



# TRACEMET

## TraceMet Report:

# Implementation and evaluation


**TraceMet – Traceability for sustainable metals and minerals**

Project time: December 2019 to January 2021

- TraceMet is part of and financed by Swedish Mining Innovation, the strategic innovation program for the Swedish mining and metal mining industry, a joint venture by Vinnova, Formas and the Swedish Energy Agency.
- Svemin, the industry organization for mines, mineral and metal producers in Sweden, is TraceMet's project owner and initiator.

With support from

**VINNOVA**  
Sweden's Innovation Agency

 Swedish  
Energy Agency

**FORMAS**

Strategic  
innovation  
programmes

**SWEDISH  
MINING  
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# TraceMet WP5

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## Summary

This report summarizes the results from WP5 – Implementation and Evaluation in the TraceMet project. The work package has used an agile development methodology to steer the technical development in work packages 3 and 4 with input from the user group. Although the complexity of work processes both preceding and succeeding use of the pilot render the overall traceability question difficult, results from the final evaluation of the pilot system indicate high satisfaction among the user group members.

## Aims

The aim of the work package was to implement a pilot MVP (minimum viable product) where the metals could be followed through a certifiable chain after manual inputs into the pilot system.

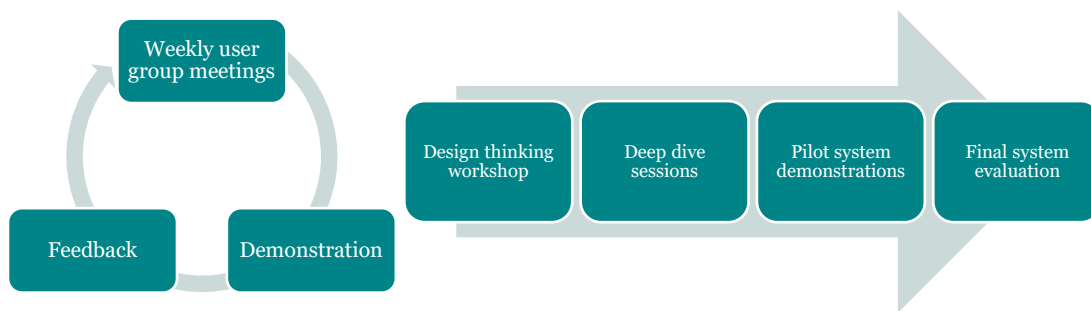
## User group

To evaluate the pilot system and define the features needed for the MVP, a user group consisting of members from the participating companies was created. The user group consisted of the following members, with some participating more regularly than others:

ABB	Boliden	SSAB	LKAB	Elektrokoppar	Scania	Volvo Group
<ul style="list-style-type: none"><li>• Roine Oberer</li><li>• Priscilla Garibay</li></ul>	<ul style="list-style-type: none"><li>• Sven Hjelmstedt</li></ul>	<ul style="list-style-type: none"><li>• Jonas Larsson</li></ul>	<ul style="list-style-type: none"><li>• Marie Lundgren</li><li>• Andreas Frohm</li></ul>	<ul style="list-style-type: none"><li>• Jonas Ciardi</li></ul>	<ul style="list-style-type: none"><li>• Nina Vikkula</li></ul>	<ul style="list-style-type: none"><li>• Danuta Kuchar</li><li>• Pierre Voutsinos</li></ul>

## Workflow

To be able to implement and evaluate the TraceMet pilot system we followed an agile development methodology. Input to the development was collected during an initial design thinking workshop with the steering group followed by individual deep dive sessions with each respective company. Results from the input collection can be found in the supplementary material to this report. The cornerstone of the development process were weekly meetings with the user group where the developing work packages 3 and 4 presented and demonstrated their work and the user group gave continuous feedback on the development process. The final implementation was then demonstrated to the user group and evaluated quantitatively and qualitatively. The workflow is illustrated in the figure below.



## Results

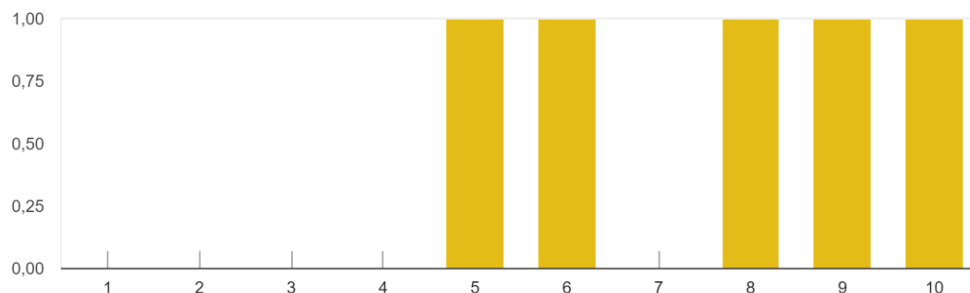
From the initial design thinking workshop, three main categories of users were identified: sustainability/R&D officers, procurement officers and sales/marketing. The evaluation criteria were therefore designed to match the expectations and demands for the different roles. Each criterion was evaluated quantitatively from 1 – *Strongly disagree* to 10 – *Strongly agree*, and with the possibility to give comments on each question to further motivate the answer.

The final evaluation results of the pilot system are presented below, together with a few comments, divided into sections based on the role categories. As the companies provided one answer per company, the number of answers is lower than the number of participants in the user group. For a deeper understanding of the pilot system features, please refer to the reports from work package 3 and 4.

### All users

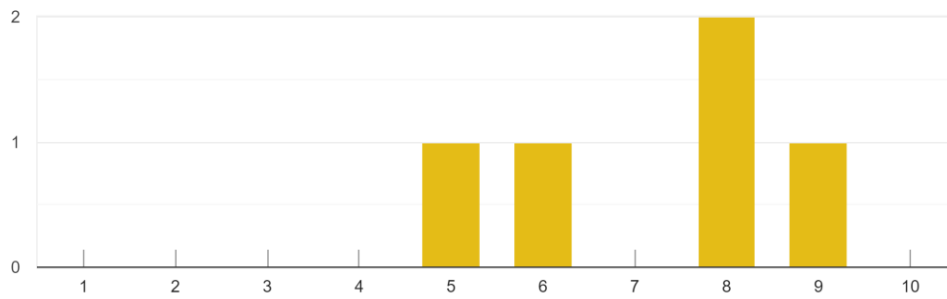
In general, the knowledge and usability of the system was high in the user group, even though the actual testing time was very low for many participants. This can be explained by the high number of demonstration sessions during the weekly meetings and designated sessions. This is shown in the figures below.

As a user of the system, I understand how material lots are transferred through the value chain  
5 svar



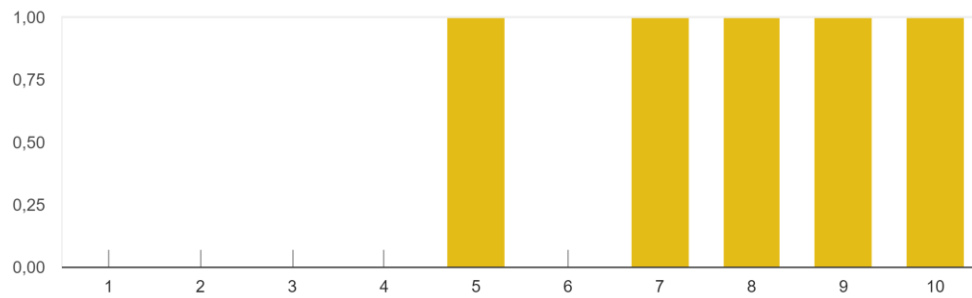
As a user of the system, I understand how CO2 and recycled content data flows through the system

5 svar



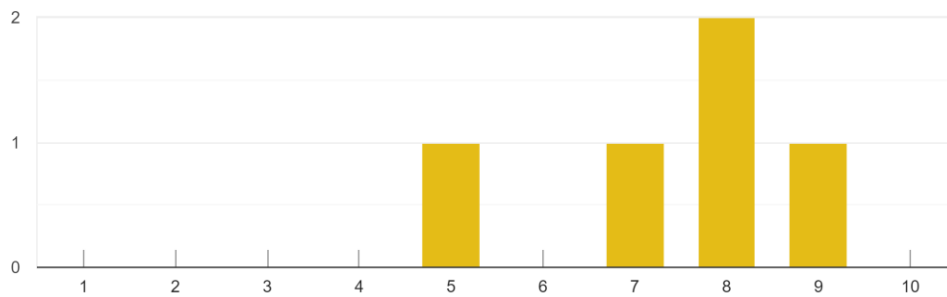
As a user of the system, I understand what functionality my company/role will use and how to use it

5 svar



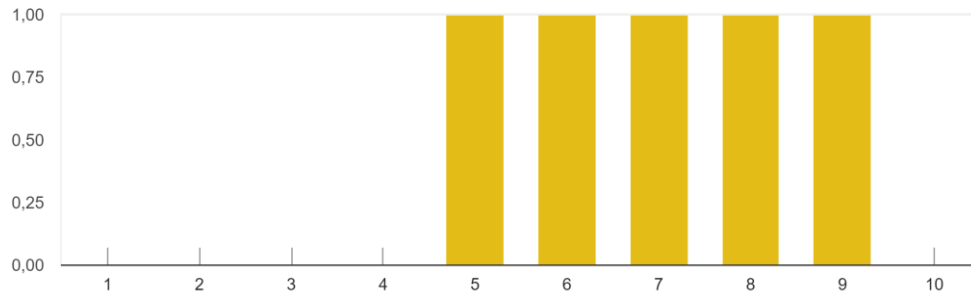
As a user of the system, I can validate the CO2 and recycled content information stored on the blockchain

5 svar



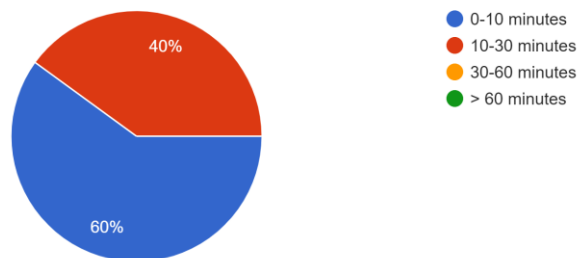
The supplementary information regarding material debt, confidentiality (custodians) etc can be used to close the gap between current status and desired status

5 svar



I have during the project and evaluation period spent X number of minutes using the application

5 svar

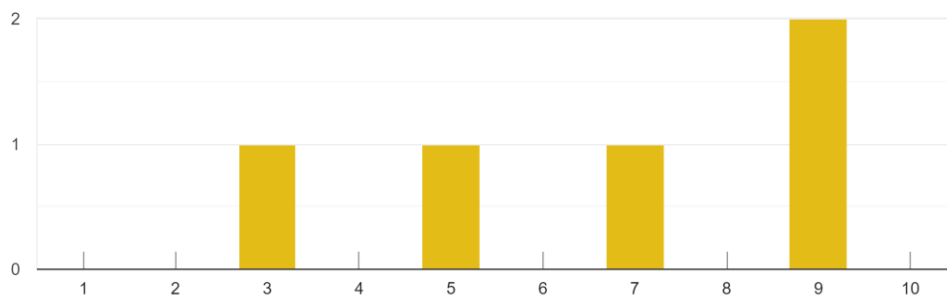


### Sustainability / R&D officers

The results from the *Sustainability / R&D officers* category reveal the complexity of calculating and reporting the CFP and recycled content. This is done outside the pilot implementation, but still results in lower values of agreement with the evaluation criteria, as seen below.

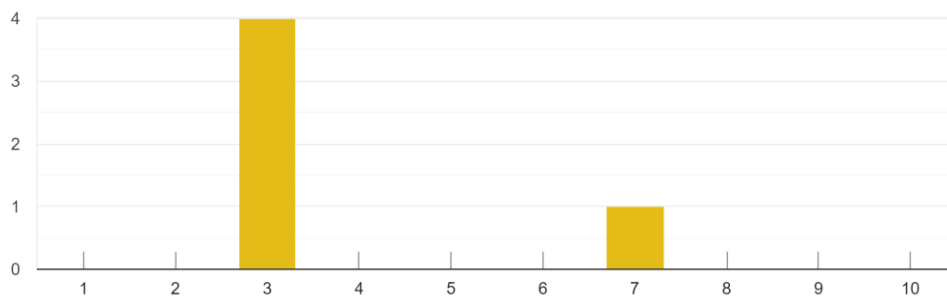
As a sustainability/R&D officer I can see the CO2 footprint data and recycled content for my materials and products so I can manage and promote the sustainability of my company

5 svar



As a sustainability officer I have a simple reporting process for CO2 and recycled content

5 svar

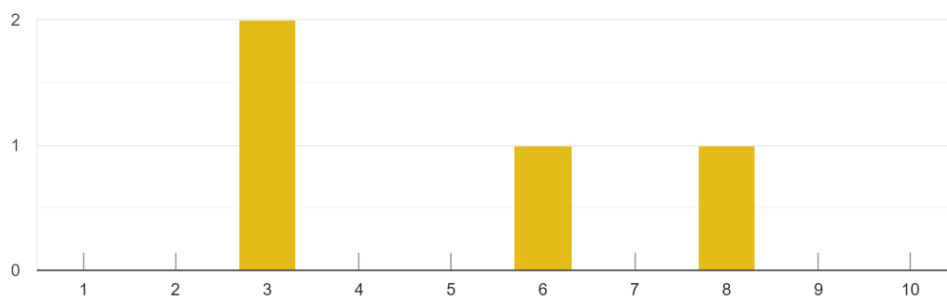


### Procurement

A major part of demands from the procurement users are related to the benchmarking and evaluation of suppliers. This has however been less prioritized during the project implementation, which is reflected in the lower scores of acceptance. A simplified reporting tool was however developed after the evaluation and was well received in the user group, thus making sure to increase the procurement satisfaction.

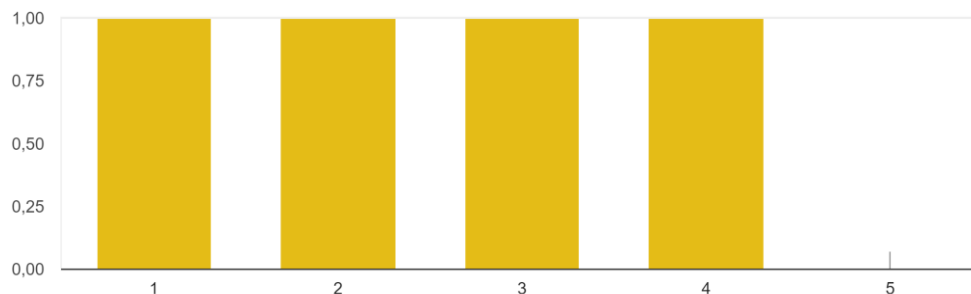
As a procurement officer I have access to consistent and transparent CO2 footprint and recycled content information

4 svar



As a procurement officer I have a cost efficient process that delivers value to the organisation with little effort

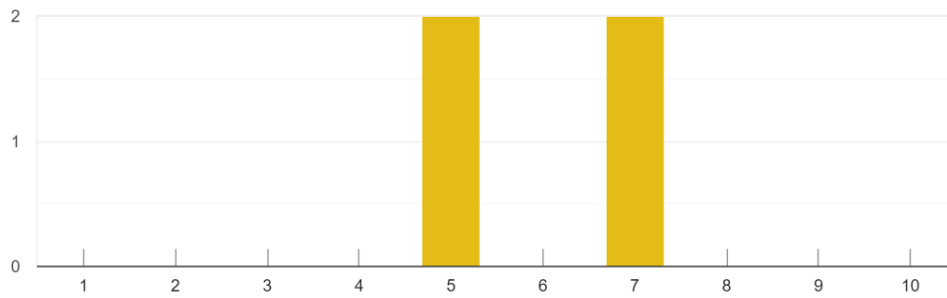
4 svar



Note 1: This question was due to the human factor ranged from 1 to 5

As a procurement officer I can use the system to benchmark suppliers

4 svar

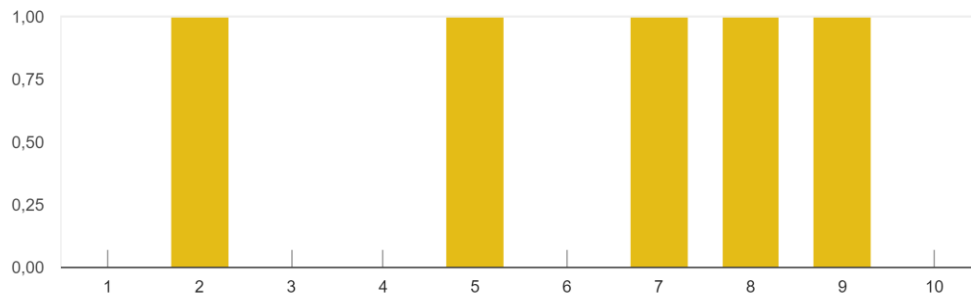


### Sales / marketing

For the sales and marketing divisions the general acceptance scores are high, indicating that the system delivers the identified MVP features needed for sales and marketing.

As a sales officer I have access to user friendly CO2 and recycled content information for for communication to clients

5 svar



As a sales officer I can leverage CO2 footprint and recycled content data as a competitive differentiator

5 svar

