



Driving benefits from O&M data: The dream, the reality and how to get started.

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Who are Sennen?

A technology company that is driving transformation in the renewables sector.

Our our modular platform enables clients to digitise and automate their operations and overcome the complexities of operating at scale.

Our technology delivers data insights to underpin sound decision-making, and increase safety and efficiency.





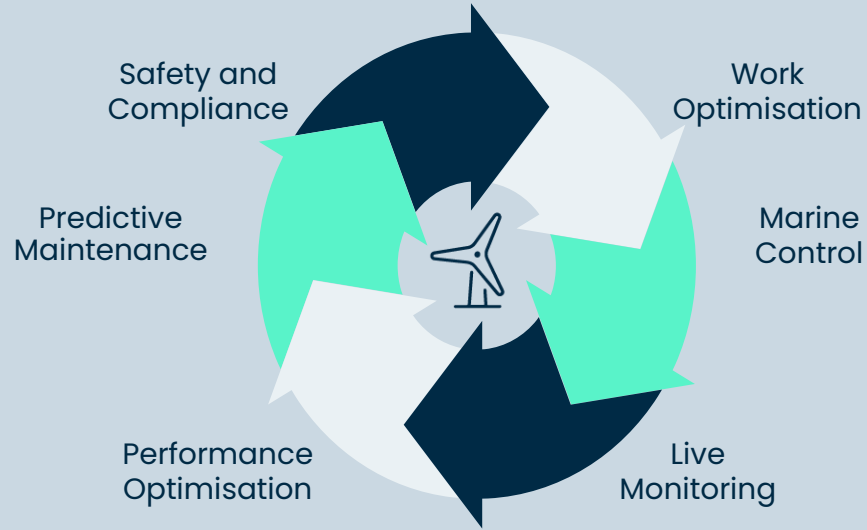
i4SEE

Who are i4SEE?

i4SEE introduced Augmented Intelligence to the wind industry, combining decades of domain expertise with data science and automated analytics software.

We help owners and operators of medium to large fleets, providing advice and insights which result in increased performance, reduced downtime and lower O&M costs.

The information integration dream



Information, Networking, Data Storage

Metocean Data	Subsea cable monitoring (DTS)	SHM	CMMS	Blade Strain Gauges	Bearing CMS	Substation Monitoring
Restrictions	SCADA	Vessel AIS	Personnel Location Tracking	Qualifications Records (GWO)	HSE	OEM Work Order Systems

The reality

Do these sound familiar?

Too much work, not enough resources.

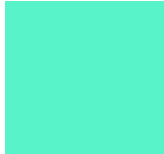
Continuous cost pressure

Firefighting consumes everything, no time for optimisation!

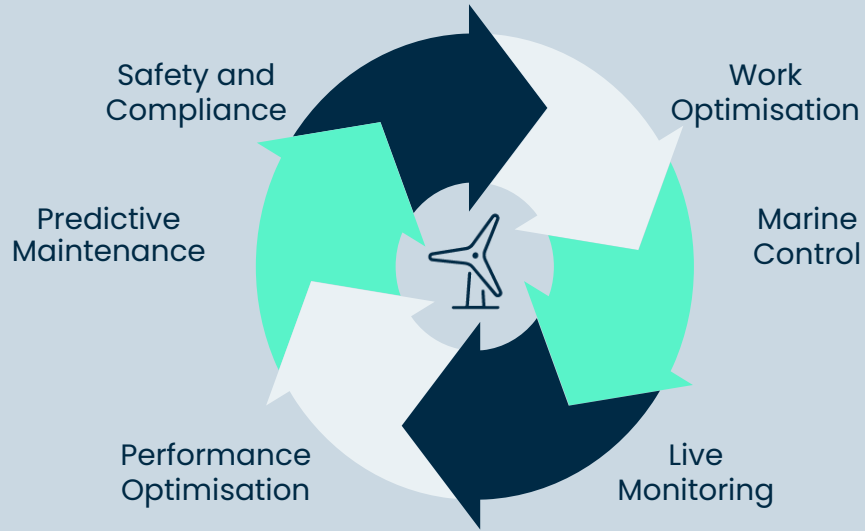
Monthly arguments about faults and availability

All leading to a gap between data analytics and asset optimisation

Long term strategic goals suffer



Case study: London Array short term planning



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Getting out of firefighting

We spent time in control rooms understanding the day-to-day operations

Challenge:

All planning and manifesting was done via spreadsheets.

Staff struggling to stay on top of data from multiple sources, managed manually (task due dates, qualifications, weather)

Solution

Put safety centre stage by automating qualification checks at the planning stage (before the shift), greatly increasing efficiency at the same time.

Recorded transfers of control as they happened.

Provided for a recording of work completed or aborted and reasons why.

Create a rich data set make it easily available for the operations team



SELECT A DIFFERENT SHIFT

Winderland Ltd (29 Mar 2022 07:00 to 19:00)

ADD SHIFT TEAM

✔ Publish processed

✔ No errors and no warnings

ZOOM IN 🔍

ABORT SHIFT

VALIDATE

PUBLISH

ZOOM OUT 🔍

Teams People **Tasks** Vessels Notifications Publishes

Search: ✕

Winderland Ltd tasks only:

Suggested tasks	Loc	Status
INSPECTION - WTG BOP - WTG TP statutory inspection 2022	A05	● Not started
INSPECTION - WTG BOP - WTG TP statutory inspection 2022	A08	● Not started
INSPECTION - WTG BOP - WTG TP statutory inspection 2022	B05	● Not started
INSPECTION - WTG BOP - WTG TP statutory inspection 2022	B06	● Not started
INSPECTION - WTG BOP - WTG TP statutory inspection 2022	B07	● Not started

	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
N	Sail	Transfer A02 - WTG TP statutory inspection 2022 Kai Test-Thomas Thomas Test-Simmonds Doreen Test-Peters			Transfer	Transfer A07 - WTG TP statutory inspection 2022 Kai Test-Thomas Thomas Test-Simmonds Doreen Test-Peters				Transfer	Not Assigned
0	Sail	Transfer A04 - WTG TP statutory inspection 2022 Tina Test-Saunders Tobias Test-Roberts Olivia Test-Edwards			Transfer	Transfer B04 - WTG TP statutory inspection 2022 Tina Test-Saunders Tobias Test-Roberts Olivia Test-Edwards				Transfer	Not Assigned

Benefits

How did this help?

Fewer manual processes

Improved relationships with contractors

OPEX saving through automation

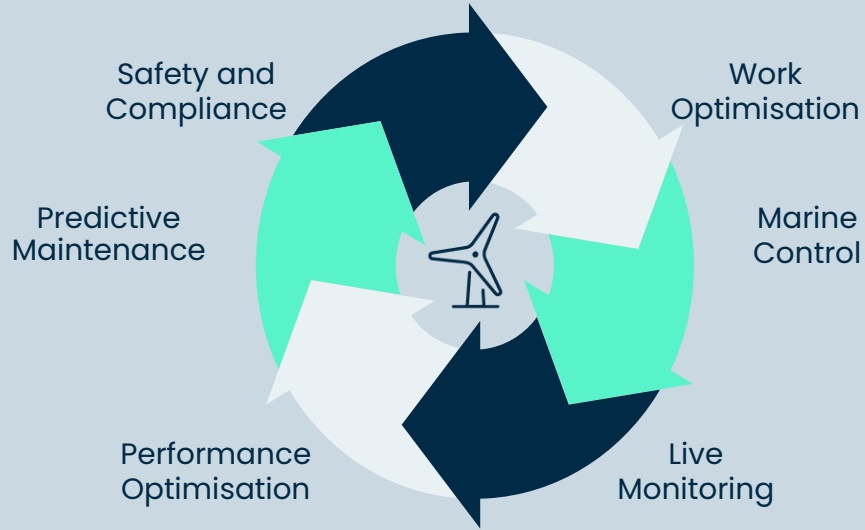
Increased revenue from more efficient planning

Valuable, detailed data history automatically built up in a structured format

This insight can now be applied fleetwide to drive improvements at scale



Example of an optimisation pathway, predictive maintenance



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Teams People **Tasks** Vessels Notifications Publishes

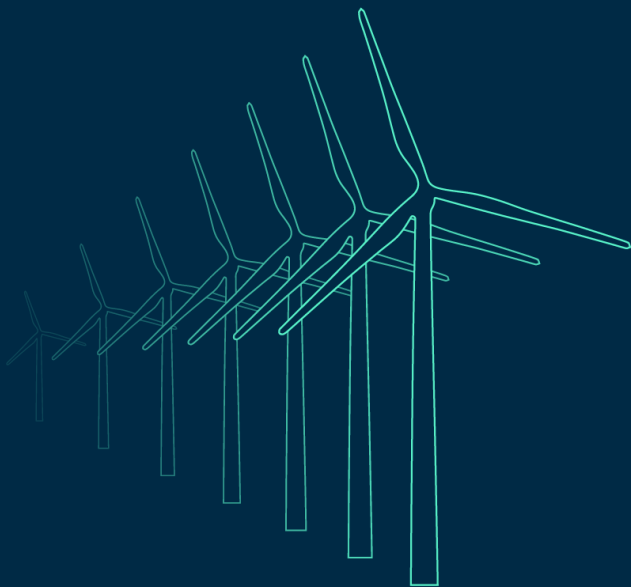
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Scheduled plus preventative tasks!

	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00
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How it can all fit together

- ✓ Plan more effectively with Sennen
- ✓ Manage logistics and execution with Sennen
- ✓ Predict issues early with i4SEE
- ✓ Track aborted tasks including reasons with Sennen
- ✓ Interrogate historical data to make smart optimisation for future works with i4SEE
- ✓ Stop the cycle! No more late service, more problems, fire fighting, later service
- ✓ Operators can make the right strategic decisions, informed by the data, to make a difference across the fleet



Thank you

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