

## Workshop on Pickling Solutions Technology

# Analysis and recycling of liquid media in surface treatment

13<sup>th</sup> of November 2019, Düsseldorf

### AIM

The surface treatment of steel products is of high importance to achieve the demanded product surface quality. The optimisation of the treatment processes like by mechanical descaling or pickling requires highly efficient technologies for the supervision and control of bath conditions and the recycling of liquid media.

Technologies to optimise the process bath monitoring and the recycling of liquid process media as well as the recovery of recyclable fractions were developed during the last years.

The workshop gives an overview on the latest developments for improvements of steel pickling, process bath analysis technology and recycling of liquid process media used for the surface treatment of steel based on selected practical research results. Innovative research institutes, plant manufactures and companies from metal and steel production industry will give an insight into their latest approaches.

### WHO SHOULD PARTICIPATE

- Operating staff / engineers from pickling 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 descaling and process analysis equipment

### R&D PROJECTS ON PICKLING BATH ANALYSIS, RECOVERY AND OPERATION

The workshop is organised as an activity within EU funded R&D projects. The aims of these projects are the improvement of pickling bath concentration monitoring and control, descaling technology and the operation of liquid process media used for the surface treatment.

By this seminar the European steel plants will be informed about the R&D activities and selected practical results.



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### PRICE

Registration fee: 70 €\* / 100 €  
including lunch and beverages

\* for staff of the MACO Pilot and HiJetRod Pilot projects or employees of member companies and individual members of the Steel Institute VDEh

A cancellation from the seminar is possible until 2 weeks prior to the start. Then, 25% of the seminar fee must be paid. The total registration amount will be charged for no show or cancellation from the first day of the event.

### ORGANIZERS

The seminar is organised as an activity within the projects "MACO Pilot" (Optimisation of the mixed-acid online monitoring and control in stainless steel pickling plants) and "HiJetRod Pilot" (Resource-efficient hydromechanical descaling system for wire coils). The projects have been started at the 1st of July 2016 and end in December 2019. Both projects are funded by the Research Fund for Coal and Steel (RFCS). The project groups consist of:

- VDEh-Betriebsforschungsinstitut GmbH, Germany
- Deutsche Edelstahlwerke GmbH, Germany
- Outokumpu Nirosta GmbH, Germany
- Acerinox Europe S.A., Spain
- Rise KIMAB A.B, Sweden
- University of Oviedo, Spain
- Brno University of Technology, Czech Republic

### REGISTRATION / ORGANIZATION

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## PROGRAMME

### Wednesday, 13<sup>th</sup> November 2019

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|-------|--|-------|--|
| 09:00 | <b>Registration</b>  | 13:45 | <b>Optimisation of pickling process control and management by model-based simulation tools</b><br>Iván Machón Gonzales |
| 09:30 | <b>Welcome</b>   | 14:15 | Coffee Break   |
| 09:45 | <b>Surface treatment by pickling with inorganic acids</b><br>Matthias Kozariszczuk   | 14:45 | <b>Operational experiences for the recycling of process water and acids</b><br>Joachim Schmidt                         |
| 10:15 | <b>Mechanical descaling by high pressure water jet</b><br>Michal Pohanka   | 15:15 | <b>Pickling bath particle separation and atline analysis</b><br>David Stenman  |
| 10:45 | Coffee Break   | 15:45 | <b>Recovery of acids and metals from pickling solutions by combined membrane processes</b><br>Joachim Koschikowski     |
| 11:15 | <b>Optimisation of the mixed-acid online monitoring and control in stainless steel pickling plants (MACO Pilot)</b><br>Matthias Werner | 16:15 | <b>Recovery of acids and valuable components from process or rinsing water</b><br>Ralf Wolters                         |
| 11:45 | <b>Operational experiences of process bath analysis in a wire rod pickling plant</b><br>Frederik Kolinke                               | 16:45 | Network meeting / discussions<br>(beverages and snacks)  |
| 12:15 | Lunch Break  | 18:15 | End of the Seminar   |
| 13:15 | <b>Corrosion effects and lifetime estimation for online sensor materials in mixed acid pickling solutions</b><br>Jonas Engblom         |       |  |

**SPEAKERS** ■ Jonas Engblom, RISE KIMAB, Sweden ■ Iván Machón Gonzales, University of Oviedo, Spain ■ Michal Pohanka, Brno University of Technology, Czech Republic ■ Matthias Kozariszczuk, VDEh-Betriebsforschungsinstitut GmbH, Germany ■ Matthias Werner, VDEh-Betriebsforschungsinstitut GmbH, Germany ■ Ralf Wolters, VDEh-Betriebsforschungsinstitut GmbH, Germany ■ David Stenman, Scanacon AB, Sweden ■ Frederik Kolinke, Deutsche Edelstahlwerke GmbH, Germany ■ Joachim Schmidt, Steuler Anlagenbau GmbH & Co. KG, Germany ■ Dr. Joachim Koschikowski, Fraunhofer-Institut für Solare Energiesysteme ISE, Germany

### 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