



**STEM SAS**

Energy-efficient dehumidification  
Reduce your electricity bill by 50% to 75%

# AIR DEHUMIDIFICATION

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It is essential in many industries such as agri-food, pharmaceuticals, etc.

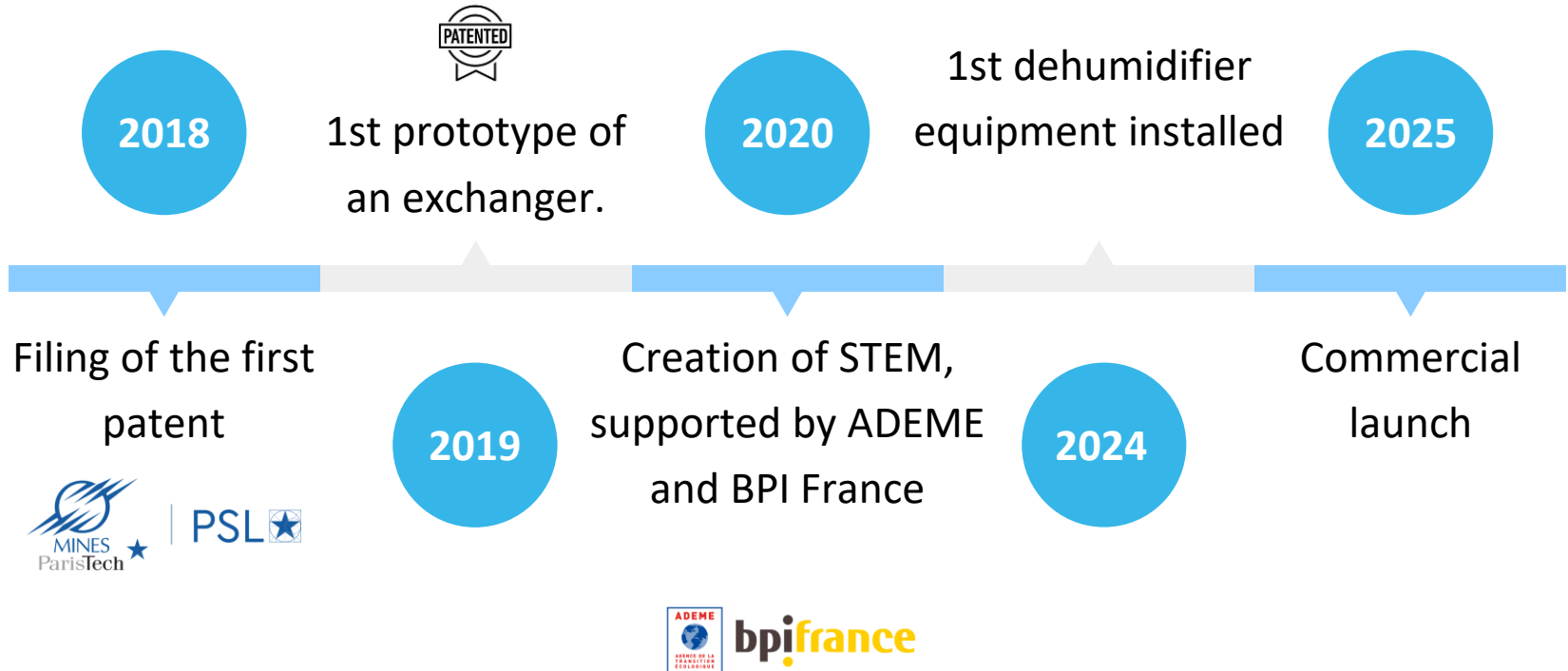
This operation is currently very energy-intensive.

In order to reduce consumption, the Mines de Paris PSL laboratory has patented a new membrane exchanger technology.

**The equipment is now available.**



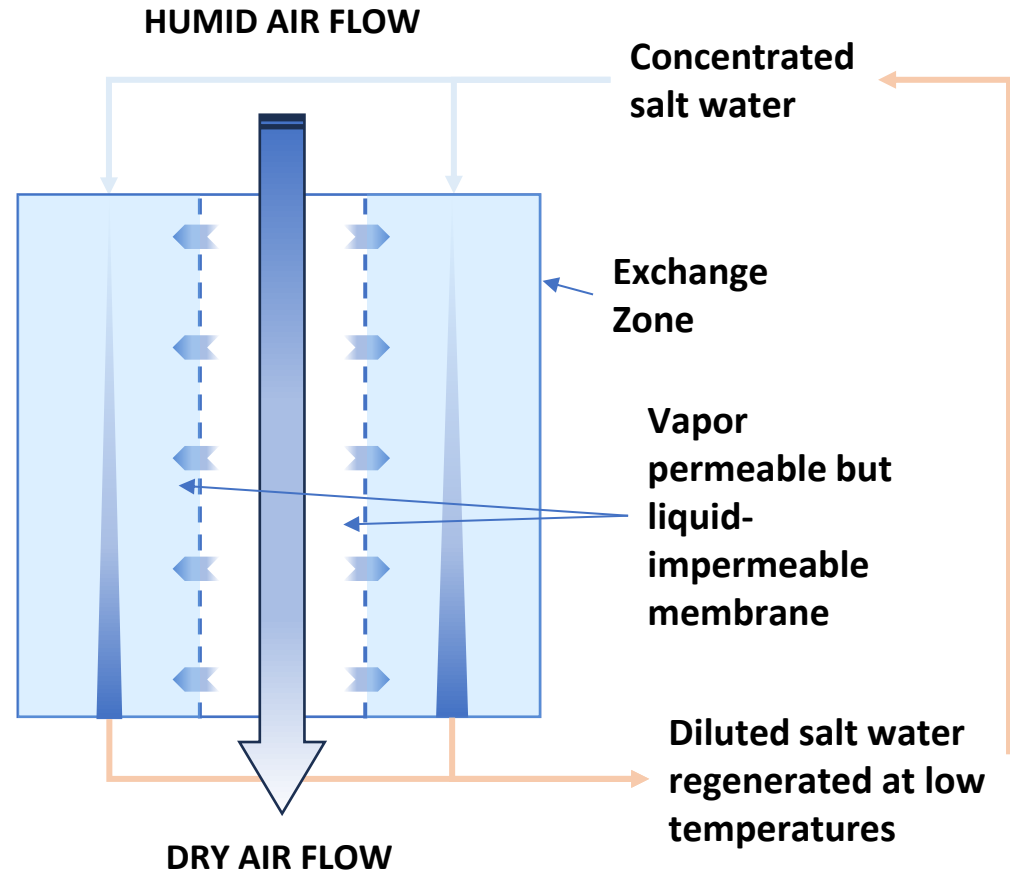
# THE STORY



# AIR TREATMENT

# NE DRY

Water vapour  
in the air  
passes  
through the  
membrane



# VERY SIGNIFICANT SAVINGS



## 1 Poultry Cutting Plant

Control Targets:

- T° maintained at 2°C
- 70% relative humidity (3g/kg)
- Continuous operation
- Flow required: 15,000 m<sup>3</sup>/h



## 2 Yeast Manufacturing Plant

Control targets:

- Absolute humidity: 4g/kg
- Continuous operation
- Flow required: 15,000 m<sup>3</sup>/h

	DEICCANT WHEEL	NEODRY
ANNUAL CONSUMPTION	192 MWh*	48 MWh
ENERGY SAVINGS		<b>75%</b>

	DEICCANT WHEEL	NEODRY
ANNUAL CONSUMPTION	556 MWh*	224 MWh
ENERGY SAVINGS		<b>60%</b>

# THE BENEFITS

	ADSORPTION DESICANT WHEEL	NEODRY
Performance		High efficiency at low temperatures (< 10°C)
Performance		Very low absolute humidity at any temperature
Operations		Simultaneous cooling possible
Electricity consumption		<b>50% to 75% lower</b>
Operations		Very quick return to control targets
Operations		Simplified maintenance
Installation	Humid air outlet required	Regeneration module can be placed outdoors

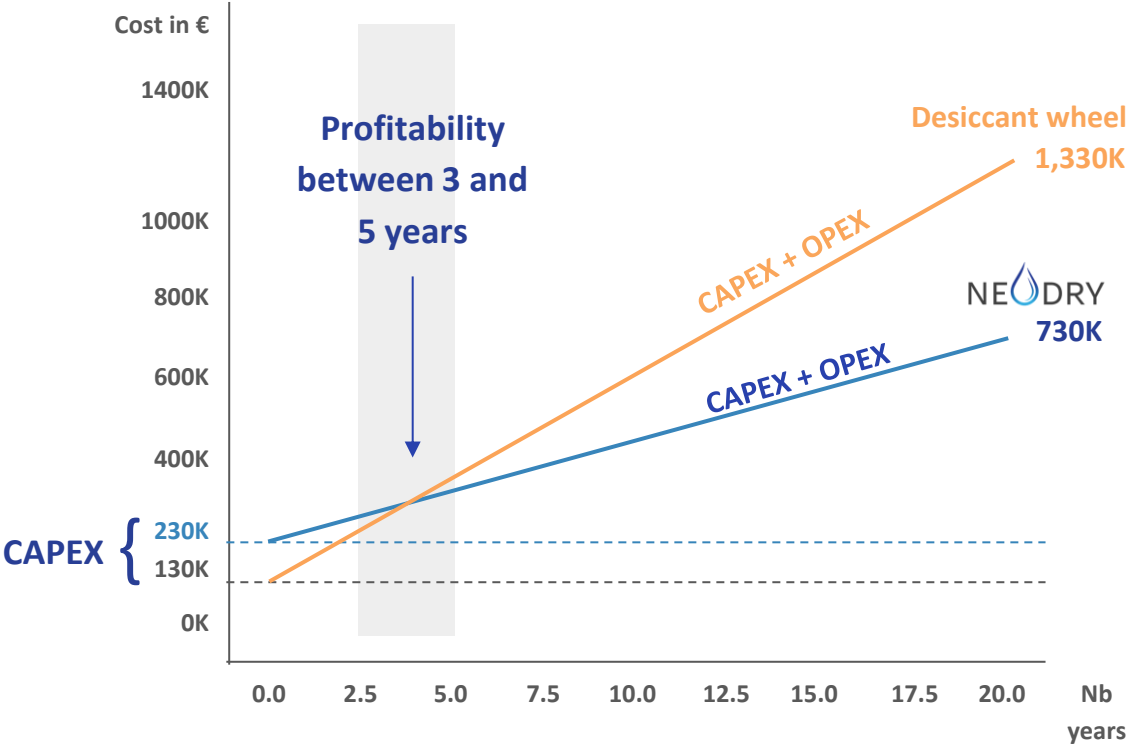
# AN INVESTMENT TO REDUCE THE CARBON FOOTPRINT



With a larger investment at the start

**NEODRY becomes more economical after 3 to 5 years**

Calculation based on 180 €/MWh elec.



# PARTNERS

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**dalkia**  
GROUPE edf

**ENGIE**

**suez**

**TotalEnergies**

**EQUANS**

**Installers**

**GreenFlex**

**LEMON**  
> ENERGY <

**Engineering consultant**

**Ferest Energies**  
BUREAU D'ÉTUDES TECHNIQUES



# ROADMAP

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Applications of the patent to other uses

AQUAHIVE

Pure water production with low energy consumption

NEPOOL

Dehumidification equipment for swimming pools

# CONCLUSION

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The **best solution** to achieve low humidity levels and/or with an operating temperature  $<10^{\circ}\text{C}$  **while significantly reducing your energy bill**



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