

Workshop on Industrial Water Management

Energy and Water Recovery from Industrial Cooling Circuits

Results of the EU projects EnWaRec and CORNERSTONE addressing challenges and opportunities in the transition to hydrogen-based steelmaking

03rd of December 2026, Düsseldorf

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Aim

Water is an essential resource in industrial processes, where it is widely used for process cooling, material treatment, and gas scrubbing. However, climate change is reducing water availability while increasing the salinity of many water sources, thereby limiting their suitability for industrial applications. At the same time, the transition to hydrogen-based steelmaking is expected to increase the demand for high-purity process water and intensify thermal loads in gas scrubbing and cooling circuits.

These challenges require innovative solutions that combine the recovery of waste heat, hydropower, water, and valuable solutes from industrial process streams with advanced water management strategies based on simulation and forecasting tools. Such integrated approaches can improve resource efficiency, reduce freshwater consumption, and support the decarbonisation of industrial production.

This workshop provides an overview of the latest developments in process water management, cooling circuits, and concentrate handling, with a particular focus on the recovery of energy, water, valuable solutes and selective removal of compounds from wastewater streams in the iron and steel industry. Leading research institutes, plant manufacturers, and representatives from the metal and steel industry will present innovative technologies, practical solutions, and recent project results that support the transition towards sustainable, circular, and climate-resilient water management.

WHO SHOULD PARTICIPATE

- Operating staff / engineers from steel plants
- Staff from innovation departments or production optimization
- Technical purchasing agents in the steel and related industry
- Plant manufacturers for the steel and related industry
- Supplying industry for water reuse technologies

R&D PROJECTS ON PROCESS WATER REUSE IN STEEL PLANTS

This workshop is organised within the framework of the EU-funded R&D projects EnWaRec and CORNERSTONE. The objective of these projects is to develop and demonstrate innovative technologies and digital tools for the recovery of energy, water, and valuable salts from industrial process water streams.

The workshop will present the latest results of the ongoing R&D activities and discuss their potential for implementation in the steel industry. It will provide a platform for technology developers, researchers, and industrial stakeholders to exchange knowledge, assess the applicability of the proposed solutions, and identify opportunities for supporting the transition towards more resource-efficient and sustainable steel production.

PRICE

Registration fee: none

ORGANIZERS

The seminar is organized as an activity within the projects EnWaRec - "Recovery of energy and water from cooling circuits for a sustainable transition to hydrogen-based direct reduction", CORNERSTONE - Combined technologies for water, energy and solute recovery from industrial process streams", and Fluoride selective – "Process development for selective fluoride separation from industrial process water". The projects are funded by the Research Fund for Coal and Steel (RFCS), European Union's Horizon Europe research and innovation program and the Federal German Federal Ministry for Economic Affairs and Climate Action.

In the projects are involved:



Funded by the
European Union

Supported by:



The following partners are involved in the projects:

- VDEH-BETRIEBSFORSCHUNGSINSTITUT GMBH, GERMANY
- AG DER DILLINGER HÜTTENWERKE, GERMANY
- RINA CONSULTING, ITALY
- ACCIAIERIE D'ITALIA SPA, ITALY
- INSTITUTO DE SOLDADURA E QUALIDADE, PORTUGAL
- EASY HYDRO LIMITED, IRELAND
- AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACION, SPAIN
- UNIVERSIDAD DE OVIEDO, SPAIN
- QUEST HUB L.P., GREECE
- AALBORG UNIVERSITET, DENMARK
- TECHNISCHE UNIVERSITÄT DARMSTADT, GERMANY
- INSTITUT FÜR NACHHALTIGE TECHNOLOGIEN, AUSTRIA
- ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTY, GREECE
- HÜTTENWERKE KRUPP MANNESMANN GMBH, GERMANY,
- CENTRE TECHNIQUE DE L'INDUSTRIE DES PAPIERS CARTON, FRANCE
- ESSITY OPERATIONS, FRANCE
- COVESTRO DEUTSCHLAND AG, GERMANY
- VEOLIA WATER TECHNOLOGIES TECHNO CENTER, NETHERLANDS
- MANN + HUMMEL GMBH, GERMANY
- MICRODYN-NADIR GMBH, GERMANY
- I2M GMBH, GERMANY
- FUNDACIO UNIVERSITARIA BALMES, SPAIN
- DECHEMA GESELLSCHAFT FÜR CHEMISCHE TECHNIK, GERMANY
- CENTRAL SOLUTIONS LTD, IRELAND

REGISTRATION / ORGANIZATION

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PROGRAMME

Thursday, 3rd December 2026

09:00	Registration	12:00	Discussion with the referents
09:30	Welcome	12:15	Lunch Break
09:45	Transition of steel production - challenges regarding water and energy recovery from cooling water circuits Matthias Kozariszczuk	13:15	Desalting of process and raw waters by membrane based capacitive deionisation – technology comparison, new developments, outlook Benedikt Bosch
10:00	Water use in steel production and processing - continuous casting Nico Neuber	13:30	Water and salt recovery from process waters by membrane distillation and crystallisation Aamer Ali
10:15	Climate neutral energy production by hydro-power with microturbines in industrial processes Rita Aparici Quiñones	13:45	Discussion with the referents
10:30	Discussion with the referents	14:00	Coffee Break
10:45	Coffee Break	14:15	Heat recovery from process waters Pavel Ivashechkin
11:15	Modelling and simulations of a direct reduction process and further industrial applications Susanna Wan	14:30	Corrosion and corrosion measurement in process water circuits Daniel de la Fuente
11:30	Life cycle assessment of different water recovery technologies Requested	14:45	Development of coatings for wear and corrosion protection in challenging process waters Eugenina Sainsus
11:45	Selective fluoride removal from process and wastewater as base for an enhanced water re-use Matthias Werner	15:00	Discussion with the referents
		15:15	Network meeting / discussions in BFI testing hall (beverages and snacks)
		18:00	End of the Seminar

CHAIRMAN

Dipl.-Ing. Martin Hubrich

SPEAKERS

Matthias Kozariszczuk, VDEh-Betriebsforschungsinstitut GmbH, Germany ▪ Nico Neuber, AG der Dillinger Hüttenwerke, Germany ▪ Rita Aparici Quiñones, Easy Hydro Limited, Ireland ▪ Susanna Wan, VDEh-Betriebsforschungsinstitut GmbH, Germany ▪ Matthias Werner, VDEh-Betriebsforschungsinstitut GmbH, Germany ▪ Benedikt Bosch, Grünbeck Wasseraufbereitung GmbH, Germany ▪ Aamer Ali, Aalborg Universitet, Danmark ▪ Pavel Ivashechkin, VDEh-Betriebsforschungsinstitut GmbH, Germany ▪ Daniel de la Fuente, Agencia Estatal Consejo Superior De Investigacio, Spain ▪ Eugenina Sainsus, Rina Consulting, Italy

HOTELS NEARBY

Hotel Haus am Zoo, Sybelstr. 21, 40237 Düsseldorf
Fon 0211 6169-610, Fax 0211 6169-6169
Hotel Achenbach, Achenbachstr. 17, 40237 Düsseldorf
Fon 0211 669-090, Fax 0211 680-1013
Hotel Enger Hof (very close, but ordinary standard)
Grafenberger Allee 257, 40237 Düsseldorf
Fon 0211 660-001, Fax 0211 680-3411