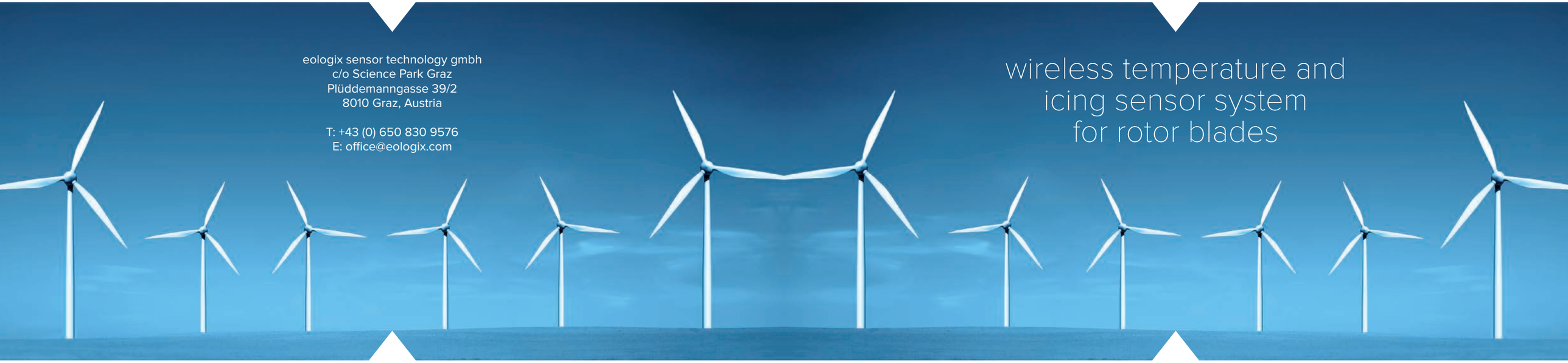
eologix
sensor technology

eologix sensor technology gmbh
c/o Science Park Graz
Plüddemanngasse 39/2
8010 Graz, Austria

T: +43 (0) 650 830 9576
E: office@eologix.com



eologix
sensor technology

wireless temperature and icing sensor system for rotor blades

eologix.com

Icing and Temperature Monitoring

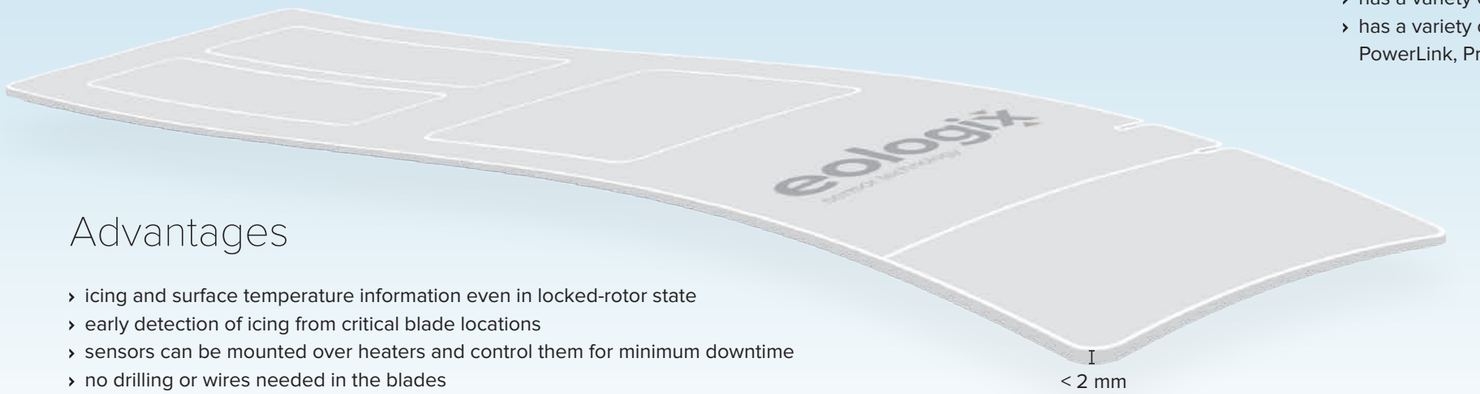
Icing of rotor blades is a common issue in cold climates:

- changes in power curve lead to loss of revenue
- additional load on drive train leads to higher maintenance effort
- ice throw is a safety hazard

Eologix introduces an easily retrofittable sensor system for all types of wind turbines. The system consists of one single receiving unit per turbine plus a number of sensing units which are distributed over the blades' surface. The sensing units can be easily mounted, e.g., during regular inspection of the blades.

› receive blade icing information exactly from where it occurs

› monitor the efficiency of your anti-icing or de-icing solution



Advantages

- icing and surface temperature information even in locked-rotor state
- early detection of icing from critical blade locations
- sensors can be mounted over heaters and control them for minimum downtime
- no drilling or wires needed in the blades
- no additional lightning issues
- unlimited number of sensors per turbine
- easily retrofittable

Sensing Units

- are completely wireless smart sensors
- are supplied by stored solar energy for unlimited energy supply
- measure temperature with a resolution of ± 0.25°C
- can detect icing at local thicknesses below 1 mm*
- are small, flexible and thin (below 2 mm)
- can be mounted to any position on the blade, also on nacelle or tower
- are delivered on a patch of erosion protection tape and mounted within minutes

* evaluated in icing wind tunnel laboratory tests

Receiving Unit (Base Station)

- collects the data transmitted by the sensing units
- can be placed on ground, nacelle, spinner, hub, blade root or tower (only one base station is required per turbine)
- can be integrated into current SCADA or control systems
- has a variety of available interfaces (WiFi, Web Server, Ethernet, RS485, GSM)
- has a variety of optional interfaces (Modbus TCP/RTU, CANopen, EtherCAT, PowerLink, Profibus, Satellite etc.)