DE- & ANTI ICING FOR ROTOR BLADES

THE PROBLEM

… windfarms in cold climate areas…

the effect…icing on rotor blades of windturbines

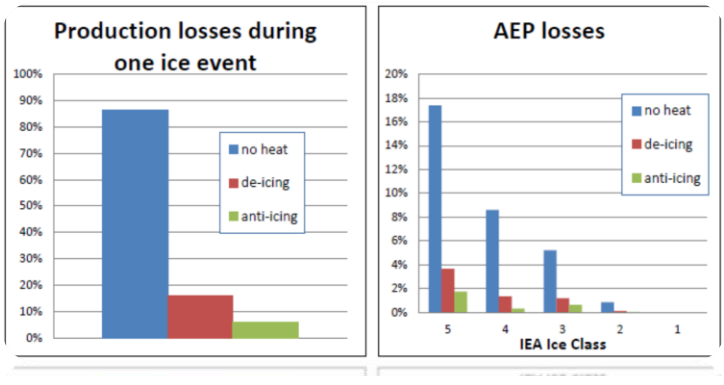
- Loss of production
- High maintenance costs
- Long ROI
- Dangerous situations

the solution…ice protection of rotor blades

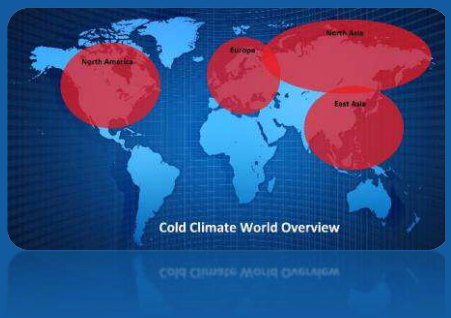
WHY ICE PROTECTION OF ROTOR BLADES?

…improvements for the end user…

- Maintain wind turbine performance in icing conditions
- Reduce aerodynamic penalty (loss of AEP)
- Avoid forced stops (loss of AEP)
- Avoid adverse turbine loading (loss of lifetime)
- Reduce risk of ice throw (loss of acceptance)



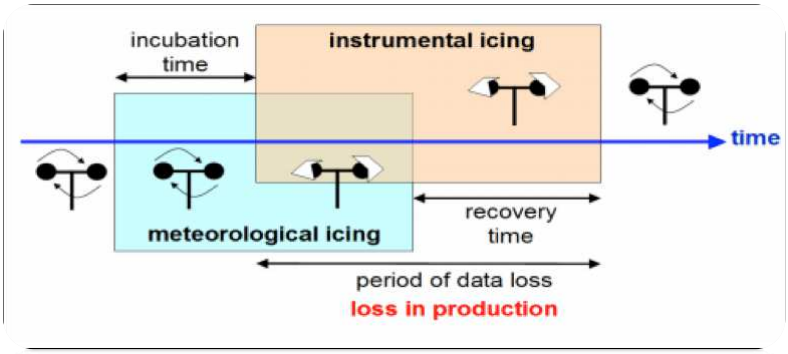
Huikeshoven is a pioneer of the techniques which are used nowadays to heat up moulds for the production of rotor blades. The combination of these techniques and smart control systems have shown their efficiency and reliability over the years.



Development
Huikeshoven is working on new developments for ice protection of rotor blades with a direct heating system.

www.huikeshoven.nl

ICING PROCESS

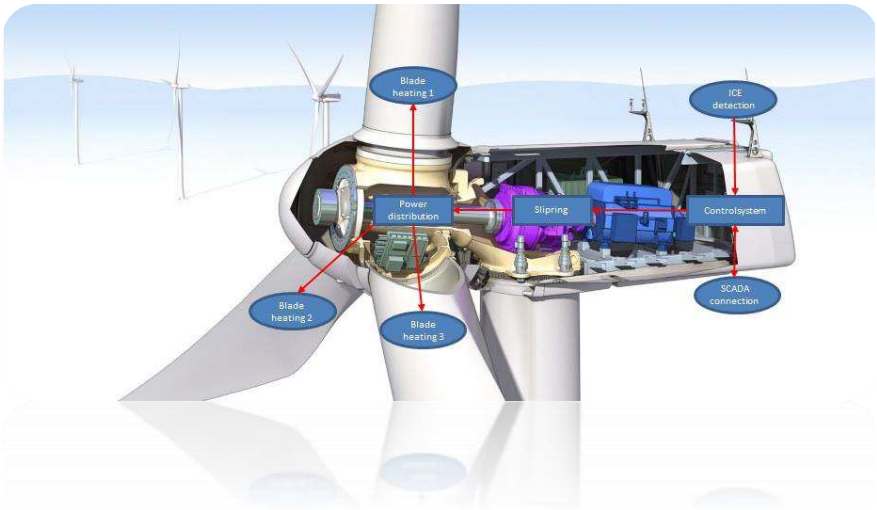


ICING CLASSIFICATION

IEA ice class	Meteorological icing	Instrumental icing	Production loss
	% per year	% per year	% of annual production
1	0 - 0,5	< 1,5	0 - 0,5
2	0,5 - 3	1 - 9	0,5 - 5
3	3 - 5	6 - 15	3 - 12
4	5 - 10	10 - 30	10 - 25
5	> 10	> 20	> 20

SYSTEM CONCEPT

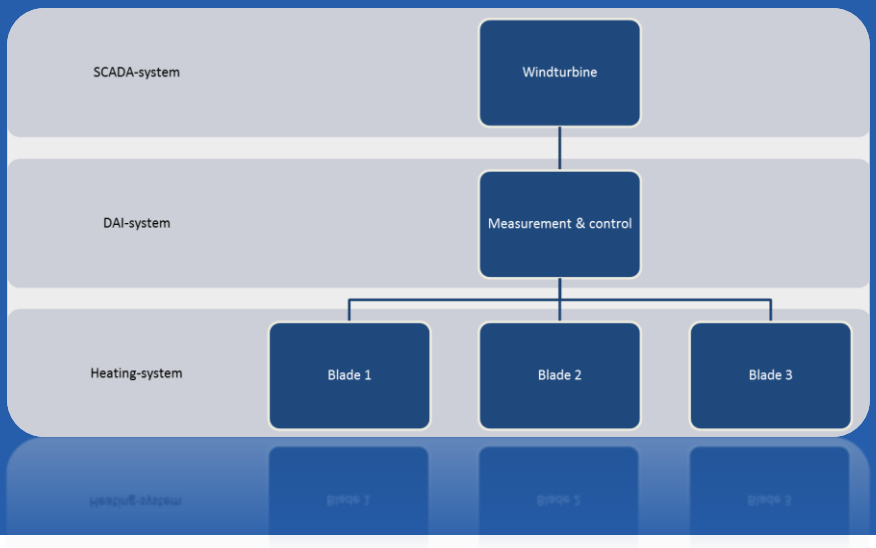
… integration of control system in the windturbine…



INTERESTED?

… discuss with our engineers…

… WE WILL KEEP YOU INFORMED…



Huikeshoven BV
Postbus 50
7490 AB Delden
Bezoekadres:
Robijnstraat 6
7554 TB Hengelo
T +31 (0)88 - 889 8850
F +31 (0)88 - 889 8851
I www.huikeshoven.nl
E info@huikeshoven.nl