WORLD CLASS MAINTENANCE

Next steps: AIRTuB 2

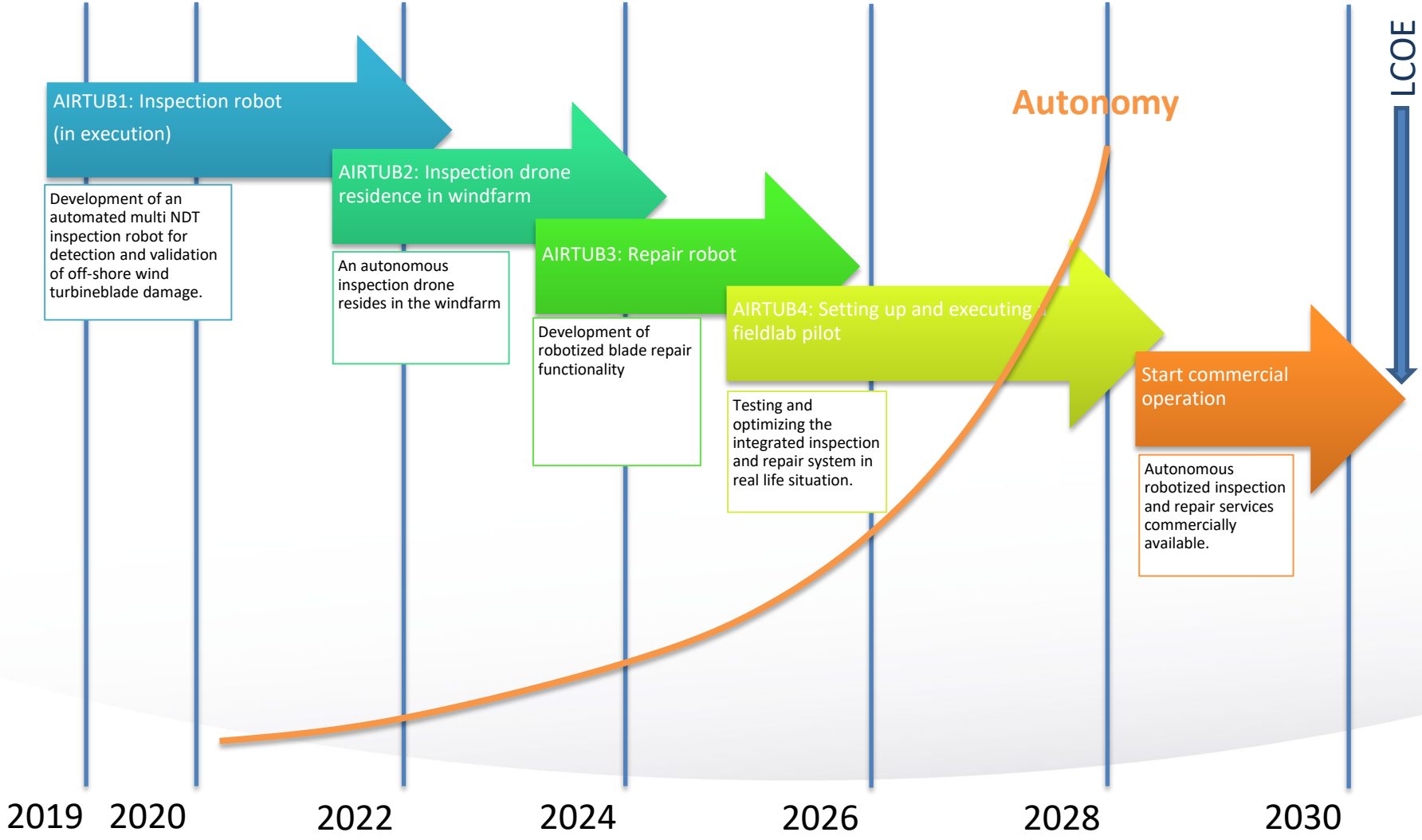
Field lab ZEPHYROS

Het Fieldlab ZEPHYROS wordt mede mogelijk gemaakt door: Provincie Zeeland

smart industry

AIRTuB roadmap

AUTOMATED INSPECTION AND REPAIR OF TURBINE BLADES



Call for Action / Business Driver = Need for LCOE reduction

- Lifetime extension
- AEP improvement
- Maintenance logistics reduction
- Elimination of human presence offshore
- Reduction of pollution in the marine environment (also erosion particles)

AIRTuB solution:

Fully autonomous robotized turbine blade maintenance by:

- Robotized inspection and repair system resident in windfarm
- Condition monitoring
- Frequent small high quality repair interventions

Business model:

- Owner Operator (OO) contracts AIRTuB as a Service from Service Provider (SP)
- SP operates on performance contract with OO
- OEM of AIRTuB Equipment rents Robots to SP

Involved partners:

Fieldlab ZEPHYROS

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Potential Scope AIRTuB 2:

Needs as defined by Eneco:

- Rapid autonomous blade inspection (visual and non-destructive testing)
- Focus on failure modes:
  - Lightning strike
  - Bird strike
  - Wear and tear of protective shells, esp along the edges

"Eyes and ears in the Windpark 24/7, allowing for quick interventions"

Needs defined by LM Windpower:

- Structural health: cameras and sensors to monitor structural health of the blade
- Aero health: early detection of changes that lead to loss of production.
- Blade systems health (Lightning Protection System, Ice Mitigating System etc)

Consortium

Potential consortium members:

- Current AIRTuB partipants
- Businesses with relevant expertise
  - Esp: sensors
  - Lightning detection
  - Drone operation/inspection
  - Off-shore wind maintenance contractors
- Knowledge institutes with relevant expertise

Next steps:

- Meeting with problem owners (LM windpower and Eneco)
- Meeting with potential consortium members

Interested? Tell us now!