashboard (TNO)	Carel van Diggelen (TNO)	workshopruimte
11:10–11:30	AIRTuB-ROMI — Drone & Crawler Development, Integration & Lab Testing	Jos Günsing, (WP3 Leader AIRTuB-ROMI)	workshopruimte
11:30	Coffee & move to demo zones		workshopruimte
11:40–13:30	<b>Block 1 (presentations/demonstrations AIRTUB-ROMI)</b>		demo zone - Kaap Loods
	AIRTuB-ROMI Drone: integration and certification	Paul Janssen (Avular) and Patrick Sloot (NLR)	demo zone - Kaap Loods
	AIRTuB-ROMI Crawler development	Paul Verhoeckx (Nobleo)	demo zone - Kaap Loods
	AIRTuB-ROMI Communications	Sabari Anbalagan (Inertia )	demo zone - Kaap Loods
	AIRTuB-ROMI Sliding Ultra Sonic probe	William Kramer (NLR)	demo zone - Kaap Loods
	AIRTuB-ROMI Docking station	Yves Lentfert (Nest-fly )	demo zone - Kaap Loods
	AIRTuB-ROMI Rolling Ultra Sonic probe	Roger Groves TU Delft	demo zone - Kaap Loods
	AIRTuB-ROMI blade sensors (optical)	Jesse van Kempen (Tarucca)	demo zone - Kaap Loods
	AIRTuB-ROMI blade sensors (acoustic)	Malcolm Howe (Mistras)	demo zone - Kaap Loods
	AIRTuB-ROMI lifting device and fluid supply	Edward Mouw, Jos Günsing (HZUAS and Scalda)	demo zone - Kaap Loods
12:30–13:30	Joint Lunch		workshopruimte
13:30- 15:00	<b>Cross-project presentations part 1</b>		workshopruimte
	NWO OTP project collaborative drones for offshore windturbine inspection	Sherry Wang (TU Delft)	workshopruimte
	Humanoids in offshore wind project development	Jeroen Verschelling (WCM)	workshopruimte
	X-ray blade inspections	Rita Raminhos (Spect X)	workshopruimte
	6G for offshore windturbine robotics	Marco Turini, Yohan Toh (TNO)	workshopruimte
	Blade sensor installation robot	Carel van Diggelen (TNO)	workshopruimte
	Complex tasks with drones	Ayham Alharbat (Saxion UAS)	workshopruimte
15:00-15:30	Coffee break		workshopruimte
15:00–16:30	<b>Block 2 (information market blade inspection/repair technologies)</b>		demo zone - Kaap Loods
	X-ray drone blade inspections	Rita Raminhos (Spect X)	demo zone - Kaap Loods
	Reblade/Teknos leading edge repair	Allan Bonde Jensen (Reblade/Teknos)	demo zone - Kaap Loods
	Complex tasks with drones	Ayham Alharbat (Saxion UAS)	demo zone - Kaap Loods
	Robotic drone transport hook	Thijs van 't Geloof (Ampelmann)	demo zone - Kaap Loods
	Lidar based mapping and position on a collision tolerant confined space drone	Steven Verver (Terra inspectioneering)	demo zone - Kaap Loods
16:30-17:00	<b>Panel discussion</b>	Various speakers, chairman: Ferry Visser	workshopruimte
17:00	<b>Closing remarks &amp; drinks</b>	Ferry Visser and Jeroen Verschelling / WCM	workshopruimte



## Statement:

**“Automated systems, robots and autonomous drones will replace the majority of human offshore maintenance tasks within the next decade.”**

## Statement:

**“The biggest barrier to scaling drone and robot operations in offshore wind is not technology — it’s regulation and certification.”**

## Statement:

**“Continuous sensor-based monitoring will reduce unplanned turbine downtime more than any physical inspection method ever could.”**

## Statement:

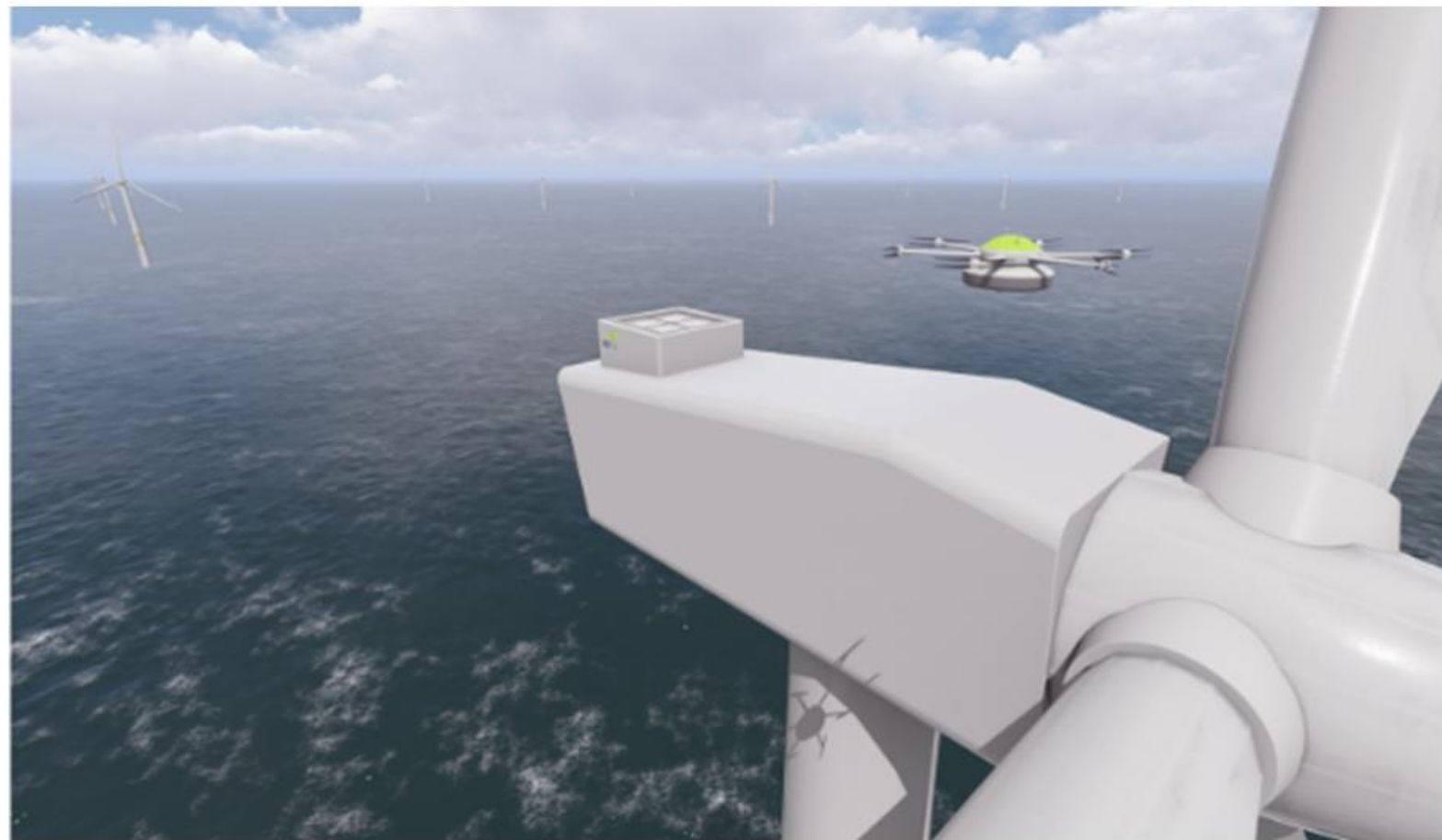
**“Data overload from advanced monitoring systems will become a greater challenge than the inspections themselves.”**





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**Thank you and see you next time**

