Potential for decarbonisation, energy efficiency and reduction in CO2 emissions based on the collection, provision and analysis of production process data – Manufacturing SME sought to adopt solution within the GreenMantis Cascade Call

Summary

Profile type	Company's country	POD reference
Research & Development Request	**Germany**	**RDRDE20260423007**
Profile status	**Type of partnership**	**Targeted countries**
PUBLISHED	**Research and development cooperation agreement**	**• All countries**
Contact Person	**Term of validity**	**Last update**
Enrico FRANZIN	**23 Apr 2026** **23 Apr 2027**	**23 Apr 2026**

General Information

Short summary

A German SME specialises in industrial data integration across heterogeneous machine and system environments. It collects, validates and provides production data for analysis, enabling users to optimise processes. By identifying non-value-adding machine runtimes, it enables targeted process improvements directly contributing to better energy efficiency and reduced CO2 emissions. They seek manufacturing SMEs to implement and validate the solution within a research project in the GreenMantis Call.

Full description

In most manufacturing companies, machine fleets consist of equipment from different manufacturers, built in different years and adhering to different technical standards. Some modern machines have digital interfaces, whilst a significant proportion of older equipment has no communication capabilities or only limited ones. Production data is therefore often unavailable, recorded manually or exists only in isolation within individual systems, resulting in a lack of consistent, standardised and cross-system data.

A German SME addresses this challenge through a combination of hardware and software solutions for vendor-neutral machine connectivity, alongside a central cloud platform for data processing. The aim is to automatically capture, validate and standardise production data, convert it into a uniform data model and make it available across systems. The data is then made usable for ERP systems, BI applications, data lakes and AI-supported applications.

The key added value lies in the provision of this consistent, valid and standardised data foundation for production processes. The German SME does not actively intervene in machine controls nor does it optimise processes independently; rather, it provides the structured data (e.g. identifying downtime and micro-stops, analysing production processes) upon which optimisation measures can be based.

The collected data enables the identification of non-value-adding machine runtimes such as downtime and micro-stops. These states represent periods in which machines consume energy without producing output. By making these inefficiencies transparent, targeted process improvements can be implemented, leading directly to a reduction of unnecessary machine runtime and thus to improved energy efficiency and reduced CO2 emissions.

The solution was developed, implemented and validated in the printing industry under real production conditions and is currently in productive use there. The aim is to transfer and scale the solution to other industrial sectors, in particular plastics and injection moulding, the packaging industry, metalworking, the food industry and the automotive supply industry. These sectors are often energy-intensive and characterised by heterogeneous machine fleets and fragmented data structures, and thus offer significant potential for the application of this technology.

Within the GreenMantis framework, the project aims to achieve measurable improvements, including:
- at least 5% improvement in energy efficiency (target around 10%)
- reduction of CO2 emissions (minimum approx. 2%, target around 5%)
- implementation of at least one data-driven process improvement
- introduction of at least one new data-based use case (e.g. reporting, analytics or optimisation logic)

GreenMantis, an EU-funded Eurocluster project, is ideally suited to support SMEs that would like to achieve transparency across their processes and take action on this basis to become more efficient and sustainable. The objective of this financial support action is to support SMEs from manufacturing sectors to adopt net-zero technologies and collaborate with technology providers.

The project duration is approximately 9 months, followed by a transition phase to stabilise and validate the results in the operational environment.

Thus, the German SME seeks a manufacturing SME from any of the above-listed sectors to apply for the GreenMantis Cascade Call in order to adopt the solution and actively implement process improvements based on the provided data.

Advantages and innovations

The solution enables the analysis of actual machine running times, the distinction between production and downtime, the evaluation of set-up times and job changeover times, and the detection of micro-stops and their frequency. In addition, error and fault conditions as well as order-related production sequences can be analysed.

The data is recorded with precise timing, is comparable across machines, and is linked to ERP and order data.

Companies are enabled to gain transparency into actual production processes, reduce manual data entry, utilise data across systems, and establish a robust foundation for data-driven applications.

Technical specification or expertise sought

Stage of development

Under development

Sustainable Development goals

- **Goal 12: Responsible Consumption and Production**
- **Goal 13: Climate Action**
- **Goal 7: Affordable and Clean Energy**
- **Goal 9: Industry, Innovation and Infrastructure**

IPR Status

IPR Notes

Partner Sought

Expected role of the partner

The partner sought is a manufacturing SME, e.g. from plastics and injection moulding, the packaging industry, metalworking, the food industry or the automotive supply industry, located in the EU or associated to the SMP COSME programme (non-German), to jointly apply for the GreenMantis Cascade Call.

Within the project, the German SME will provide the technology, while the manufacturing SME will adopt the solution and actively use the generated data to analyse and improve its production processes. This includes, in particular, reducing downtime and micro-stops, optimising setup processes and increasing the share of productive machine runtime.

Based on the implemented improvements, measurable results are expected in terms of increased energy efficiency, reduced CO2 emissions and enhanced operational resilience.

After successful validation, the solution can be transferred into regular operation and further scaled within the production environment.

Type of partnership

Research and development cooperation agreement

Type and size of the partner

- **SME <=10**
- **SME 50 - 249**
- **SME 11-49**

Call Details

Framework program

Horizon Europe

Call title and identifier

GreenMantis Innovation Support Scheme

Submission and evaluation scheme

Anticipated project budget

100000

Coordinator required

No

Deadline for EoI

15 May 2026

Deadline of the call

20 May 2026

Project duration in weeks

36

Web link to the call

https://www.b2match.com/e/greenmantis-matchmaking-2026/components/67204/hg1tuig8Zk9z

Project title and acronym

Dissemination

Technology keywords

- **01003008 - Data Processing / Data Interchange, Middleware**
- **02003005 - Information processing & Systems, Workflow**
- **04007003 - Process optimisation, waste heat utilisation**
- **01003015 - Knowledge Management, Process Management**

Market keywords

- **02006004 - Data processing, analysis and input services**
- **08002001 - Energy management**
- **06010003 - Energy for Industry**
- **08002003 - Process control equipment and systems**

Targeted countries

- **All countries**

Sector groups involved