COTES

THE RIGHT WAY TO DRY

COTES, THE RIGHT WAY TO DRY

WHAT TO CONSIDER REGARDING HUMIDITY IN WIND TURBINES

SCOTLAND ONSHORE, WORKSHOP, AARHUS - 15 SEPTEMBER 2026

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16 September, 2026 www.cotes.com

COTES

THIS IS US

Cotes is an independent and privately owned family company.

Founded in 1986 with a focus on sustainability, quality and positive impact.

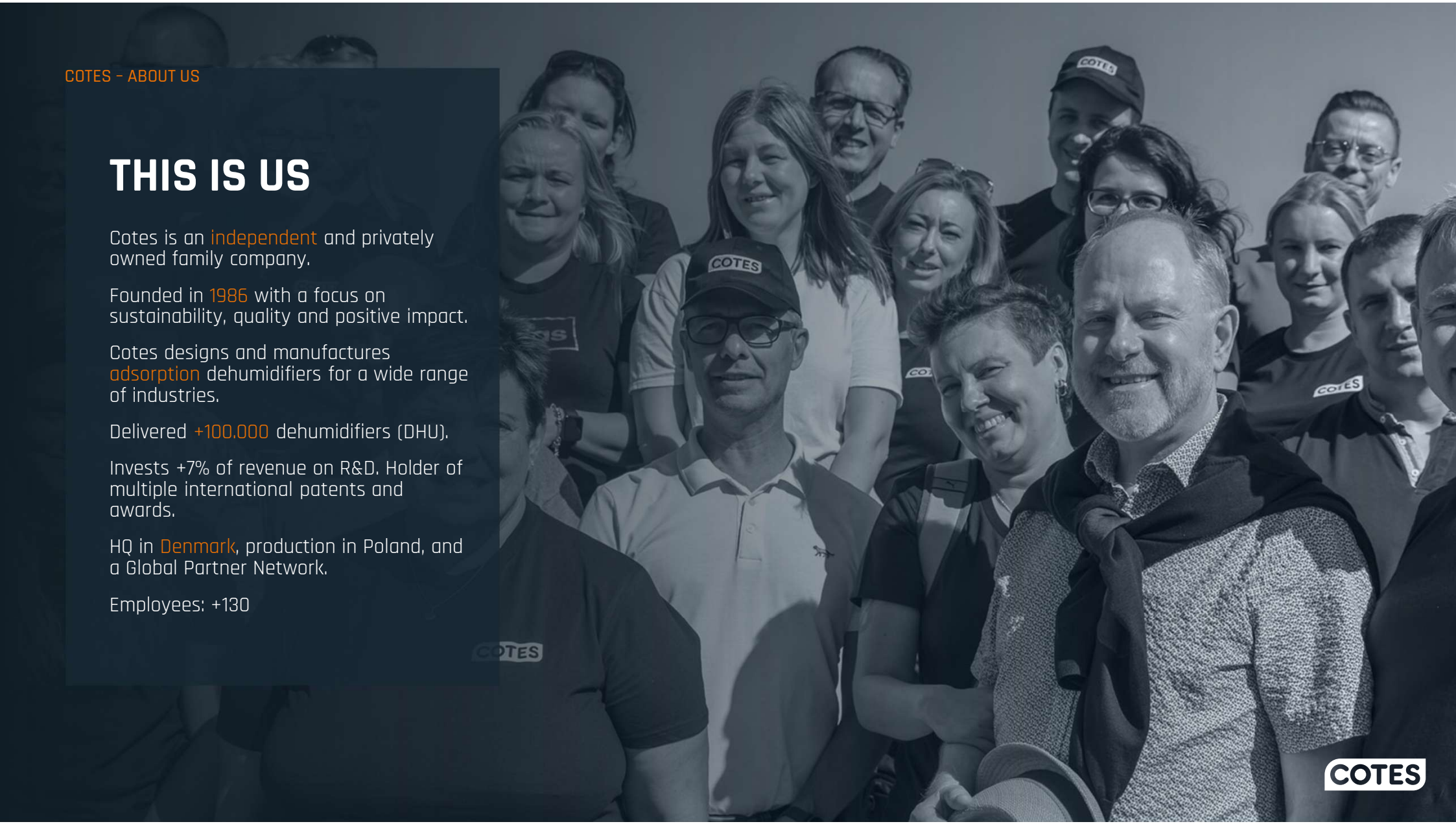
Cotes designs and manufactures adsorption dehumidifiers for a wide range of industries.

Delivered +100.000 dehumidifiers (DHU).

Invests +7% of revenue on R&D. Holder of multiple international patents and awards.

HQ in Denmark, production in Poland, and a Global Partner Network.

Employees: +130



WHY DEHUMIDIFICATION?

BECAUSE UNCONTROLLED HUMIDITY CAUSES PROBLEMS!

= ADDITIONAL COSTS!

UNCONTROLLED HUMIDITY LEADS TO:

- Condensation
- HSE issues
- Corrosion
- Mould, fungi and bacterial growth
- Electrical faults
- Seasonal fluctuations

TAKE ACTION AGAINST HUMIDITY



DO NOTHING

Live with the problem and hope for the issue will just go away by itself. (IT DOES NOT)



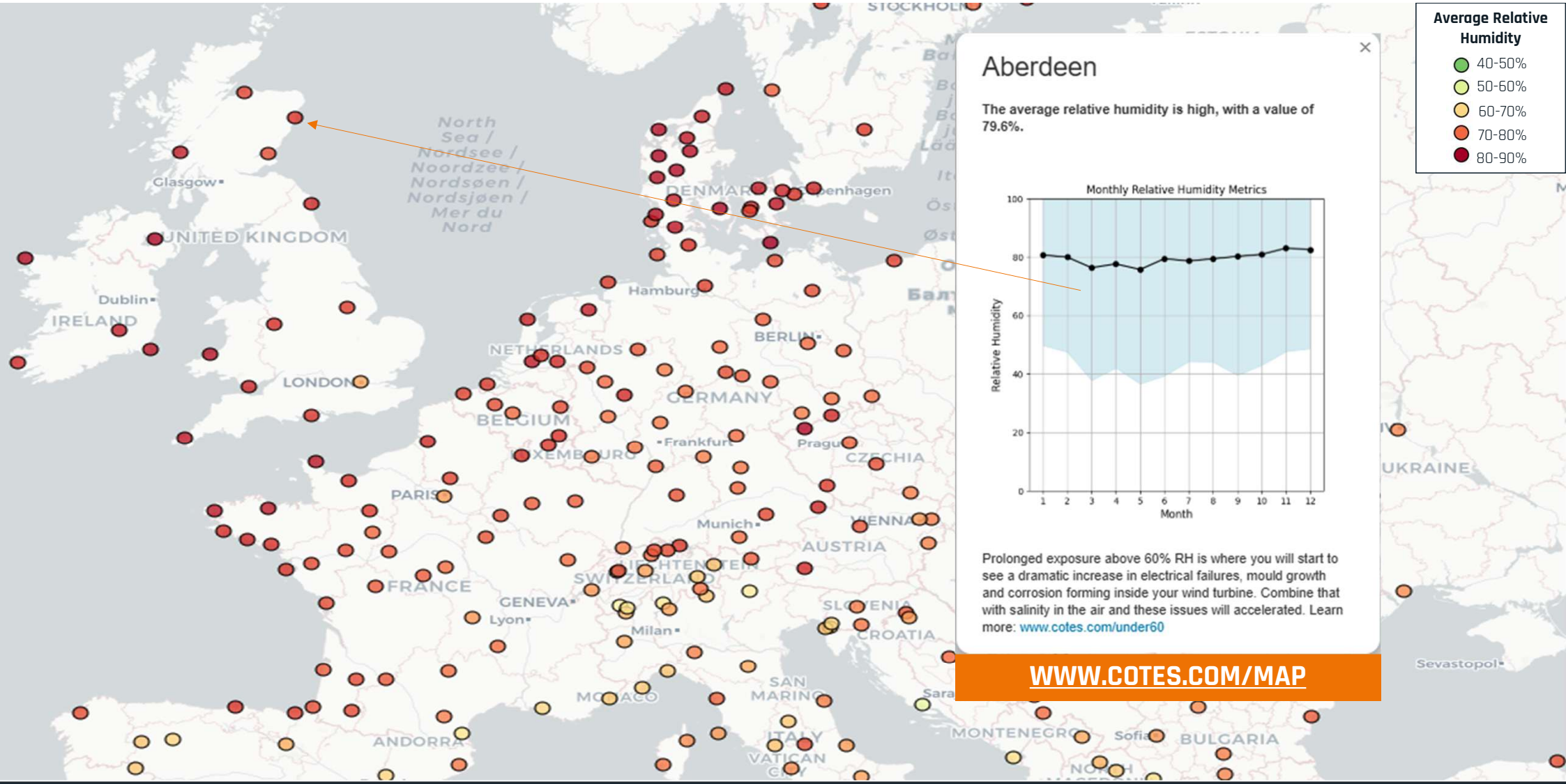
DO SOMETHING

Try silica dry bags, condensation dehumidifier or turn up the heat and ventilation or open a window. None of which are long-term solutions or effective in dealing with the issues.



DO THE RIGHT THING

Choose Cotes dry-air solutions that use adsorption dehumidification, clever design and enhance functionality - the right way to dry.


Average Relative Humidity
40-50%
50-60%
60-70%
70-80%
80-90%
Aberdeen
The average relative humidity is high, with a value of 79.6%.
Monthly Relative Humidity Metrics
Relative Humidity
Month
Prolonged exposure above 60% RH is where you will start to see a dramatic increase in electrical failures, mould growth and corrosion forming inside your wind turbine. Combine that with salinity in the air and these issues will accelerated. Learn more: www.cotes.com/under60
WWW.COTES.COM/MAP
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Milan
CROATIA
SAN MARINO
ANDORRA
ITALY
VATICAN
MONTENEGRO
BULGARIA
UKRAINE
Sevastopol

THE RIGHT WAY TO DRY

COTES ADSORPTION SOLUTION

- Ensure lower cost of maintenance.
- Improves the HSE Environment.
- Extent the lifetime of critical components.
- Increase uptime of your WTG.
- Secure higher asset value and ROI.



OFFSHORE, ONSHORE AND NEARSHORE

PROTECTS YOUR WIND ASSETS FROM MOULD, CORROSION AND ELECTRICAL FAULTS

Wind turbines are exposed 24/7, 365 days a year

- Proven over-pressure dry-air solution that protects the inside of wind turbines.
- Patented Cotes Wind Overpressure (CWO) range
- Drying and desalting the air and keeping moist air out.
- Ensure to avoid electrical faults, mould and corrosion.
- Key effects for customer are higher production uptime, lower maintenance costs, extended lifetime on equipment and strong ROI.

Offshore;

- **Long Experience**
- **Integrated design**
- **BOM (obligatory equipment)**

Onshore & Nearshore;

- **Similar Humidity and Salty Issues**
- **Fast installation (retrofit)**
- **Cost Efficient**
- **OEM optional solution**



OFFSHORE, ONSHORE AND NEARSHORE

LIGHT WEIGHT DEHUMIDIFICATION

CL26 Wind Turbines

Transportation, storage, temporary usage

Red dot award winning dehumidifier for Product Design and Innovation.

- Light version of CR240B
- From 19 kg to 11 kg – complying with HSE
- Recycled plastic for the main structure
- Fast installation with magnet bracket
- Tailormade air inlet
- Easy to disassemble, maintain and service
- Hygrostat is optimal





THE RIGHT WAY TO DRY

A TYPICAL BUSINESS CASE ONSHORE

- 1 year = 8,760 hours
- WTG: 3.0-3.5 MW
- Production: 9.5 GWh/year

- Medium Wind: 7.0 m/s, hub-heights
- Capacity factor: 30-40% considered

- Energy price: €0.05/MW
- Yearly revenue: >€500,000.00
- Daily revenue: around €1,400.00

- Potential revenue loss:
  - 5 days: €7,000.00
  - 10 days: €14,000.00
  - 15 days: €21,000.00

COTES

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TOWER RETROFIT INSTALLATION

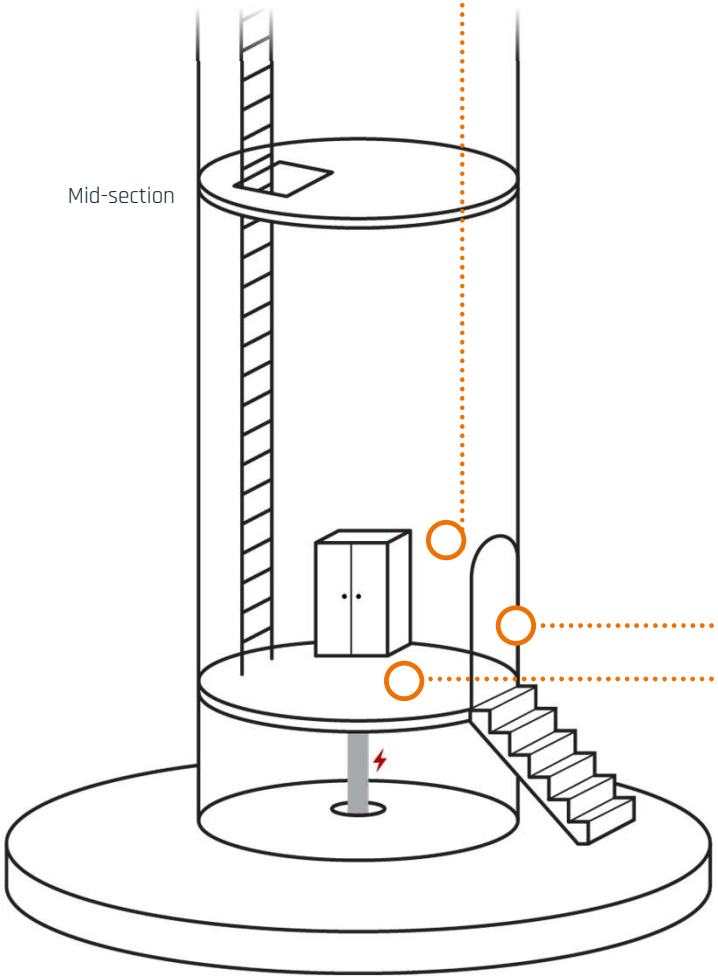
Where and how to install your Cotes dehumidifier inside the tower depends on your wind turbine, your dry-air strategy and your needs.

Connection:

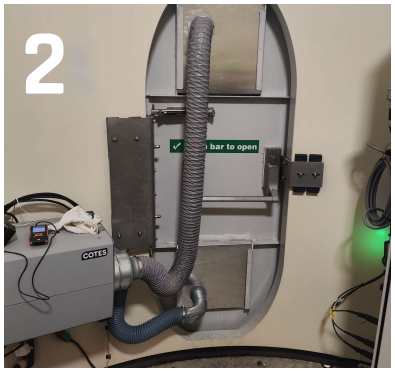
- To the outside with ventilation holes
- To the outside with door holes
- No connection to outside. Local cabinet protection only

Location:

- On the floor
- on the wall with magnets









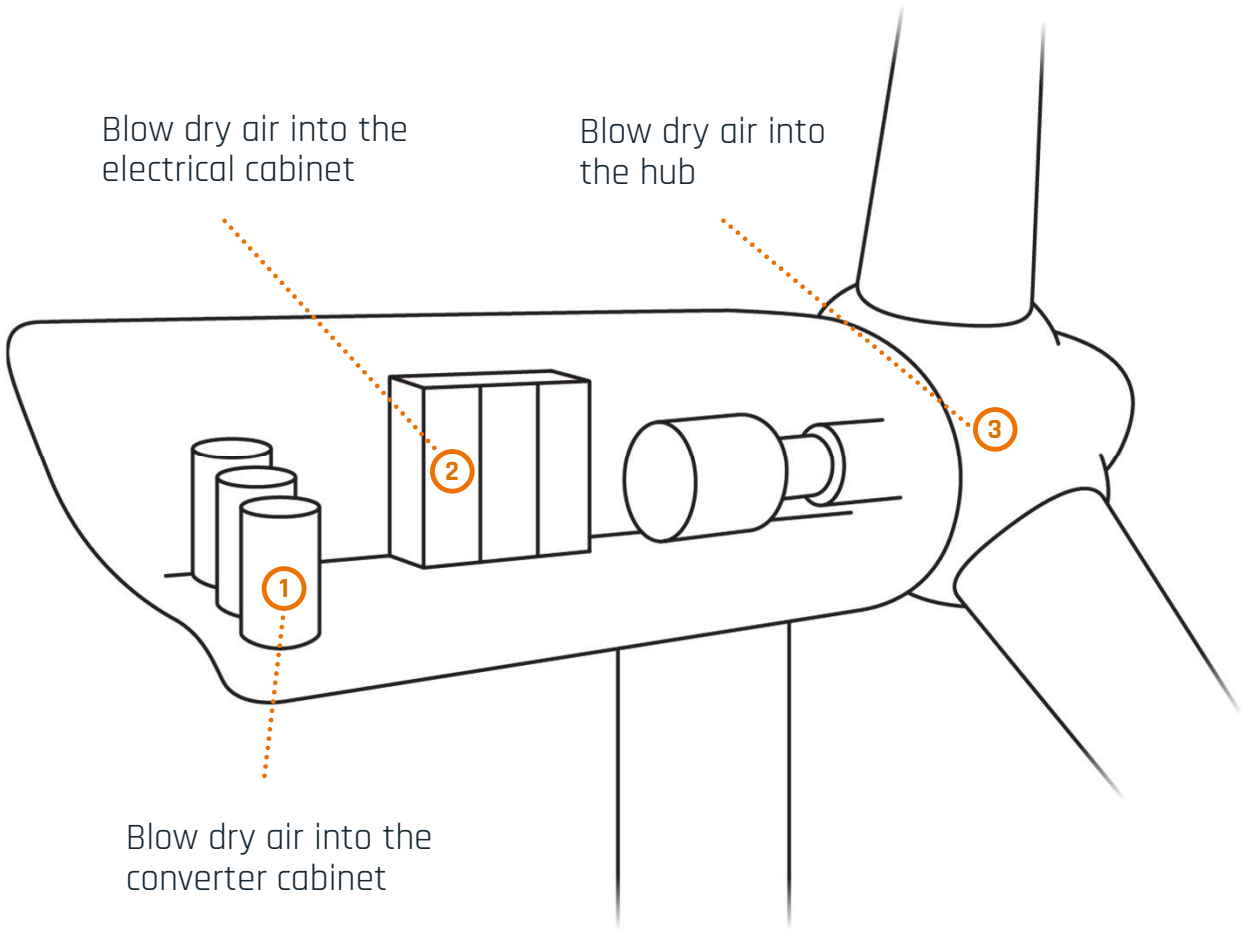
NACELLE RETROFIT INSTALLATION

Where and how to install your Cotes dehumidifier inside the nacelle depends on your wind turbine, your dry-air strategy and your needs.

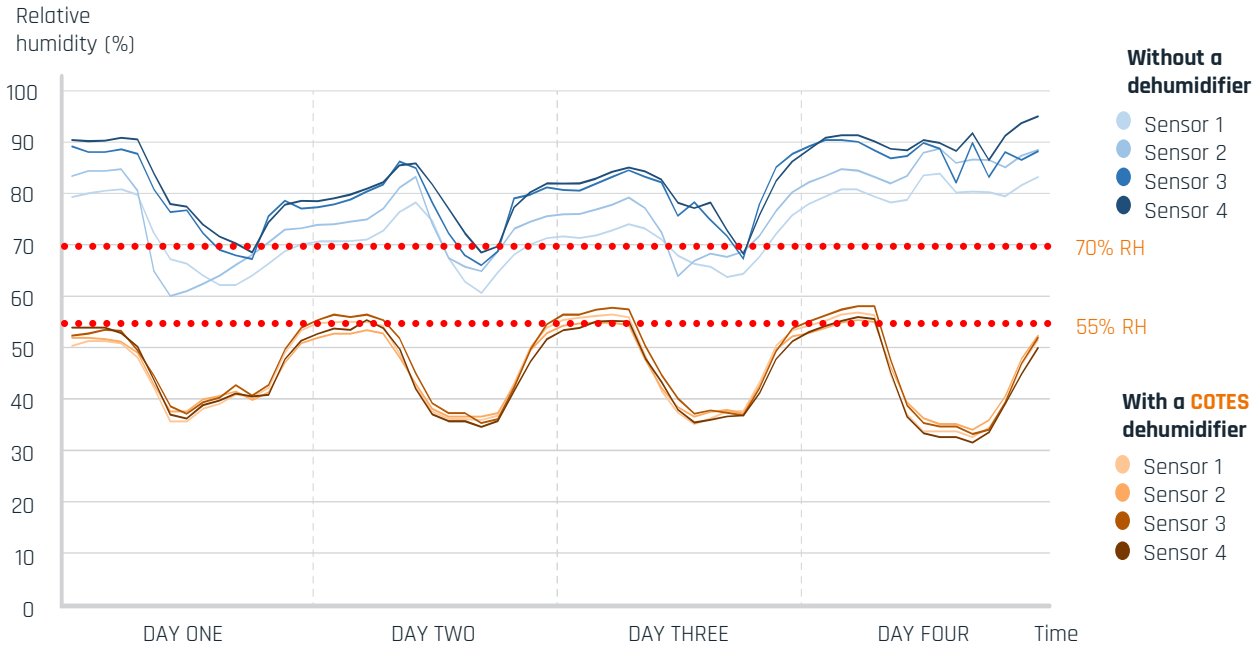
In the nacelle the challenge may be that the strucure is not fully airtight. Here it may be more effective to select targeted areas to dry and have the dehumidifier blow dry air directly into the cabinets or hub.

The following components are particularly vulnerable to humidity and salinity:

1. Converter cabinet
2. Electrical Cabinet
3. Hub



ONSHORE SITE HUMIDITY DATA



PAPALOTE CREEK & LOS VIENTOS WIND FARMS

COTES made retrofit solutions in Texas

Customer feedback:

- Average RH was in this case reduced by 38% at Papalote Creek.
- Customer expected a component life-time extension of up to 7 Years for certain subcomponents.

SELECTED ONSHORE WIND TURBINES



Siemens SWT
2.3MW

Dehumidifier
tower 99,5m
CR240B/CL26



Vestas V117
3.3MW

Dehumidifier
tower 91,5m
CR240B/CL26



Bonus
2MW

Dehumidifier
Tower 98m
CR240B/CL26



Vestas V162
5.6MW

Dehumidifier
tower 119m
CR400BW



Gamesa G80
2MW

Dehumidifier
tower 100m
CL26
CR400BW



Gamesa G87
2MW

Dehumidifier
tower 100m
CL26
CR400BW

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SENVION
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VATTENFALL


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RWE


SCOTTISHPOWER


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AN AREVA GAMESA COMPANY


Wind
Solutions


Deutsche
Windtechnik


SWIRE ENERGY SERVICES


XTWIND


Thank you!
Q&A
IT´S SCIENCE
- NOT MAGIC
COTES INVESTS +7% OF ITS ANNUAL REVENUE ON R&D TO CONTINUE DEVELOPING:
• Specialist knowhow
• Data driven approach
• Technology driven position
• Sustainable and environmentally focused
COTES