Purenat

Media kit

Turning Pollution Into Pure Solution

www.pure-nat.com

Media kit_August2025

A Promising Industrial Gem

Purenat

Based in Bayonne, in the heart of the Basque Country (France), Purenat stands out as a rare example of **a female-led industrial deeptech startup**

- Founded by Natacha Kinadjian Caplat, PhD in Materials Physical Chemistry
- Joined by Manon Vaillant, a Biotechnology Engineer, as Co-founder and CEO

Two visionary women, with **perfect gender parity across its teams** — a notable achievement in a traditionally male-dominated sector.

At the core of Purenat's mission lies a **breakthrough innovation,** born from Natacha's PhD research, **designed to tackle one of today's most pressing yet under-addressed public health challenges: air pollution** (World's second leading cause of death, responsible for over 8 million fatalities globally every year.)

From left to right: Natacha Kinadjian Caplat and Manon Vaillant

A Breakthrough Technology for Cleaner Air

Purenat

Purenat has developed a **patented biomimetic photocatalytic material** that represents a true revolution in air decontamination. Unlike conventional filtration systems, largely based on imported activated carbon, **Purenat's solution**

- **Fully destroys harmful pollutants** without releasing secondary toxic by-products
- **Adress volatile organic compounds** (VOCs), **microorganisms** (viruses and bacteria), and **odors**
- Offers a **highly efficient, cost-effective, and sustainable alternative**
- Dramatically **reducing the carbon footprint of industrial air treatment.**
- The material is turned into filter cassettes that can be **easily installed in existing industrial air treatment systems**

From Specific Formula to Composite Granular

From Granular to Photocatalytic Fiber

From the Fiber to Spunbond Textile

From the Textile to Filtration Cartridge

Des cassettes dépolluantes Aux caissons de dépollution industrielle

Leading the Industrial Clean Air Revolution

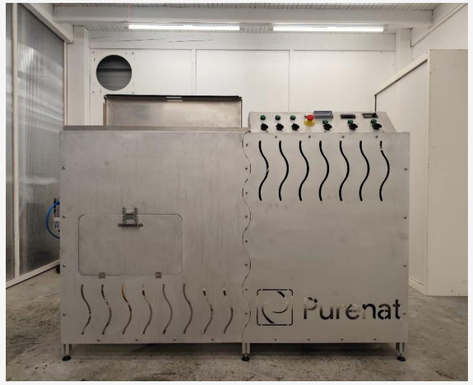
Purenat

Traditional filtration systems require costly, energy-intensive maintenance, wear out quickly with frequent replacements, remain ineffective against certain pollutants, and cannot be recycled — a combination that weighs heavily on both budgets and the environment.
Purenat's innovative technology not only overcomes these limitations but **sets a new benchmark** for air purification across multiple industrial applications.

Currently in its **pre-industrial phase**, Purenat is scaling up production following :

- A successful **€1.1M seed round in 2023** to recruit, move to industrial pilot stage
- A successful **€1.5M second round in 2024** to accelerate R&D, pre-industrialization (mini-series), and first on-site installations.
- In **2025, initial pilot deployments in France and across Europe** have already delivered **75–100% pollutant removal** in a single pass, including sulfur- and nitrogen-based VOCs, under real-world industrial conditions.

Purenat's growing team, January 2024



First pre-industrial production unit

Purenat's patented biomimetic material

Environmental and Social Impact

Purenat

Driven by science, purpose, and environmental responsibility, Purenat is **pioneering a new era of clean air technologies** for a healthier, more sustainable industrial future.

Impact Score

Top

10%

of French companies for environmental and social impact

Impact Score

76%

well above the national average of 54%

Labelled

NÉO TERRA

SOLAR IMPULSE FOUNDATION

An Ecosystem of Innovation and Impact

Purenat

Air Pollution: A Global Health Crisis

Purenat

- 2nd cause of death worldwide
- €600+B/yr in external costs for the EU
- 40% of EU greenhouse gas emissions
- 8M deaths in 2021

The Hidden Cost of Polluted Air

Purenat

- Fines for failing to meet industrial emissions regulations
- Selective and limited technology
- Low efficiency
- High operating costs
- Energy-intensive
- Clogged filters
- Waste disposal costs

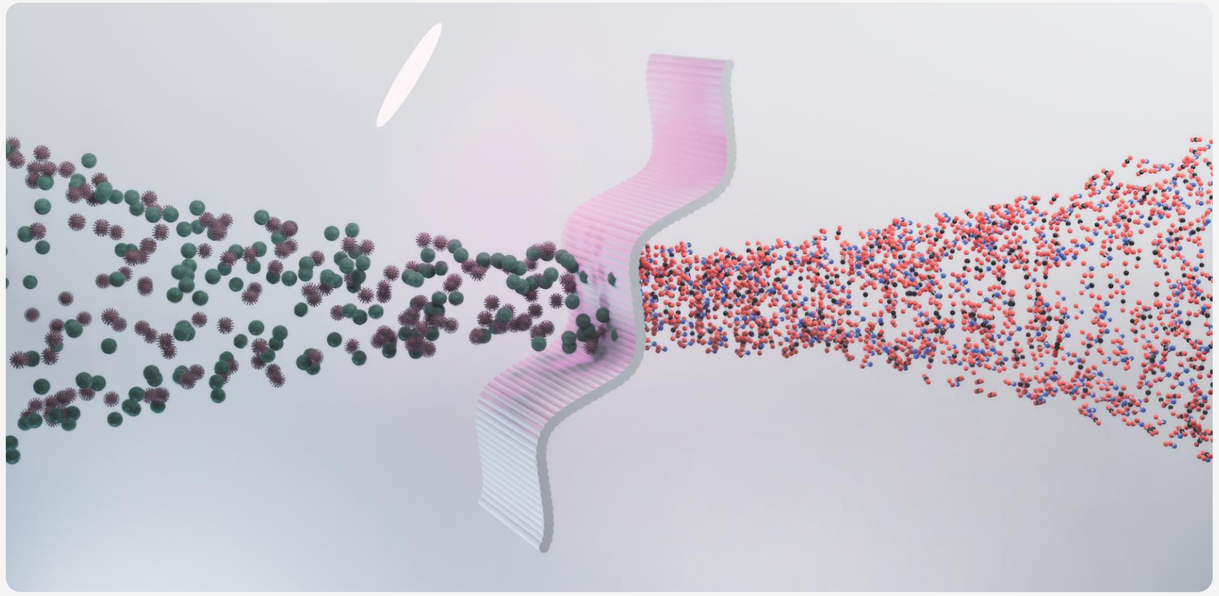
Revolutionizing Industrial Air Purification

Purenat

1st molecular and microbiologic filter

Shatters harmful pollutants instead of storing them

Efficient against VOCs, solvents, odors, viruses and bacteria



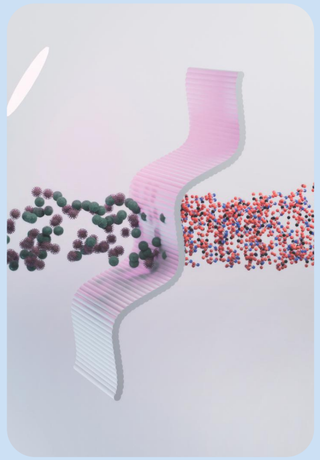
- 35x more pollutants shattered
- 10 to 20% global savings
- Lifespan 5x longer
- Pressure drop <10Pa
- Decarbonation : Scope 3

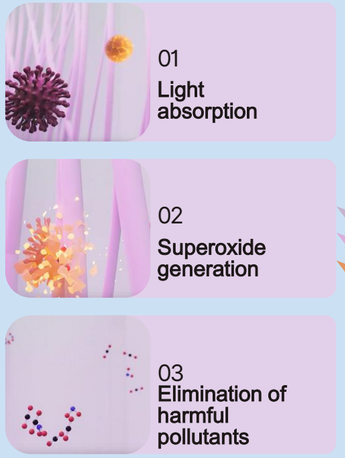
Watch the video

Beyond Filtration: A New Standard

Purenat

Biomimetic Photocatalysis
Purenat Technology, a unique patented technology



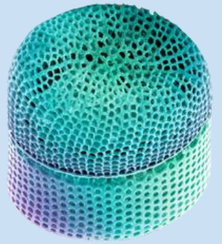


Organic – VOC, odors
Inorganic - NH3, NOx,H2S
Biologic - viruses, bacteria

Basic molecules, i.e. water vapor, harmless to humans and the environment

Biomimicry: boosting performance
Inspired by the champions of photosynthesis: **diatoms**.

We imitate the porous structure of diatoms to enhance the material's photocatalytic performance.



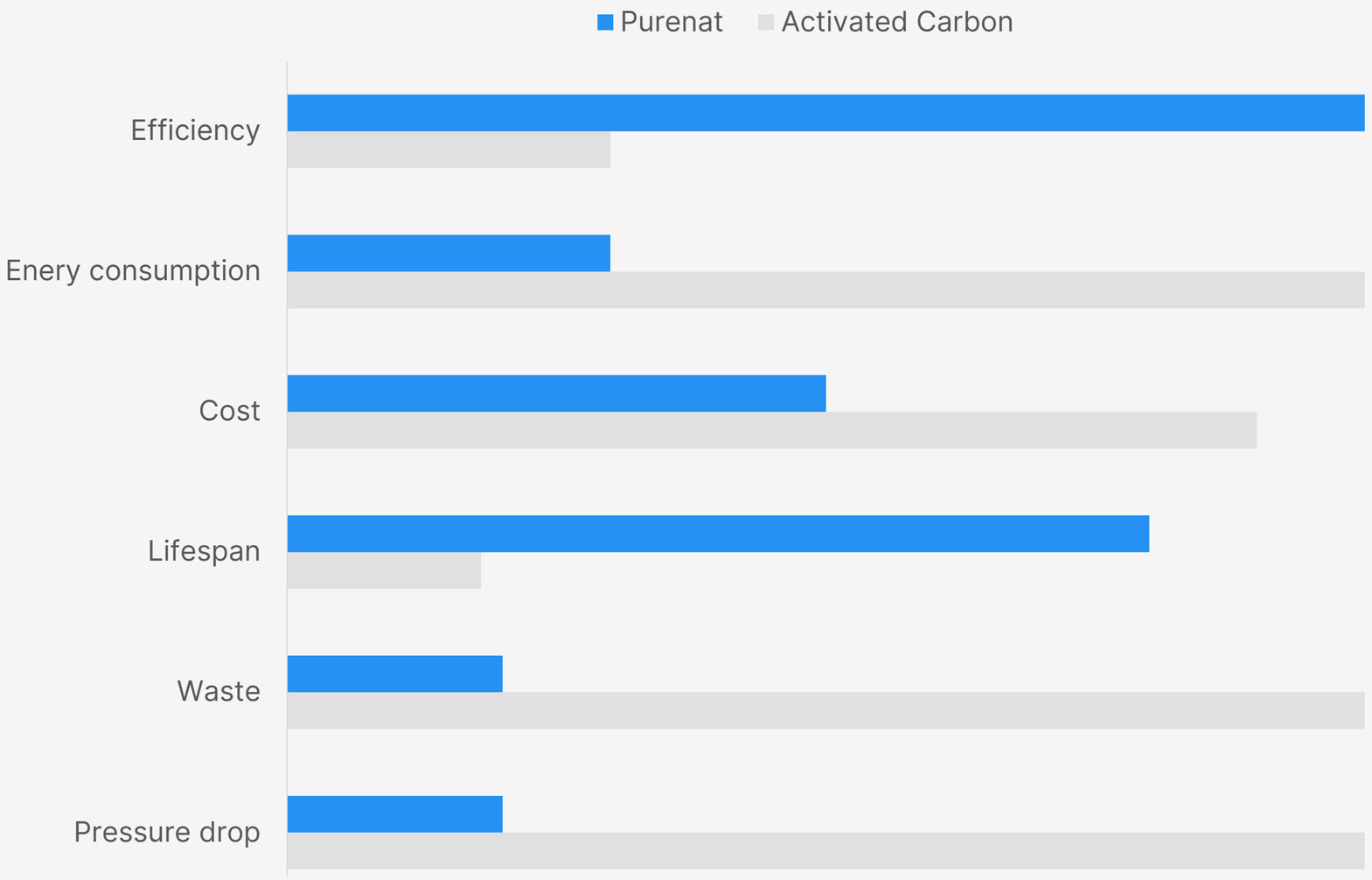
This is the first time that **a fiber, then a filter, has been composed of such an active agent** rather than simply being coated with it.

Natacha Kinadjian Caplat
Founder & President

- PhD in Physical Chemistry of Materials
- Air Quality Expert (exp +14 years)
- Top 100 inventors of the year 2024, Le Point

Purenat vs Activated Carbon

Purenat



Where Purenat Makes a Difference

Purenat

Purenat works hand-in-hand with industrial clients to deploy tailor-made pilot installations, precisely sized to their operational needs and environmental constraints. Each project considers all relevant technical parameters — including pollutant types and concentrations, air flow rates, and site-specific requirements — to ensure the most effective solution.

These real-world pilot units are a critical step toward a definitive large-scale installation, as they enable us to:

- **Validate pollutant profiles**: confirm average VOC concentrations and peak levels specific to the client's activity.
- **Optimize system design**: adapt the depollution unit's sizing and engineering for maximum efficiency and ROI.
- **Measure on-site performance**: assess real-life effectiveness under industrial operating conditions.
- **Plan seamless scale-up**: ensure future large-scale deployments are perfectly adapted to the site's needs.

Example of a pilot installation

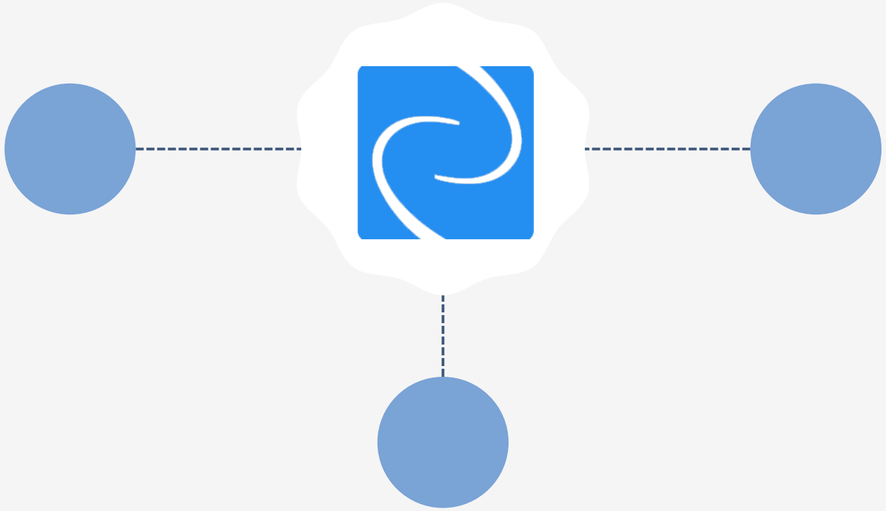
Where Purenat Makes a Difference

Purenat

Our technology can be used as **a substitute for**, or **as a complementary finishing step** to, traditional solutions such as scrubbers, biofilters, or activated carbon systems and/or lower overall operating expenses.
Purenat efficiently reduces VOCs, unpleasant odors, and harmful pollutants released during industrial production.

Food Industry

- Animal production chain: livestock facilities, slaughterhouses
- Food processing plants
- Flavor and fragrance manufacturers



Waste Management & Recycling

- Waste Management
- Recycling Facilities
- Wastewater Treatment Plants (WWTP)

Chemical Industry

- Surface treatment activities
- Paint manufacturing facilities
- Construction materials manufacturing (BTP sector)
- Chemical transformation plants

Key figures

Purenat

- Founded in 2020
- 14+ years of R&D
- 3M+ deaths/year caused by air pollution worldwide
- 75–100% pollutant removal in real-world tests
- €1.1M seed funding (2023), €1.5M second round (2024)
- Impact Score 76% (Top 10% of French companies)
- Pilots deployed in France and Europe
- 7 patents worldwide
- Team of 10
- 8 industrial agreements already signed

clauger Big Dutchman SUEZ

Purenat's growing team, January 2024

Purenat is the story of two entrepreneurs who have surrounded themselves with a team of committed experts.

Two Women Driving Industrial Change

Purenat

Driven by a shared passion for innovation and environmental impact, these two women combined their complementary expertise to embark on a unique industrial adventure, paving the way for next-generation clean air solutions.

Natacha Kinadjian Caplat – President & Founder

A PhD graduate in Physical Chemistry of Materials from the University of Bordeaux, Natacha has dedicated over 14 years to researching indoor air quality challenges. Her doctoral work led to the breakthrough biomimetic photocatalytic material that underpins Purenat's patented technology.
Today, she heads the company's R&D efforts, constantly pushing the boundaries of innovation in industrial air decontamination. Beyond Purenat, Natacha plays an active role in French and international standardization groups focused on indoor air depollution and environmental performance indicators for buildings. She was named among France's Top 100 Inventors of 2024 by Le Point.

Manon Vaillant – Chief Executive Officer & Co-Founder

An Engineer in Biotechnology, graduate of ENSTB Bordeaux, Manon brings expertise in strategic marketing and business development. Inspired by the disruptive innovation created by Natacha, she joined Purenat as co-founder and CEO, leading the company's commercial strategy, partnerships, and market positioning.
A certified coach, Manon also oversees human resources and organizational development, fostering a strong and inclusive company culture as Purenat scales its industrial ambitions.

Celebrated for Impact and Excellence

Purenat

Purenat’s breakthrough innovation, disruptive material technology, and strong market potential have earned it prestigious awards and accolades from leading organizations in industry and innovation.

2021
- **Innovation Workshop Award** – Pays Basque

2022
- Winner – **Sustainable Construction & Living Environment competition**
- **French Tech Pays Basque Award** – Basque Invest

2023
- Listed in **NA20 French Tech** – Bordeaux
- Winner – **Pollutec Innovation Awards**
- Winner – **Global Industrie Awards** (Young Startup category)
- Regional Finalist – **CIC Sud-Ouest Start Innovation Business Award**
- Winner – **AGIPI Entrepreneurship Contest**
- Awarded at **MaddyTour by Maddyness**

2024
- Winner of the **NeoAquitaine Economy Awards** (Start-Up Prize)

2025
- Finalist at the **Environmental Monitoring Awards** in several categories:
  - New Initiative Award (Air)
  - Regulatory Compliance Monitoring Award (Air)
  - Excellence in Industrial Emissions Monitoring Award

Manon Vaillant at Pollutec Innovation Awards 2023

Purenat

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