# Luper Technologies

**Effective Industrial Air Cleaning Solutions** 

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### Our purpose

At Luper, our purpose is to promote our planet's long-term sustainability by offering effective and efficient air cleaning solutions to industrial companies. We believe in integrating our goal into the core of our organization and strive to deliver solutions that not only meet but exceed the industry standards for sustainability.

Join us in our pursuit of a cleaner, more sustainable future for our planet.



### Our ecosystem

Brabantse Ontwikkelings Maatschappij



esa

European Space Agency

HIGH TECH CAMPUS EINDHOVEN



TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

UNIVERSITY OF

COPENHAGEN

**TNO** innovation for life

ASML

### PHILIPS



### **Problems to solve**



#### Organic air pollution

Organic air pollution can lead to respiratory diseases, neurological damage, and cancer, causing significant harm to both human health and the environment.



#### Greenhouse gasses

Greenhouse gasses trap heat in the atmosphere, causing global temperatures to rise and resulting in melting ice caps, sea level rise, and more severe weather events.



#### **Odorous** gasses

Odorous gases have a detrimental impact on human health and well-being, causing headaches, nausea, and other health issues, as well as affecting the quality of life.

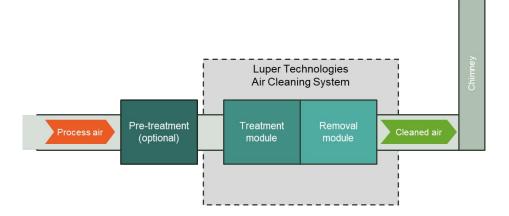


#### Particulate matter (PM)

Exposure to particulate matter can cause respiratory and cardiovascular diseases, decreased lung function, and premature death, making it a serious threat. We enable industrial companies to operate <u>effortlessly</u> without emitting air pollution through our advanced air cleaning systems.

### **Product application**

Our systems are installed on the channeled air leaving the factory and before releasing the air into the environment. The system is typically installed on the exhaust system of a factory process. The system can be retrofitted and, if desired, installed in sequence with existing air cleaning systems.

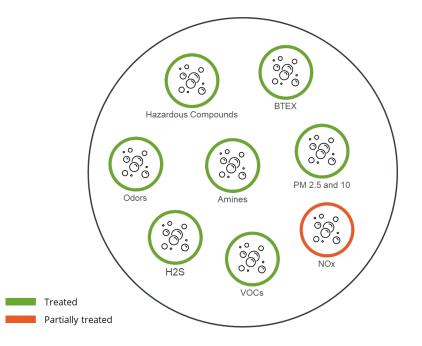


### **Targeted pollutants**

Our systems targets various types of pollutants, including gasses and particles.

#### Implications:

By removing harmful pollutants from the air, our system helps to reduce the environmental impact of industrial activities, including greenhouse gas emissions and the release of harmful chemicals and particles into the atmosphere.



### Technological landscape

The technological landscape for air cleaning systems has been static. We challenge the status quo.

Our system breaks down aggressive pollutants into harmless compounds, providing an effective solution for air cleaning in industrial applications.

	Luper Technologies	Thermal oxidation	Active carbon	Wet scrubbers	Biological cleaning
Suitable for alternating processes	✓	×	✓	×	X
Suitable for mixtures of pollutants	1	1	×	×	1
Suitable for low concentrations	1	×	×	1	×
Low pressure drop	1	1	×	×	×
Energy source	- A	۹ آ	<u>    4</u> 2•	<b>[4]</b>	47

### Key benefits



#### Effective

✓ Satisfies regulatory requirements

- ✓ VOC removal
- ✓ Odor removal



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#### Dynamic

✓ Suitable for batch production ✓ Suitable for alternating airflows ✓ Instant boot time



#### **Cost-effective**

- ✓ Low pressure drop
- ✓ Low energy use
- ✓ Low cost of ownership

#### Maintenance

- ✓ Easy to operate
- ✓ Non-specialist maintenance
- ✓ Non-toxic waste products

## **Case studies**

Application in the field

### **Field case** 01: Water treatment plant

Water treatment plants handle wastewater, which can produce unpleasant odors that may be released into the air. This specific plant dealt with heavy marine diesel oil.

#### **Client Implications:**

- Odorous and toxic compounds reduced by 92%
- Improved air quality
- Improved community relations



# **Field case** 02: Foundry

'Green Sand' forging produces significant amounts of benzene, toluenes, xylene and ethylbenzene.

#### **Client Implications:**

- BTEX and amine compounds reduced by 90-99%
- Regulatory compliance
- Improved worker safety
- Improved air quality



### **Field case** 03: Windmill factory

Producing windmill blades causes styrene which is an extremely toxic pollutant.

#### **Client Implications:**

- Styrene reduced by 99%
- Improved air quality
- Regulatory compliance
- Improved worker safety



### Our team



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## Learn more

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