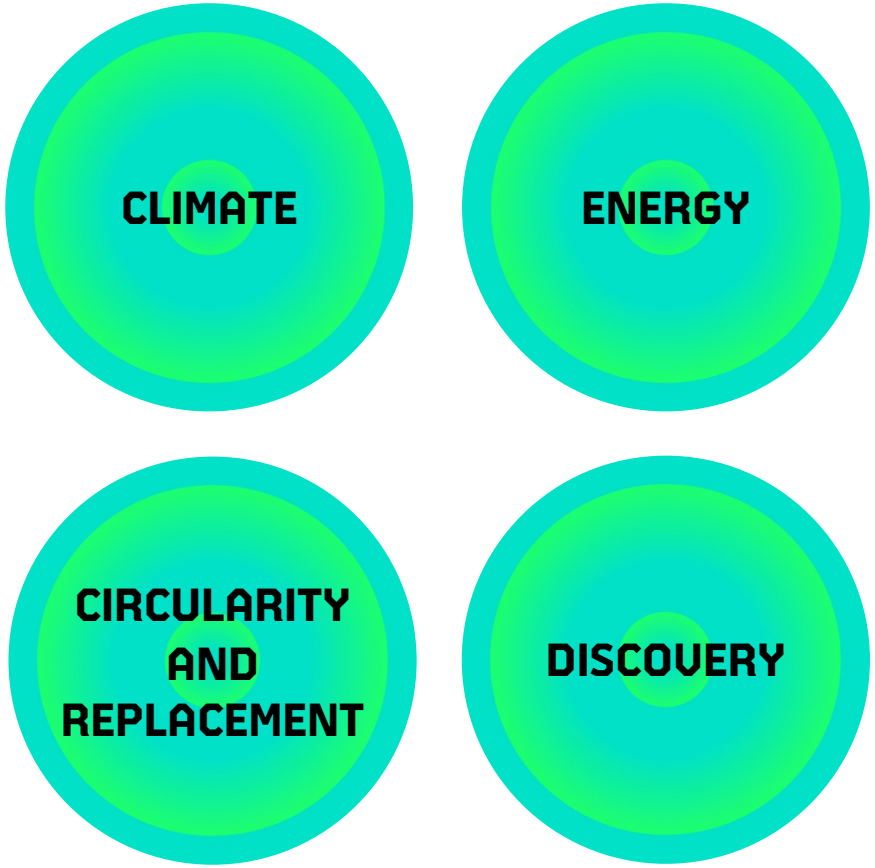
Wallenberg Initiative
Materials Science
for Sustainability

Industry project call 2024 (WISE-ip2)

A sustainable future through materials science

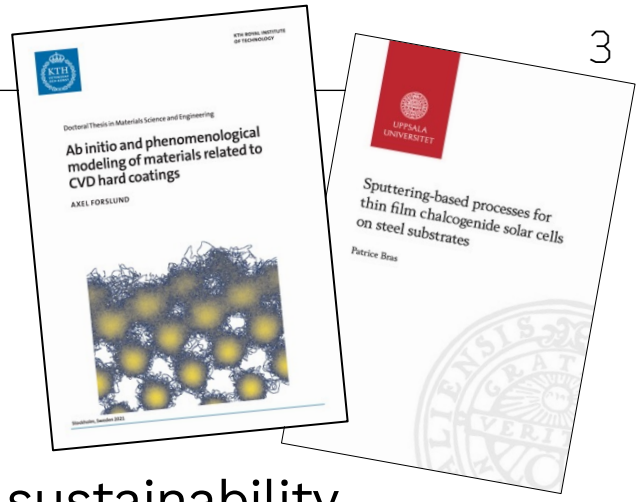
The Wallenberg Initiative Materials Science for Sustainability (WISE), is a Swedish research program initiated and financed by the Knut and Alice Wallenberg Foundation.

- M€ 270 spanning 2022–2033
- Strategic recruitment of 28 asst/assoc professors
- International guest professor program
- 186 PhD students and 186 postdocs
- Graduate school
- Research and technology platforms
- Research arenas with Swedish industry



INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

Overall aims



Joint industry-academic projects targeting materials science for sustainability

Addressing topics in any or several of the WISE thematic and research areas
(see the “WISE matrix” at wise-materials.org/research/)

Industry, with R&D and operations in Sweden, and a WISE university are invited to apply

Industry investigator and academic investigator are both co-applicants

Twinned industry-academic supervision and project leadership

Knowledge generated and individuals trained in material science for sustainability

Future leadership and skills for industry, academia, and society

INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

“ip” calls throughout WISE

WISE-ip (industry project) calls opened approx. every 2nd year

WISE-ip1 resulted in 28 granted projects: 10 µE, 9 SME, and 9 LE projects
(µE = micro enterprise ≈ spin-off ≡ <10 employees; SME ≡ 10-249 employees; LE ≡ ≥250 employees)

WISE-ip2 opens 2nd half of 2024 (detail timeline below)

WISE-ip3 planned for 2026

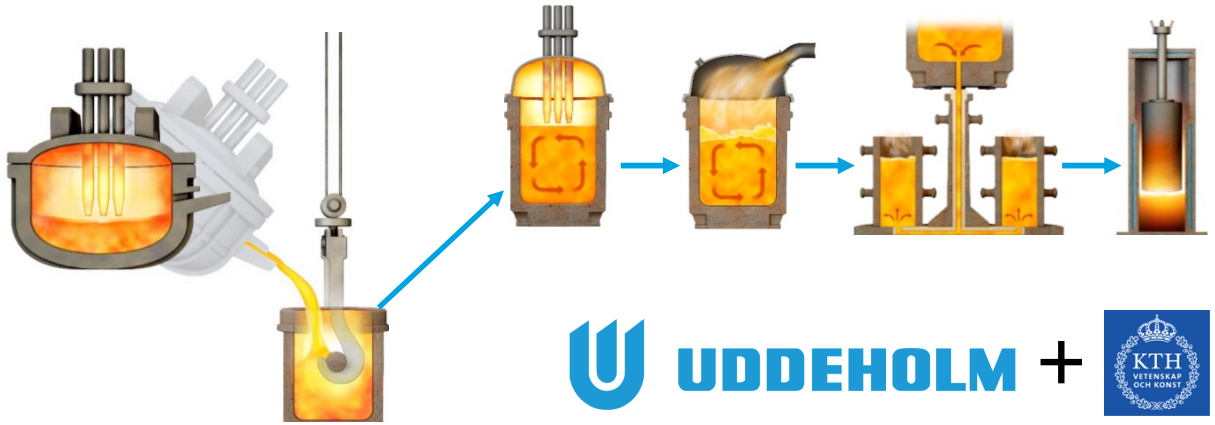
INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

WISE-ip1 example: Cleaner remelted tool steel

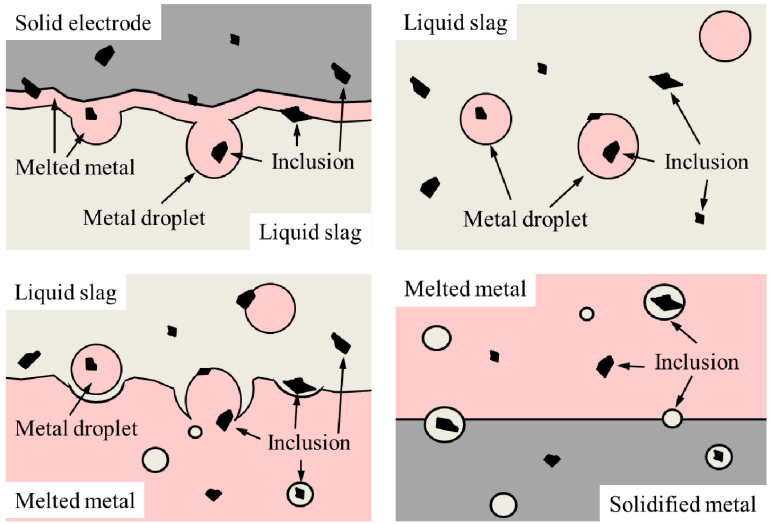
Improving Cleanliness of Remelted High-Performance Tool Steels

High cleanliness is crucial for quality in steels and metals for demanding uses, and molten state processing largely determines the cleanliness

Project: reach the best possible electrode quality for continued remelting operations to minimize larger harmful non-metallic inclusions (e.g., Mg, MgO-Al_2O_3)



UDDEHOLM +



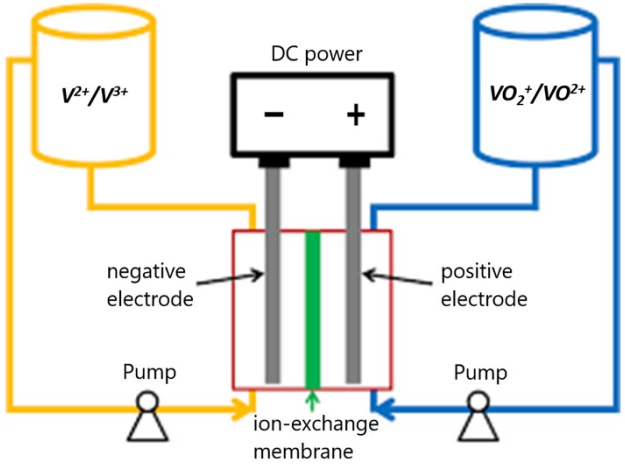
INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

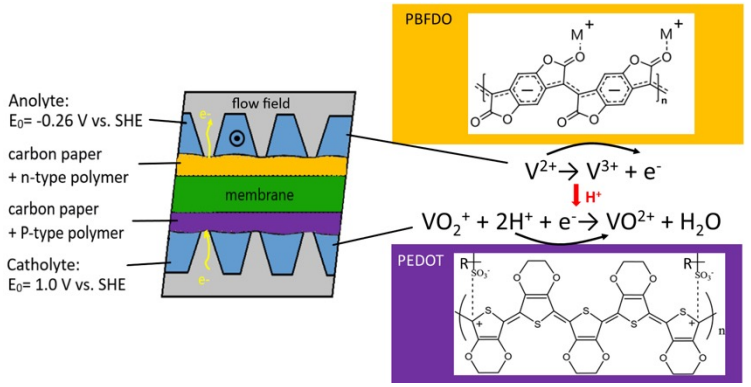
WISE-ip1 example: Vanadium redox flow batteries

Conducting polymer electrodes for high power vanadium redox flow batteries

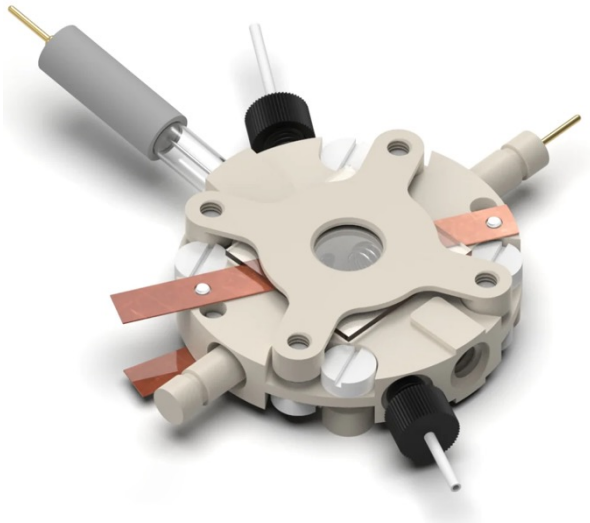
VRFBs fulfill almost all specs for large scale batteries, except one: too low power

Project: combine (critical-raw-material-free) conducting polymer electrode catalysts (Linköping University) to enhance vanadium redox in custom/optimized redox flow cells (Redox.me, µE)





redox.me + LINKÖPING UNIVERSITY



INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

Project support

PhD student projects (PhD student employed by industry)

To industry: In total 2.4 MSEK for 4-5 years (100-80% activity level)

To university: Salary for supervision (≤10% with compensation up to 50% for social fees), travel (≤10 kSEK/year), and contribution to premises* and indirect* costs for 4-5 years

Postdoc projects (postdoc employed by industry)

To industry: In total 1.9 MSEK (2.4 MSEK for SME) for 2–2.5 years (100–80% activity)

To university: In total ≤300 kSEK total for 2–2.5 years

* According to requisition instructions

INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

Proposal outline and granting criteria

Project description (4 pages), including scientific vision, goals, approaches, methods, etc.

Preliminary and previous scientific and engineering results

Relevance and significance for sustainability (2 pages)

Research and development environments

CVs of the candidate, industrial PI, and academic PI

Details can be found in call text at wise-materials.org/opportunities/calls-for-projects/

INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

WISE offers...

Conferences, workshops, and joint collaborations

Academic-industry networking in material science for sustainability

Research arenas to promote industry-academic collaborations and a fast uptake of results

WISE Graduate School, providing courses, visits, and summer/winter schools

Strengthening competence and training individuals for a future scientific and engineering leadership in industry, academia and society

Advanced instruments and infrastructure for materials characterization and development

INDUSTRIAL PhD STUDENT AND POSTDOC PROJECTS

WISE-ip2 timeline

2023-12-11	Call text published at wise-materials.org/opportunities/calls-for-projects/
2024-08-12	Call opens for submission
2024-11-19	Call closes at 14.00
2025-04-15	(prel. date) Decision of accepted projects communicated
2025-08-27	(prel. date) All candidates ready to start (individual decision can be made later)
2025-08-28	(prel. date) WISE Welcome Meeting (mandatory for new PhDs & postdocs)