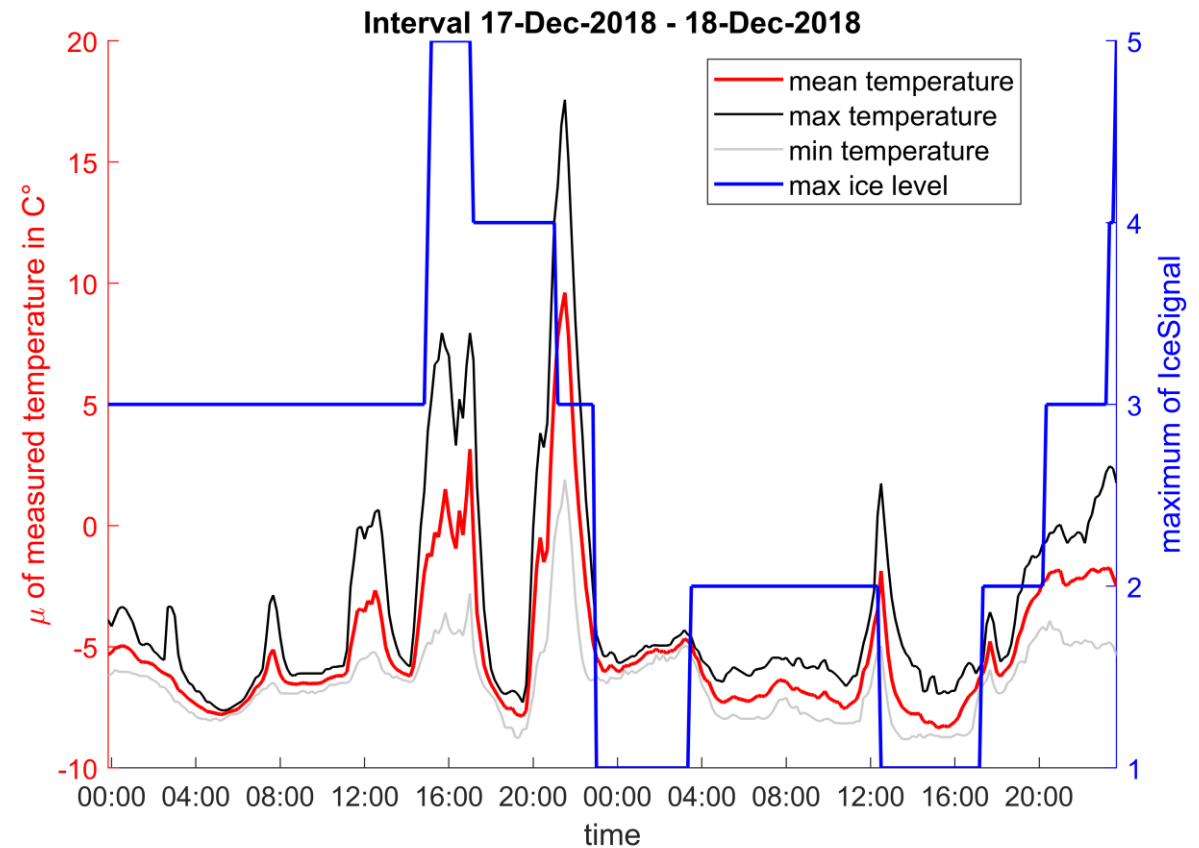
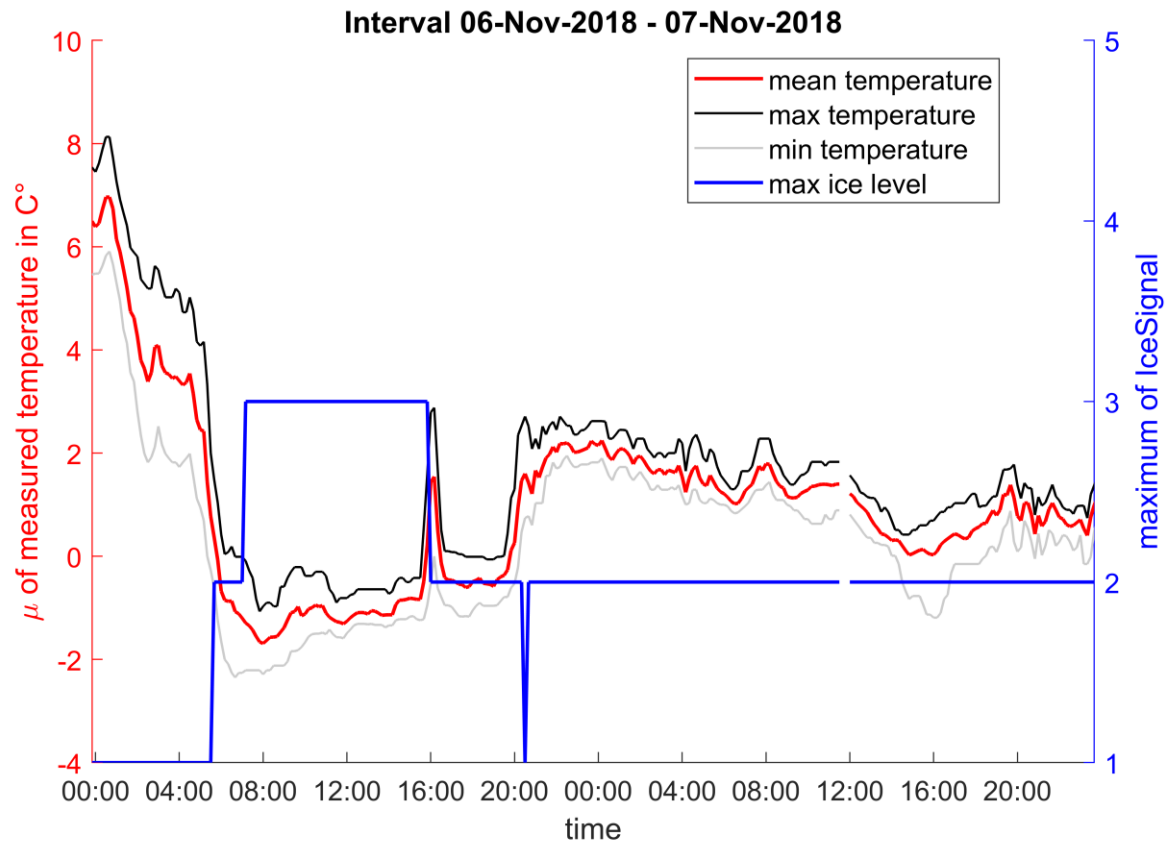


Increased turbine efficiency during icing conditions by means of pre-emptive blade heating control



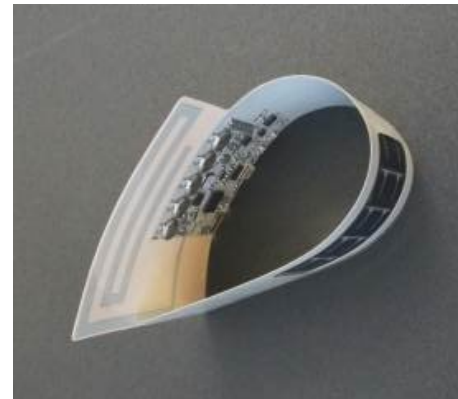
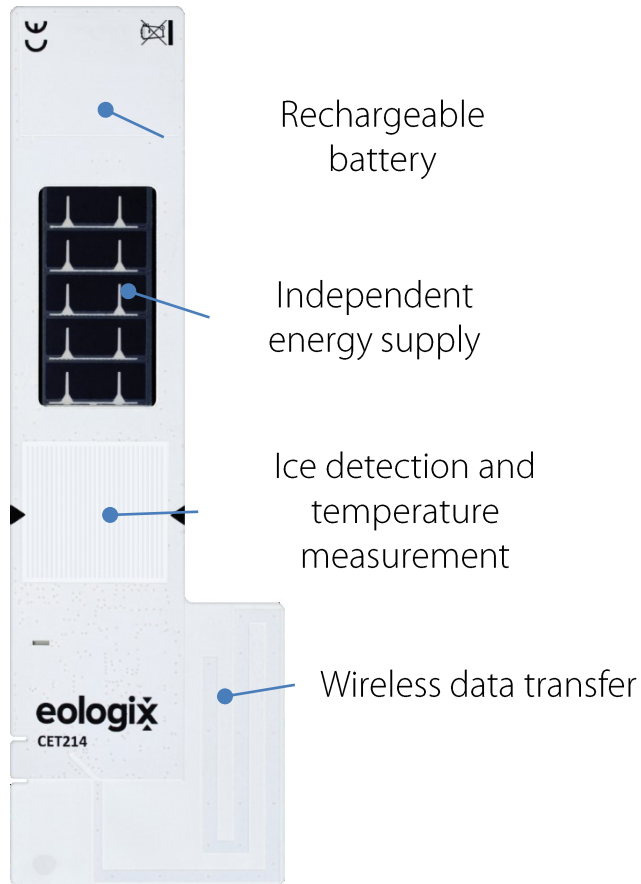
Michael Moser,
eologix sensor technology gmbh

What are we doing?



How are we doing that?

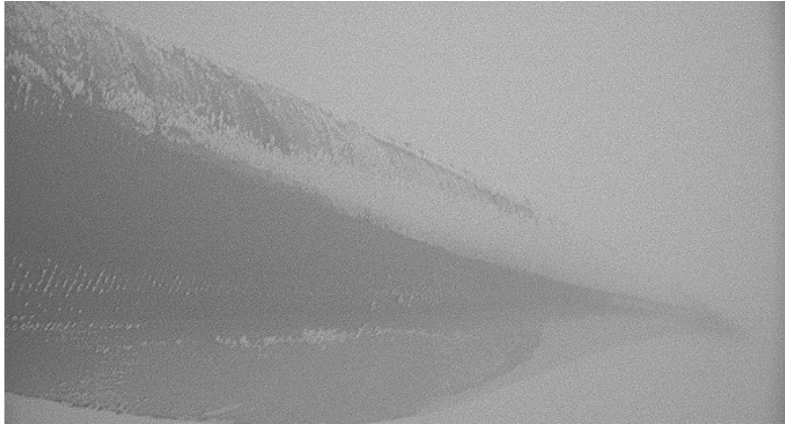
Autonomous Ice Detection & Surface Temperature Sensors



Sensors

- wireless
- integrated power supply and storage
- thin & flexible foil
- direct ice detection on the blade surface
- detects thin ice layers as well as thick ones
- distinguishes ice layer thicknesses
- surface temperature measurement
- robust & reliable
- decoupled & isolated from turbine wiring
- no influences on or from lightning
- easy to apply even as retro-fit
- inexpensive solution
- DNV GL certified

Why are we doing that?



Huge losses due to unreliable ice detection:

- Stopped operation although no ice is on the blades
- Delayed re-start (ice on the blades already vanished)
- Safety and load issues in case there is undetected ice

Detect ice accretion where it occurs:

- Directly on the blade surface, Thin and thick layers of ice should be distinguished
- Special customer needs: "no ice should ever occur" vs. "control heater" -> **use temperature readings**



Who are we doing our work for?

Hersteller:



Österreich:



International:



WP Steinriegel 2



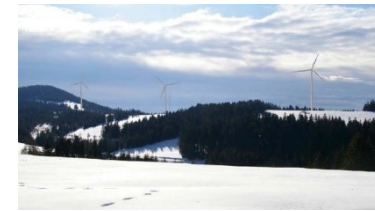
Pretul



Moschkogel



Handalm



Freiländeralm



Tauernwindpark

Thank you for your attention,
visit us at our booth!

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