



# CLEANER POWER

EMISSION CONTROL | THERMAL COMPONENTS | ELECTRIC POWERTRAIN & BATTERIES





**Proventia**

**DEVELOPING CLEANER POWER**

Our products and technologies enable engine, machine, and equipment manufacturers worldwide to design and build cleaner, more energy-efficient machines.

**P**roventia is a leading innovator and supplier of emission control systems, thermal insulation components, and electric powertrain solutions, including batteries. Our combined expertise in emission control, insulation, and electrification ensures compliance with current and future requirements and regulations – no matter which technology you use to produce the power.

### Trusted by Global OEMs

Proventia's customers include global, industry-leading OEMs that rely on Proventia's expertise to achieve cleaner, more energy-efficient machines.

We are known for developing some of the world's most advanced and reliable emission control systems. We design and manufacture insulation components for exhaust aftertreatment systems and other temperature-critical applications, while our electric powertrain and battery solutions enable the electrification of off-highway machinery.

Our strength in the off-highway machine industry stems from our extensive experience with machines, their technologies, and various operating environments. We leverage this experience and our flexible, proactive approach to develop the most innovative products for the off-highway sector.



### EMISSION CONTROL

State-of-the-art emission control systems with comprehensive engineering and testing services.



### THERMAL COMPONENTS

High-performance insulation solutions for temperature-critical applications.



### ELECTRIC POWERTRAIN & BATTERIES

Batteries, powerpacks and electric powertrain solutions engineered to operate reliably in the toughest environments.



### WHERE THE POWER GETS CLEANER

A quick visit to our headquarters and Technology Center in Finland and the factory in Czechia.



**Modular and Agile Design Tailored to Your Needs**

**PROVENTIA EMISSION CONTROL**

**Staying compliant** in the ever-evolving world of machine engineering and regulatory landscape requires the highest level of engine and emission expertise. Even when using renewable fuels or hybrid systems, your internal combustion engine requires exhaust aftertreatment (EAT) systems. When an EAT performs optimally, it complies with emission regulations, reduces fuel consumption, and lowers CO<sub>2</sub> emissions.

*Platform EAT designs support various installations, helping customers meet future demands using the same technology.*



### Leading the Way in Emission Control

Our reputation as the go-to problem solver for emissions reduction challenges is why industry-leading OEMs trust us. Our customers include global engine, agricultural, forestry, material handling, construction, mining, and marine applications. We are also ready to support future needs across your portfolio, such as the growing demand for low-emission genset solutions.

Our expertise in emission control is rooted in our extensive experience in engine and machine technologies and their operating environments. We don't just respond to your needs; we anticipate them, fostering a proactive and flexible partnership.

As you prepare for next-generation engines or stricter emissions standards, our emission reduction technologies and compact design expertise help you stay ahead.

### Innovative EATs With Competitive Edge

Our systems are built using standard validated components that integrate seamlessly into a wide range of system layouts. This modular approach allows fast customization for different applications and ensures perfect fit even in the tightest spaces.

### Reasons to Partner With Proventia

- Over 30 years of experience in emission control technologies and system integration
- World-leading AdBlue® mixing expertise
- An innovative, agile, and proactive partner
- Expertise in combining internal combustion engines and battery technology into advanced hybrid systems
- State-of-the-art Technology Center equipped with advanced testing and engineering capabilities
- High-quality and sustainable manufacturing at Proventia's factory



*Proventia's emission control systems are increasingly selected by leading OEMs, reflecting our growing market share in advanced EATs. We are a trusted AGCO Partner-Level Supplier, with a proven track record in demanding applications, such as modern Fendt tractor platforms.*



Controlling Heat Where it Matters

# PROVENTIA THERMAL COMPONENTS

**High-temperature insulation** is essential for making safe, energy-efficient, and environmentally friendly machines and vehicles. It is a game-changing asset that facilitates creative designs for technologically complex machines. It reduces thermal radiation and enables the most effective use of today's confined engine compartments. High-quality insulation also increases people's safety.

### Performance, Safety, and Comfort in Use

With thermal insulation, we retain the temperature where needed, such as in exhaust systems, or protect components from heat. Our success in thermal components stems from our understanding of the critical role it plays in EAT system performance and efficiency.

Flexibility and listening to the customer describe not only our engineering but also our manufacturing. We can deliver anything from small batches of a few hundred parts to large-scale production.

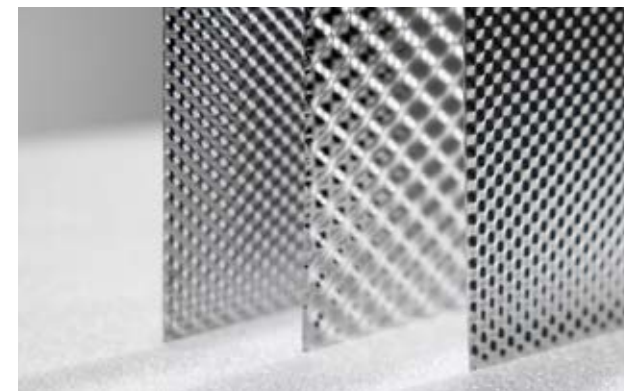
We manage the entire insulation process for the customer – and more. During insulation assembly, we can also integrate third-party components, streamlining our customers' own manufacturing processes and improving efficiency on their production lines.

### Reasons to Partner With Proventia

- Deep understanding of insulation's role in EAT performance
- High-quality, visually eye-catching insulation solutions
- Strong expertise and experience in engine and machine technologies
- Rapid prototyping and validation
- Fast process from prototypes to serial products
- Flexible, cost-effective manufacturing



➤ **3D heat shields can be shaped into any complex form.**



➤ **Our strength in thermal components comes from knowing just how essential insulation is to reliable, efficient emission control systems.**



From Peak Power to Sustainable Energy

# ELECTRIC POWERTRAINS & BATTERIES

Electrifying off-highway machinery increases productivity, reduces CO<sub>2</sub> emissions, and lowers operational costs. It is a major step towards more energy-efficient machines. Proventia supports OEMs in this transition with more than 30 years of expertise in engine and machine technologies.

There is no single solution for electrifying off-highway machinery. Duty cycles, power needs, and operating environments vary significantly across applications. Proventia's modular systems are designed to adapt to these differences, from high-power LTO solutions to high-energy LFP systems, as well as complete powerpack and electric powertrain configurations.

### Tailored Battery and Powertrain Solutions for Harsh Environments

We design and deliver solutions for applications operating in harsh, highly dynamic, or otherwise demanding environments. Our capabilities include electric and hybrid system engineering, testing, and calibration, enabling OEMs to develop the next generation of off-highway machines.

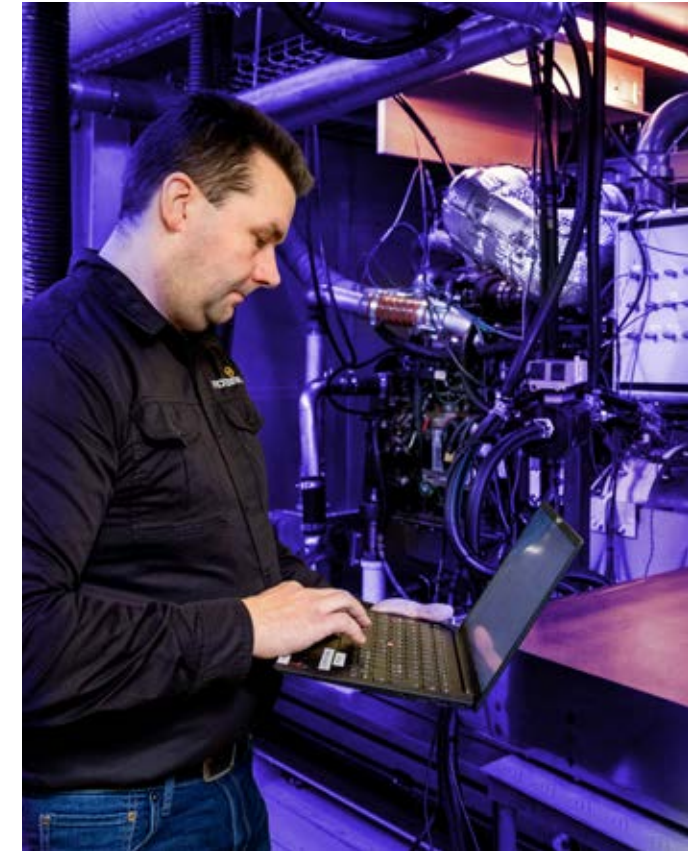
We also specialize in developing and manufacturing modular, customizable lithium-ion battery packs tailored for the off-highway machine industry and other heavy-duty

applications. Thanks to advanced battery enclosures and high quality cells, our battery systems offer an exceptionally low CO<sub>2</sub> footprint without compromising performance.

We simplify electrification by integrating modular battery systems with intelligent control systems and power electronics into durable, safe, and straightforward to integrate architectures. With proven technologies and deep integration experience, we help OEMs build the next generation of low and zero emission machinery.

### Reasons to Partner With Proventia

- Strong background and expertise in off-highway machinery
- Battery modules developed and manufactured in-house
- Advanced simulation and engineering support
- Comprehensive battery testing and validation capabilities
- Collaborative, proactive approach in all operations



### POWER BATTERIES

Proventia Power batteries are based on LTO technology and designed to deliver high bursts of power quickly.



### ENERGY BATTERIES

Proventia Energy batteries are based on European LFP technology and engineered to serve as a high-density power pack for electric machinery and equipment.



### ELECTRIC POWERTRAIN ENGINEERING

We offer modular batteries, intelligent control system, and power electronics that streamline your electrification process.



## Proventia Technology Center, Oulu, Finland

Our Technology Center offers a wide range of engineering and testing services and supports customers in achieving lower emissions.

At our Technology Center in Oulu, Finland, we engineer, design, simulate, test and validate our products. We utilize the industry's top design software, along with a premier testing environment featuring engine, emission, battery and hybrid testing capabilities.



### ENGINEERING

- Design and development of components, platforms and systems
- Simulation (CFD and FEA) for EAT system analysis and durability
- Battery sizing, thermal, aging and mechanical durability simulations

### PROTOTYPE MANUFACTURING

- Rapid modifications during the product development phase
- High-quality prototypes

### IN-HOUSE TESTING AND VALIDATION SERVICES

- Performance, aging and durability testing for engines, exhaust after-treatment systems, insulation components and batteries.

*Agile product development process leading to efficient serial manufacturing*

#### ENGINEERING SERVICES

- R&D
- Design services
- Simulations

#### PROTOTYPE MANUFACTURING

- In-house prototype manufacturing
- Early-stage manufacturability review

#### TESTING & VALIDATION SERVICES

- Performance
- Aging
- Durability

#### HIGH-QUALITY EATS, INSULATION, BATTERIES

- Own OE standard manufacturing site
- First-rate subcontracting



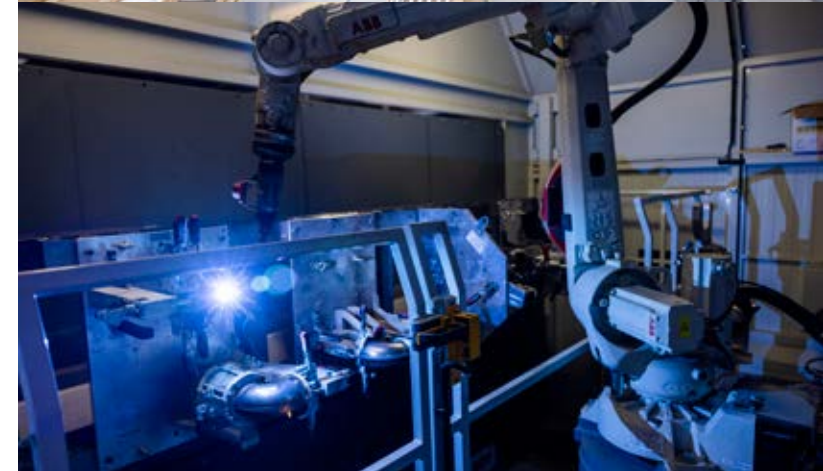
## Proventia Factory, Brno, Czech Republic

The 7,000 m<sup>2</sup> production space is equipped with the latest manufacturing technologies.

Our skilled and experienced manufacturing team operates modern production tools, equipment and robots. At our factory, we manufacture exhaust aftertreatment systems and thermal insulation components. Our main objective is to be a reliable, flexible and sustainable manufacturing partner to our customers.

### Audited Suppliers and Subcontracting Chain

We manage and control the entire supply chain, from order placement to procurement of parts and components, and from production to delivery to your facilities. Our audited, top-tier subcontracting network and carefully selected suppliers support and complement





## YOUR PARTNER FOR DEVELOPING CLEANER POWER

Proventia makes your engines, machines, and equipment cleaner and future-compliant, regardless of which technology you use to produce power.



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