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Digital condition monitoring for wider blue economy.

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2022

This file contains the full abstract (including references) on page 2, followed by the actual poster.

Digital Condition Monitoring for Wider Blue Economy

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In the process of decommissioning energy systems, condition monitoring is crucial. It can make the health status of offshore oil and gas installations and pipelines, wind farms, etc., transparent to policymakers and stakeholders and aid them in creating a better repurposing plan for the assets that will be decommissioned to create a sustainable ocean economy. In most cases, condition monitoring calls for experienced engineers to perform on-site testing, which raises labour costs as well as commuter carbon emissions (J. Hasan & Kim, 2019; Rai et al., 2021).

A revolution in decarbonized and sustainable decommissioning may result from further digitalization of condition monitoring to address this problem. We can gather and manipulate enormous amounts of real-time data and create a simulated representation of physical assets, then quickly predict their health conditions by combining artificial intelligence, the Internet of Things, and augmented, virtual, and mixed reality techniques (M. J. Hasan et al., 2019; Yan et al., 2018, 2020, 2021).

Digital condition monitoring has social and economic benefits, including:

1. Deliver a plausible innovation that can be successfully used in other UK industries.
2. Open a new high-tech talent demand market in the UK
3. Reduce carbon emissions in decommissioning missions, especially for the marine environment.
4. Reshape the offshore marine environment to benefit the blue economy.
5. Reduce costs across the decommissioning chain, from design and manufacturing to purchasing and maintenance.

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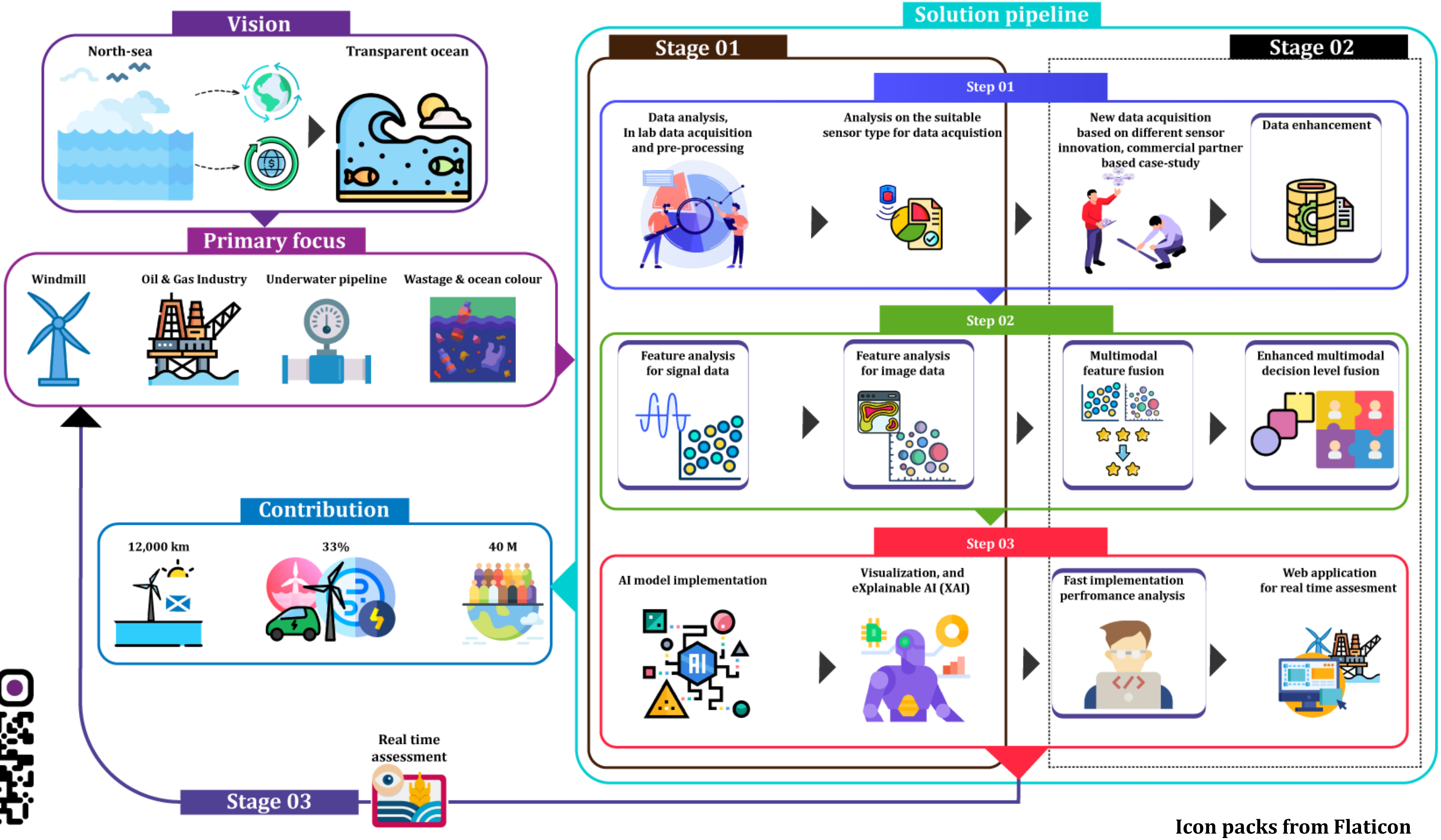

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