

## Abstract

Permit-to-Work (PtW) is an established method of ensuring safety on hazardous offshore wind energy sites. A PtW form is an essential requirement before any type of work can be performed and can only be issued when all the safety precautions are in place. In the past, this authorization was supplied on paper.

Recent developments have led to a growth in the number of protocols and safety measures as well as the complexity of the offshore industry as a whole. This in turn makes managing safety with a paper-based system more complex, and any reduction in clarity and control brings with it a risk of accidents.

A Permit-to-Work software ensures clarity by digitizing the process of issuing PtW forms. A cloud-based technology is able to record and issue PtW authorizations remotely, at both offshore and onshore sites.

Thereby it not only reduces the administrative load but also offers useful assistance and provides permit centres with an up-to-the-minute overview of all work being carried out, regardless of location and time.

Thanks to the user interface, a PtW software assures accuracy of information. The system should feature an automatic check to ensure that all safety precautions are in place before authorization is granted.

## Objectives

- Improving Safety
- Increasing Efficiency
- Reducing Downtime
- Reducing Human Errors
- Reducing Administrative Effort



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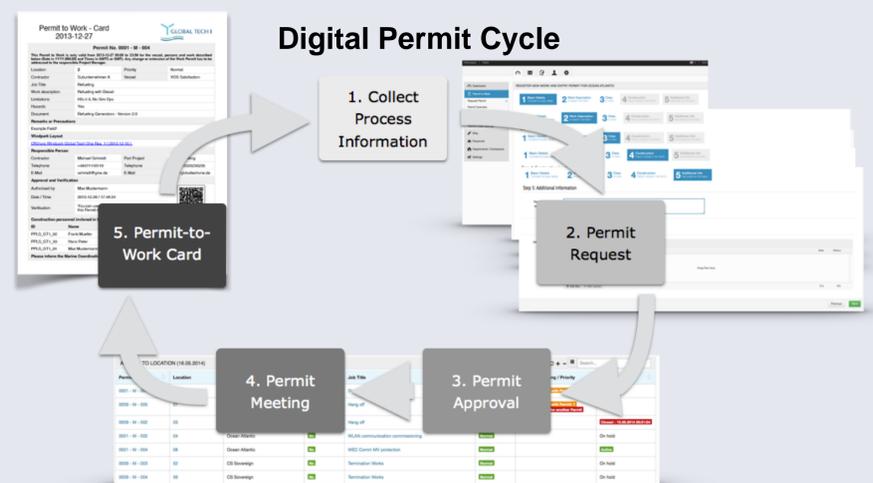
OffshoreWindManager is a unique Permit-to-Work solution for all phases of wind park management, supporting both developer & operator in offshore wind energy.

Multiple User Access Control	Analytics & Statistics	Cloud-based Application	Reporting & Documentation	People Tracking
Multiple Users (internal departments & external companies) with corresponding Access levels.	Full working task & accreditation analysis of total personnel (from each & every stakeholder at any given moment) engaged in the construction of the wind park.	German based cloud complies with the highest data protection requirements. Cloud server & application are continuously monitored & we guarantee a 99.9 % availability.	One integrated software to keep record of every Ship & Helicopter operation	Check and keep track of all Persons entering your Windpark. Manage Certificates, location access, etc.

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- Document-Management from start to end
- Marine & Helicopter Coordination
- Integrated Permit-To-Work Concept
- Task Manager & Schedule
- Crew Database & Tracking
- Reports, Statistics & Analyses
- Park Layout & Vessel Overviews
- Focus on risk assessment
- Improved cost efficiency
- Improved communications
- Improved archiving and retrieval
- Conflict detection and alerts
- Reduced downtime
- Direct overview of all work carried out on all assets

## Results



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## Conclusions

A Permit-to-Work system is a Key Factor for ensuring safety deployment and reduction of investment. Over the last years, demands to safety (personnel as well as technical and financial) in the offshore wind industry has grown. Issuing a paper-based PtW form becomes more and more an administrative effort. Therefore a software PtW solution is rational and provides a lot of benefits:

### Speed:

Creation & management of permit applications on a single point platform

### Efficiency:

Permit to Work Management that does away unnecessary and costly time allocation

### Control:

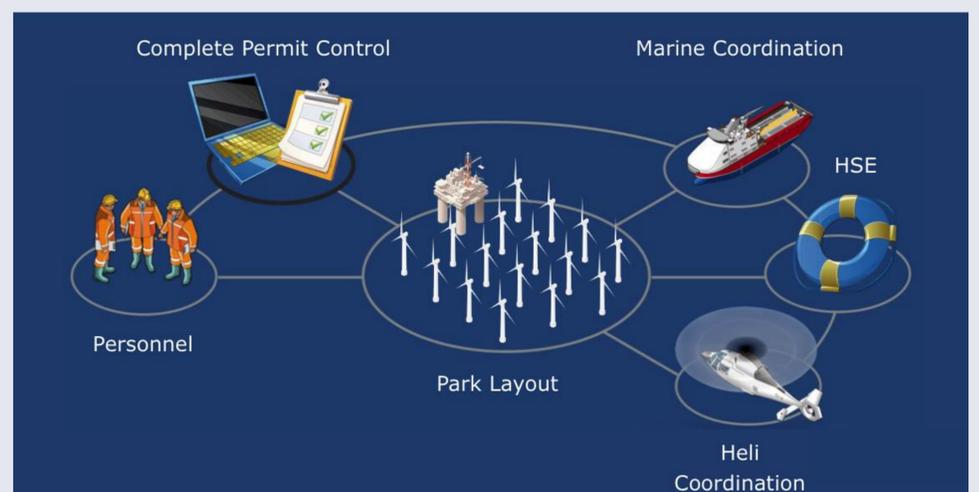
Rule-based structure within a customer defined authorization process

### Analysis:

Comprehensive reporting function deliver real-time management information for every task and process

### Compliance:

Safety checks and alert functionality improve legal and 'best-practice' compliance, reducing risk and maximising safety



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