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Asset Information Services

Data model improves risk management in the North Sea

Challenge

- Having invested in R2S digital twin technology to help manage its North Sea assets, an oil major required further insights to improve the efficiency and productivity on the asset.
- During the course of a James Fisher Asset Information Services (AIS) Design Thinking workshop, a key problem identified was the lack of efficiency in resolving anomalies. This is partially due to the lack of visibility of the anomalies across the asset as a whole, therefore accumulating risk.
- The maintenance team had no easy way of visualising multiple jobs to be completed within the vicinity of one another, and where the high risk areas lie.

Solution

- Whilst the Canadian company had no means of collating and visualising the information, they did have silos of raw data stored across the business.
- AIS first deployed deep learning (DL) to extract the data, then consolidated it into R2S.
- Extracted data was used to build a spatio-temporal risk model for the prioritisation of anomalies. This model was delivered within R2S to give a visual representation of where the greatest risks lie on the asset.
- Risk accumulation across the asset was highlighted, allowing the company to focus its attention and activity accordingly.

Results

With the implementation of this data model, the customer has been able to:

- Extract additional value from otherwise dormant data silos.
- Contextualise anomalies based on risk, location and other domain and business-specific parameters, allowing the company to plan work more efficiently, meaning higher resource utilisation and fewer trips to the asset. This reduces impact on POB and cost of mobilisation.
- Allow for data and risk driven decision making, ensuring the asset is a safer environment for all contractors.

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