

Editorial

Dear Readers,

Welcome to the first issue of the PreMa project newsletter. Within this newsletter we would like to introduce the PreMa project to you. PreMa is a SPIRE H2020 demonstration project with a strong application focus and ambition to make production of the Mn alloys more resource and energy efficient. To address this issue the PreMa consortium composed of leading research organisations and manganese ore processing industries from Europe and South Africa work together to develop technological solutions and a pool of knowledge that will enable the use of alternative energy sources for the preparation of the manganese ore for smelting. In the first issue of our newsletter we would like to give you an overview of the PreMa concept and first steps towards the development of the plant using preheating technology for manganese ore preprocessing. We would also like to present some news on the planned demonstrations in industrial conditions.

To be updated I encourage you to follow PreMa on social media and sign up for our newsletter.

Interested? Visit www.prema-project.eu for info on our project.

On behalf of PreMa Team

Eli Ringdalen

PreMa Project Coordinator, SINTEF Industry, Norway

In this issue:

PreMa's pretreatment approach

- Quantifying the resource efficiency offered by the PreMa new pretreatment concept

News from the test and demo sites

- Getting to know Mn ores: a challenging task
- Capturing the right option: PreMa in search for the most promising technologies for Mn pretreatment
- Basic engineering of pilot facility underway at Mintek
- Combat the dust: PreMa project addresses barriers to concentrating solar thermal energy for industrial applications

Exploitation manager's corner

Meetings and events

- Announcement of the Manganese School in Kathu, South Africa

PreMa in brief

The goal:

Develop and demonstrate in large scale innovative technologies for pretreating Mn ores that involve heat recovery, utilisation of waste gas streams and solar technological approaches to decrease the direct and indirect CO₂ emissions from manganese and steel production.

The concept:

Divide the current Mn-alloy production process in submerged arc furnaces (SAF) into a two-step process by adding a feedstock pretreatment unit powered by novel sustainable energy systems for drying and preheating of Mn ores using alternative energy sources to substitute fossil fuels and electricity such as bio-carbon, CO₂ rich off-gas, concentrating solar thermal systems.

To learn more about PreMa project visit our web site: www.prema-project.eu

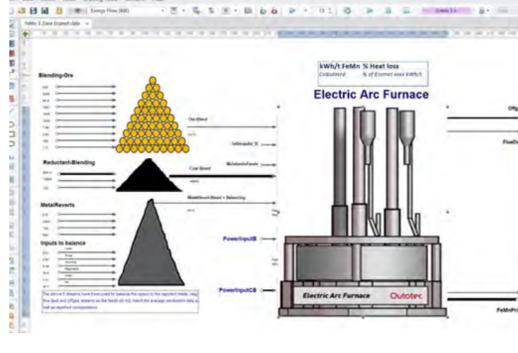
PreMa's pretreatment approach

Quantifying the resource efficiency offered by the PreMa new pretreatment concept

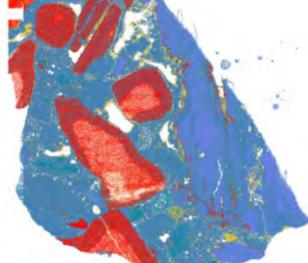
Markus Reuter, Helmholtz-Zentrum Dresden-Rossendorf Ev (HZDR), Germany

With the pretreatment of manganese ore, a new thermally powered pretreatment process unit is being introduced into the production system of manganese alloys. Thanks to this new agile and adaptive suite of technologies, PreMa provides an integrated approach to reduce CO₂ emissions while harnessing the power of the sun. (...)

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News from the test and demo sites



Getting to know Mn ores: a challenging task

Eli Ringdalen, SINTEF Industry, Norway

Due to their complex nature, characteristics of Mn ores is a challenging yet essential task as a basis for the choice and design of a pretreatment technology and the recommend parameters for the operation of the pretreatment unit. (...)

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Capturing the right option: PreMa in search for the most promising technologies for Mn pretreatment

Suvi Rannantie, Outotec GmbH & Co. KG, Germany

Technology scouting provides an efficient way to streamline and accelerate the PreMa process of finding the solution that will be best suited for Mn ore pretreatment and to avoid pitfalls of innovation efforts at the large scale demonstrations planned at a later stage of the project. (...)

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Basic engineering of pilot facility underway at Mintek

Joalet Steenkamp, MINTEK, Republic of South Africa

The hypothesis to be tested by PreMa is "a two-stage process, consisting of a preheating/pre-reduction step in combination with existing SAF technology, will result in reduction of electrical energy consumption by 25% (...)

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Combat the dust: PreMa project addresses barriers to concentrating solar thermal energy for industrial applications

Lina Hockaday, MINTEK, Republic of South Africa

The PreMa project investigates the use of solar thermal energy to preheat manganese ores for the production of ferromanganese alloys in submerged arc furnaces (SAFs). (...)

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Exploitation manager's corner

Benjamin Ravary, Eramet Norway, Norway

One of the key objectives for PreMa is to build favourable conditions for the exploitation of project results towards project end. Therefore PreMa is carried out in close cooperation and intensive communication with the demand side, which has a clear interest and gets a mandate to (...)

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Meetings and events

Save the date: 3rd Manganese School!

The Southern African Institute of Mining and Metallurgy (SAIMM) and PreMa Project would like to invite you to the 3rd School on Manganese Ferroalloy Production

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PreMa project consortium



PreMa Facts Sheet

| | | | |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------|
| Project acronym: | PreMa | | |
| Project full title: | Energy efficient, primary production of manganese ferroalloys through the application of novel energy systems in the drying and pre-heating of furnace feed materials | | |
| Project start date: | 01/10/2018 | | |
| Project duration: | 48 months | | |
| Project website: | www.prema-project.eu | | |
| Project budget: | 10 073 272.50 € | | |
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