

ESA Business Applications

'Scope3' Demonstration Project: building an intermodal scope 3 emission monitor.

Problem Statement

The (petro)chemical industry, and by extension most other industries, currently only focus on their Scope 1 and Scope 2 emissions but not at all on their scope 3 emissions as these are being perceived as the scope 1 and 2 emissions from their suppliers who should be taking care of these.

When considering Scope 3 emissions, currently all calculations are based on averages and multiples and not on exact emission data.

The European Commission is very clear on the fact that real 'exact' emissions will have to be measured and that the chemical industry (and others) will have to internalize their scope 3 emissions in the foreseeable future.

ESA 'Scope3' demonstration project

The aim of this ESA Demonstration Project is to:

- Develop a user friendly 'real emission'-monitor for the different freight transport modi truck, rail, barge and maritime.
- Create as much traction as possible amongst (Petro)chemical stakeholders (other industries are of course also more than welcome to join) and gather their requirements when it comes to monitoring and allocating exact scope 3 emissions.
- By doing so anticipate a European legislation towards the (petro)chemical industry, and by extension towards other industries as well, regarding the internalization of real scope 3 emissions.

Co-funded by the European Space agency

The mission of 'ESA Space Solutions' is to support entrepreneurs in Europe in the development of business using satellite applications and space technology. As in the development of this scope 3 emissions monitor, data coming from space technologies such as GNSS, satellite communications and earth observation will be used and integrated, ESA is co-funding this demonstration project.

The 'Scope3' project consortium

Ovinto: project initiator and lead, specialist in the development of a SaaS platform towards the rail & intermodal freight industry.

CMB Tech: Specialist in the development of hybrid hydrogen engines for vessels, trucks and locomotives. Being part of the CMB Group, specialist in Maritime transport.

Railnova: Specialist in locomotive-telemetry and monitoring

Rhea: Specialist in cybersecurity and data protection



PH consult: Specialist in (petro)chemical intermodal freight transport

DGA Shipping: Specialist in inland barge transport.

Sector organisations

We will actively collaborate with relevant sector federations and academic knowledge centra to follow their directives and advice. Federations currently invited to the project:

CEFIC: The European Chemical Industry Council

ECTA: The European Chemical Transport Association

SCPC @ EPCA: The Supply Chain Programme Committee at The European Petrochemical Association

Vlerick: Smart Supply Chain Research Centre at the Vlerick Business School

Smart Freight Centre: is an international non-profit organization focused on reducing greenhouse gas emission from freight transportation

Contributing users:

Contributing users are industrial stakeholders participating in the demonstration project. The benefit of participating during the demonstration project is that a contributing user can provide user requirements regarding the development of the emission monitor. The user requirements of all the participating contributing users will be taken into account into the development roadmap.

They will also be able to 'beta-test' the developed modules, validate the generated data for their business and give feedback on how they see further development of the tool.

A formal requirement for ESA to co-fund a demonstration project is to prove the commercial viability of the project and the willingness of users to pay for the developed service. Therefore, contributing users need to pay a symbolical fee to join the 'Scope3' demonstration project of € 500 per month during the 24 months of the project.

The project is scheduled to start in May 2023

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