

Press release

Stahlo Stahlservice GmbH & Co. KG



*Stahlo at Euroblech in Hanover
From 25 to 28 October 2022
Hall 17, Booth B66*

Stahlo at Euroblech 2022

Steel Gate, the PCF demonstrator: carbon tracking for green steel supply chains

Fossil-free steel is set to transform the markets. Initial quantities have already been announced and will be available in practice in two or three years. Nevertheless, the market is confusing, and there are currently no uniform standards for "green" steel or how emissions generated during production are to be counted. Stahlo has already provided an initial answer to these questions with its classification label. Now the steel service centre is going one step further. At Euroblech 2022, the company will use a PCF (Product Carbon Footprint) demonstrator to present an example application that has what it takes to substantially strengthen confidence in supply chains with steel produced without any fossil fuels. The technological basis of "Stahlo Steel Gate" project is a blockchain application.

Dillenburg, 15 September 2022 – There is a great deal of interest in "green" steel. However, the shortage of reliable information is leading to a lot of uncertainty for steel processors. The question that worries many people: How can I obtain reliable information about what comprises a steel product' carbon footprint? Furthermore, how reliably can this information be passed on in the supply chains?

From steelmaking to the finished goods: Steel products pass through many production and process steps. Stahlo's mill-independent steel service centre, for example, produces slitted coils and cut-to-size and standard sheets for its customers from flat steel coils, with a high degree of precision and based on customer

Corporate Communications

Dr Carola Hilbrand
Phone: +49 2772 505- 2527
E-mail: hilbrand.c@friedhelm-loh-group.com

Stahlo Stahlservice GmbH & Co. KG
Kasseler Straße 27
35683 Dillenburg, Germany
www.stahlo.de

Press release

Stahlo Stahlservice GmbH & Co. KG

requirements. However, the question of how much carbon dioxide is produced during the entire products' production and processing chain is becoming increasingly important for customers. This is because car manufacturers and their suppliers, both of which are Stahlo's customer industries, will be relying on "green" steel in the EU's zero-emissions strategy in the future as part of the EU's zero-emissions strategy, which aims to achieve climate neutrality in the European Union by 2050.

"This is a profound change in supply chains, but the market for "fossil-free" steel is only just starting to emerge. Therefore, reliable information is crucial for the smooth functioning of this new steel ecosystem," Oliver Sonst, Managing Director of Stahlo Stahlservice GmbH & Co. KG, is convinced.

Although there is a growing body of knowledge on the various approaches to creating carbon profiles for steel products, for example based on the various manufacturing routes, more information is still needed. Stahlo has collected this knowledge in its database. It forms the basis for Stahlo's classification label, which generally classifies the products according to the emissions produced and makes it easy for customers to compare them. However, the more the market for green steel grows, the more pronounced the need for accurate and detailed information on the specific steel products that customers purchase. And this must be one thing above all: reliability.

Prevention of manipulation along the steel supply chain

At Euroblech 2022, Stahlo is now using a PCF demonstrator to show an example application called "Steel Gate", which fills this gap and shows how carbon

Press release

Stahlo Stahlservice GmbH & Co. KG

tracking can be implemented along the steel supply chain – digitally, transparently and securely. The basic idea is simple. A specific data set is assigned to each steel product. Information about the respective emissions generated is added at each stage of production and passed on along with the product. Users at the end of the supply chain, thus have a complete set of information on the product carbon footprint of precisely the steel they have ordered. Linked information is nothing unusual today, although it has been primarily analogue. It also contains no data on the emissions generated but other production and quality data and is susceptible to possible manipulation.

Blockchain technology as a solution

Blockchain technology may be one promising approach to a solution. Thanks to highly secure cryptographic procedures, a blockchain protects such information chains against unauthorised access. This is made possible by the decentralised distribution of the data records across many instances. The steel manufacturer is one instance, the processor a second, and so on. If any further information about a processing step is now added to one of the data sets, all the data records of all the distributed instances will change simultaneously. The cryptographic concatenation (chaining) of the information blocks ensures that no manipulation is possible at any point: If one data record of a single instance were changed illegally (for example, by reducing the emissions generated up to that point), all the other distributed data records would automatically register this due to the cryptographic link.

“Our customers in the automotive and supply industries, but also in other sectors, are increasingly becoming interested in how much carbon is generated by the steel they order from us,” says Oliver Sonst, Stahlo Managing

Press release

Stahlo Stahlservice GmbH & Co. KG

Director. We already provide information on this with our classification label. Using the blockchain application, which we are showing at Euroblech in Hanover, we can now clearly assign emissions to the material along the supply chain that cannot be changed,” says Oliver Sonst.

It’s not the technology but the transparency that is crucial

The crypto technology used is not decisive, Oliver Sonst explained further. “Interest in ‘green’ steel and thus the need for adequate information is increasing. The decisive factor here is not the data technology, but transparency and trust in the supply chain to obtain accurate, reliable information on specific green steel products,” Oliver Sonst continues. “As a mill-independent steel service centre, we are in an ideal position to meet this need for reliable information. This is the relevant precondition for making investments, especially given the growing complexity in the business sector.”

Visitors can create an emission profile live

Visitors to the Stahlo booth (Hall 17, Booth B66) will themselves have the chance to create a blockchain data record. The underlying steel product will be configured live at the trade fair, based on the Stahlo classification label. An emissions profile is created in several steps using the classification system, and it can then be printed out on-site as a label. Finally, based on this fictitious product, an output blockchain data record is generated using a barcode; visitors can view or follow the process live on the monitor across various supply chain stages.

Press release

Stahlo Stahlservice GmbH & Co. KG

Green steel is green

With Steel Gate, Stahlo is showing how all data inputs can be traced back to their source. The author's name and the dates and times of entry are always clear. Therefore, green steel remains recognisable as genuinely green steel, in other words, steel produced without fossil fuels through every manufacturing process.

We didn't develop our example application from scratch but used existing standards. For example, the application runs on the highly energy-efficient Polygon platform. "We use it to generate real blockchain data sets, which we can also make available if there is interest," says Oliver Sonst.

In addition to the security and trust the cryptographic process provides, a blockchain application offers the steel industry several other benefits. For example, formerly manual and error-prone processes, such as providing production and quality data, such as factory and test certificates, can be automatically assigned to the product. This means an enormous reduction in costs with simultaneous quality and traceability improvements.

(8,070 characters)



Caption(s)

Image 1 (Stahlo_Klassifizierungslabel.jpg): The Stahlo steel classification label rates products based on the emissions generated, which makes it easy for customers to compare them.

Image 2 (Stahlo_Oliver_Sonst.jpg): Image 2 (Stahlo_Oliver_Sonst.jpg): "Our customers in the automotive and supply industries, but also in other sectors, are increasingly interested in how much carbon dioxide is generated by the steel they order from us," says Oliver Sonst, Stahlo Managing Director.

Press release

Stahlo Stahlservice GmbH & Co. KG

Image 3 (Stahlo_Klassifizierungslabel.jpg): The Stahlo plant in Gera is home to one of Europe's largest blanking centres. The company custom-manufactures slitted coils, cut-to-size and standard sheets, shaped blanks and contoured blanks in all standard grades, up to and including high and ultra-high-strengths.

May be reproduced free of charge. Please name Stahlo Stahlservice GmbH & Co. KG as the source.

Stahlo Stahlservice

Stahlo Stahlservice GmbH & Co. KG is one of Germany's most advanced and largest mill-independent steel service centres. It offers a complete portfolio of products and services for all key materials for the sheet metal market. The Stahlo plant in Gera is home to one of Europe's largest blanking centres. It manufactures diverse sheet metal products, including slitted coils, contoured and cut-to-size blanks, plus standard and cut-to-size sheets – in line with its customers' specific needs.

Stahlo was founded in 1983 in Dillenburg, Germany, and is a member of the Friedhelm Loh Group. The Group is now active worldwide with more than 12 production sites and over 90 international subsidiaries. The Friedhelm Loh Group employs 11,600 people and generated revenues of approximately €2.5 billion in 2021. In 2022, the family-run business was named one of Germany's leading employers by the Top Employers Institute, for the 14th year running. A Germany-wide survey by Focus Money magazine named Friedhelm Loh Group as one of the nation's top companies in terms of vocational training for the fifth year running in 2021.

For more information, visit www.stahlo.de and www.friedhelm-loh-group.com.