



ABSTRACT

Operational excellence can be realised by adopting proven lean principles as applied in other competitive capital-intensive industries. Start with assessing the maturity of the current value chain. Develop tailor-made *improvement programmes* for the core processes: incident management, maintenance execution, resource management (including logistics), personnel management and general management.

OBJECTIVES

- Drive energy production.
- Ensure compliant operations.
- Secure long-term asset value.
- Create self-improving organisation.

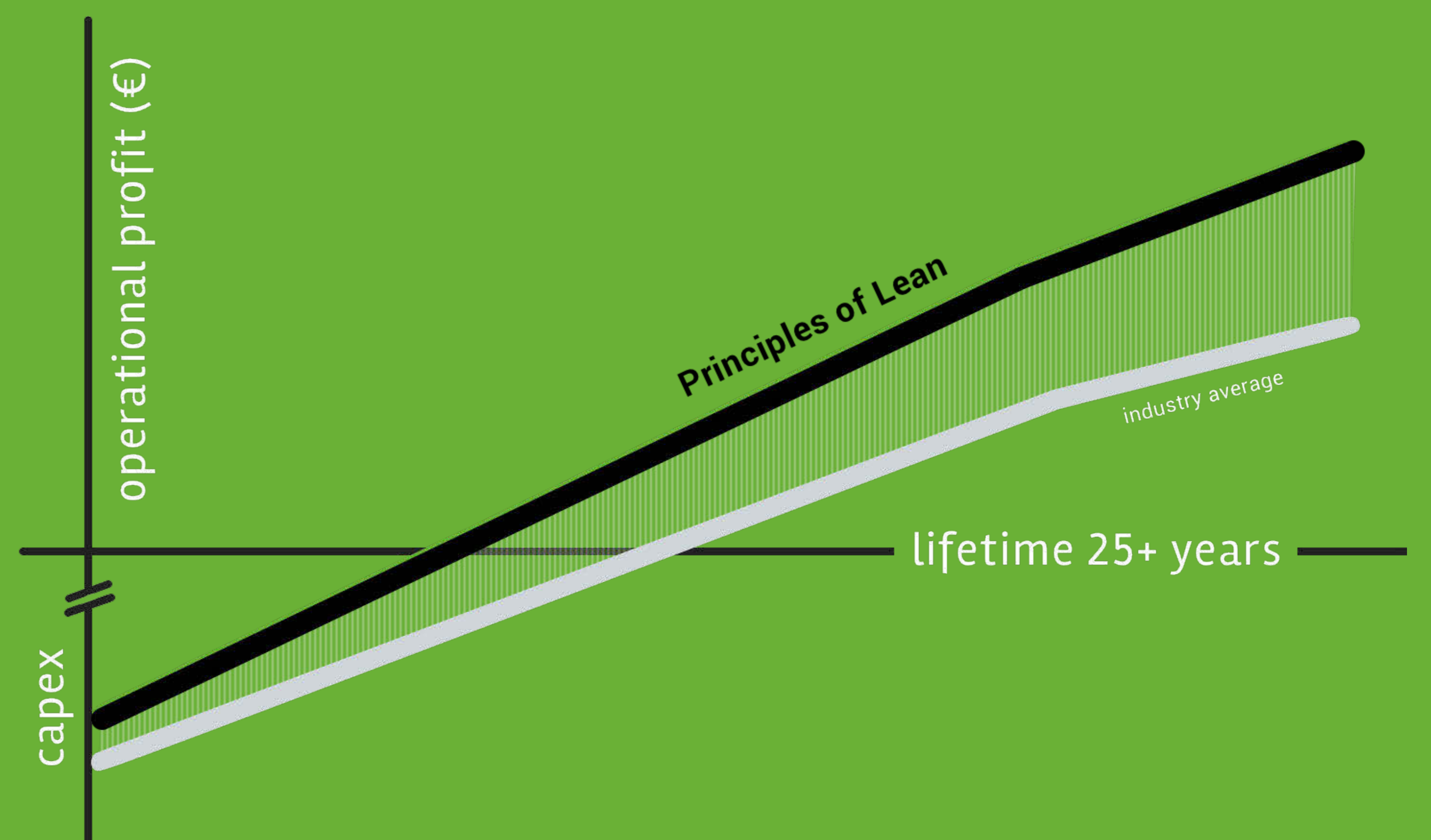
PRINCIPLES OF LEAN

POWER GENERATION INTEGRITY MANAGEMENT COMPLIANCE MANAGEMENT



VALUE	<ul style="list-style-type: none"> Specify 'standard work' (operating procedures).
THE VALUE CHAIN	<ul style="list-style-type: none"> Specify the processes that describe the relation between the procedures. Specify the roles that have responsibilities in standardised tasks. Identify the roles of the (IT) support systems (pay special attention to accurate availability and wind power forecasting).
FLOW	<ul style="list-style-type: none"> Optimise the organisation size per identified role (headcount). Make sure to perform on downtime evaluation, corrective maintenance, condition based maintenance and assure high quality of maintenance scheduling.
PULL	<ul style="list-style-type: none"> Set up and apply the Key Performance Indicator (KPI) tree within a minimum of organisational levels. Implement top-down KPI driven performance management within the asset management system. Integrate the information feedback, as specified in ISO 55000, allowing energy production to follow energy demand.
PERFECTION	<ul style="list-style-type: none"> Start with small improvement teams. Realise a self-improving organisation.

RESULTS



CONCLUSION

In the highly competitive wind energy industry, wind asset management organisations should apply the proven lean principles of similar competitive, capital-intensive industries. An improvement approach distinguished by the maturity phase of individual processes, instead of a one-size-fits-all approach, brings operational excellence within reach of every operations management organisation.

REFERENCES

1. Womack & Jones, *Lean Thinking*, 1996

