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Horizontal Axis Wind Turbine Maintenance Improved Process Al-Khobar Project as Case Study

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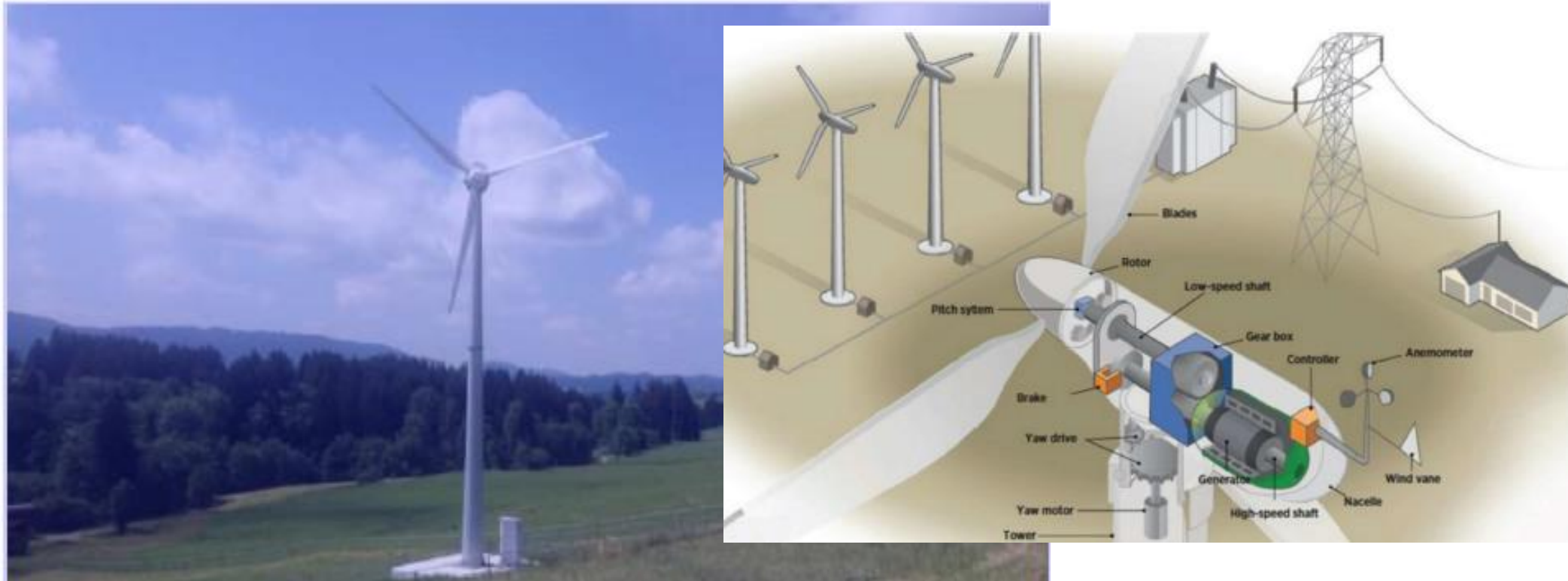


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Introduction

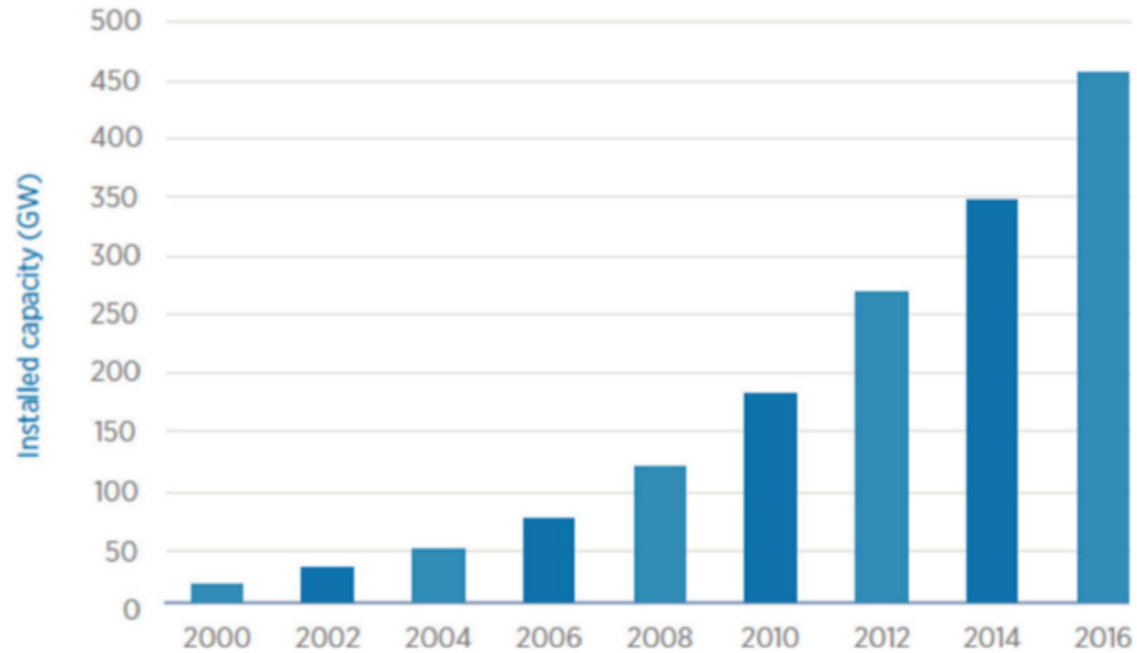




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Introduction

Global wind energy
installed capacity





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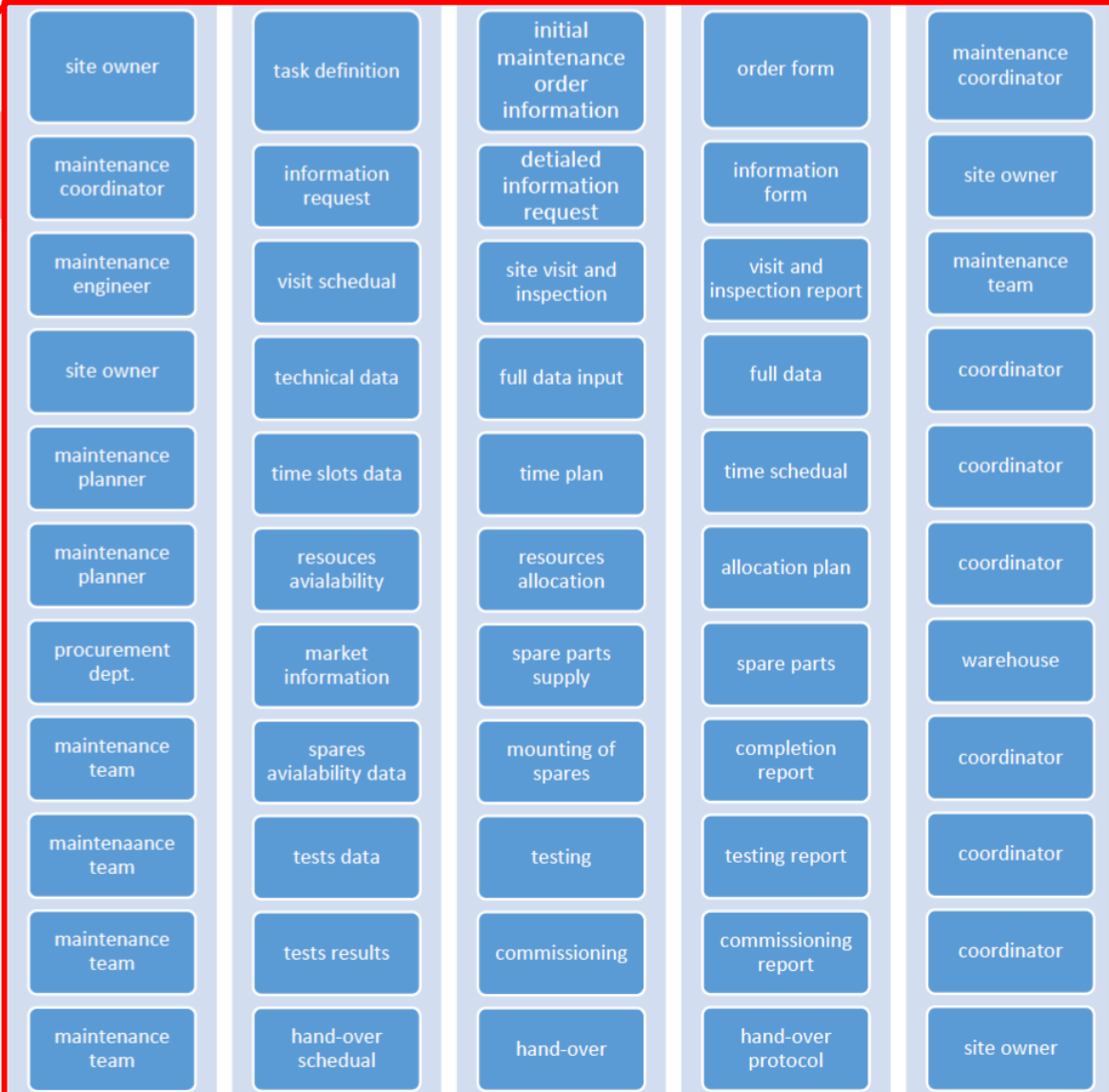
Project Data

Project location	Al-Khobar
Turbine type	Horizontal Axis
Turbine power	10 KW
Maintenance process definition	Replacement of the main belt and speed sensor
Maintenance process duration	5 days
Workforce size	7
Average temperature	37 °C
Average wind speed	11 km/h



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Visual Inspection





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Conclusions

- The application of optimization methods results in a saving in time resources by 32%
- The visual inspection optimized technology is done 12% faster than the old way
- The paper opens new doors for a more effective maintenance process done on small wind turbines
- The paper presents a real case that confirms the role of process optimization in maintenance.



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