



Sustainable (steel) funding

How to cooperate when focusing zero waste steel production and sustainable applications?





steel – quo vadis





Crude steel production per region: World

All qualities • in '000,000 metric tonnes

REGIONS IN DESCENDING ORDER OF
CRUDE STEEL PRODUCTION TABLE • 2020

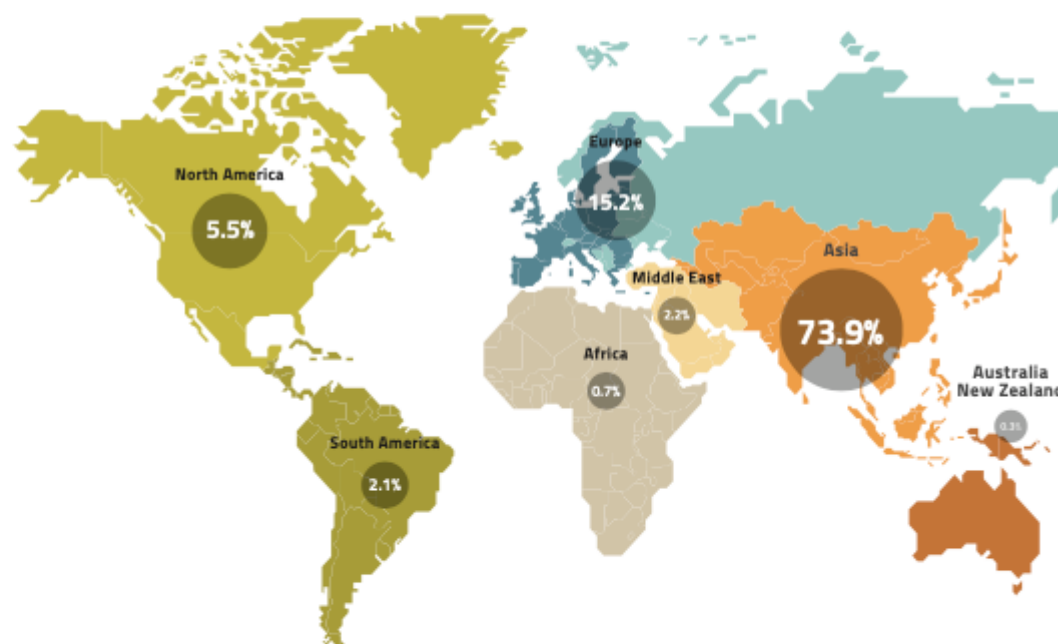
SOURCE: EUROFER

	% shares	
	2020	2020
Asia	1,351.3	73.9%
▶ of which China	1,054.7	57.7%
▶ of which India	100.3	5.5%
▶ of which Japan	83.2	4.6%
Europe	278.1	15.2%
▶ of which European Union	139.3	7.6%
▶ of which CIS	100	5.5%
North America	101	5.5%
of which United States	72.7	4.0%
South America	38.2	2.1%
Middle East	40.7	2.2%
Africa	12.6	0.7%
Australia/New Zealand	6.1	0.3%
WORLD	1,828.2	100%

MAP OF STEEL PRODUCTION BY REGION

MAP • 2020

SOURCE: EUROFER



This means:

- 200 kg / person (and growing about Finnish production, annually)
- in western countries: 300 kg / person (stabilized),
- in Finland 800 kg / person (one of the world's steel countries)



Employment & GVA in the EU steel industry

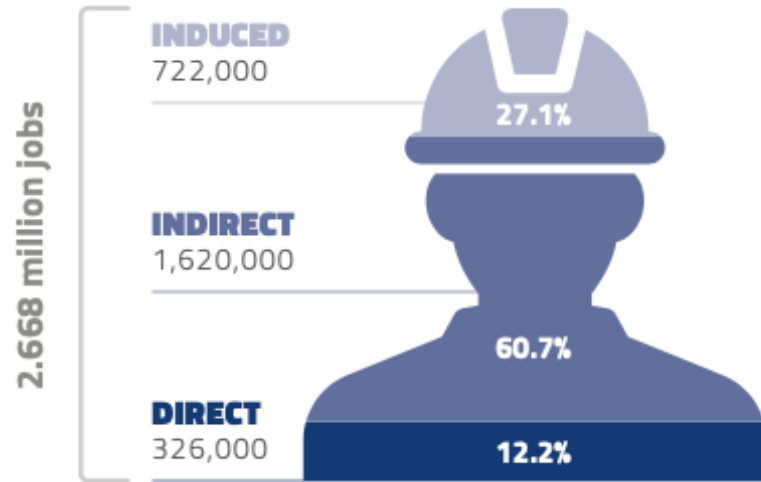
Direct, indirect & induced employment & GVA in the EU steel industry

EMPLOYMENT

GRAPHIC • 2020

SOURCE: OXFORD ECONOMICS

The EU steel industry supports over 2.6 million jobs



	'Type I' multiplier	'Type II' multiplier
Multiplier for GVA	4.4	5.8
Multiplier for jobs	5.8	7.9

The 'type I' multiplier is the ratio of direct plus indirect activity to direct activity.

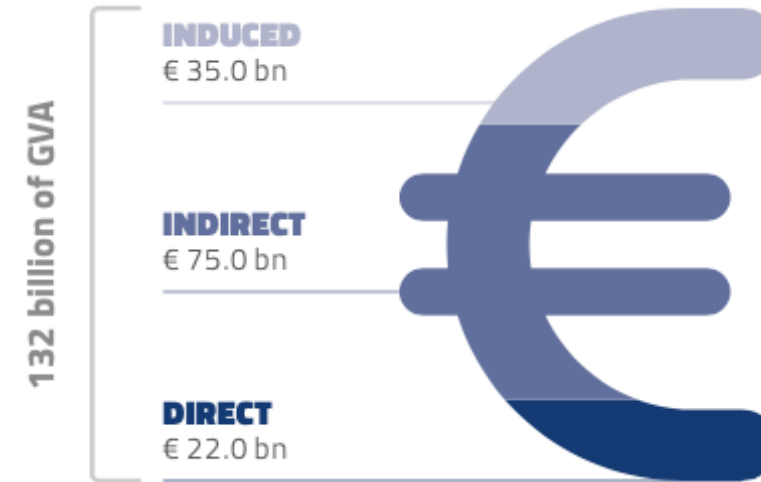
The 'type II' multiplier is the ratio of total activity to direct activity.

GROSS VALUE ADDED

GRAPHIC • 2020

SOURCE: OXFORD ECONOMICS

The EU steel industry creates around €132 billion of Gross Value Added





steel – steps to green

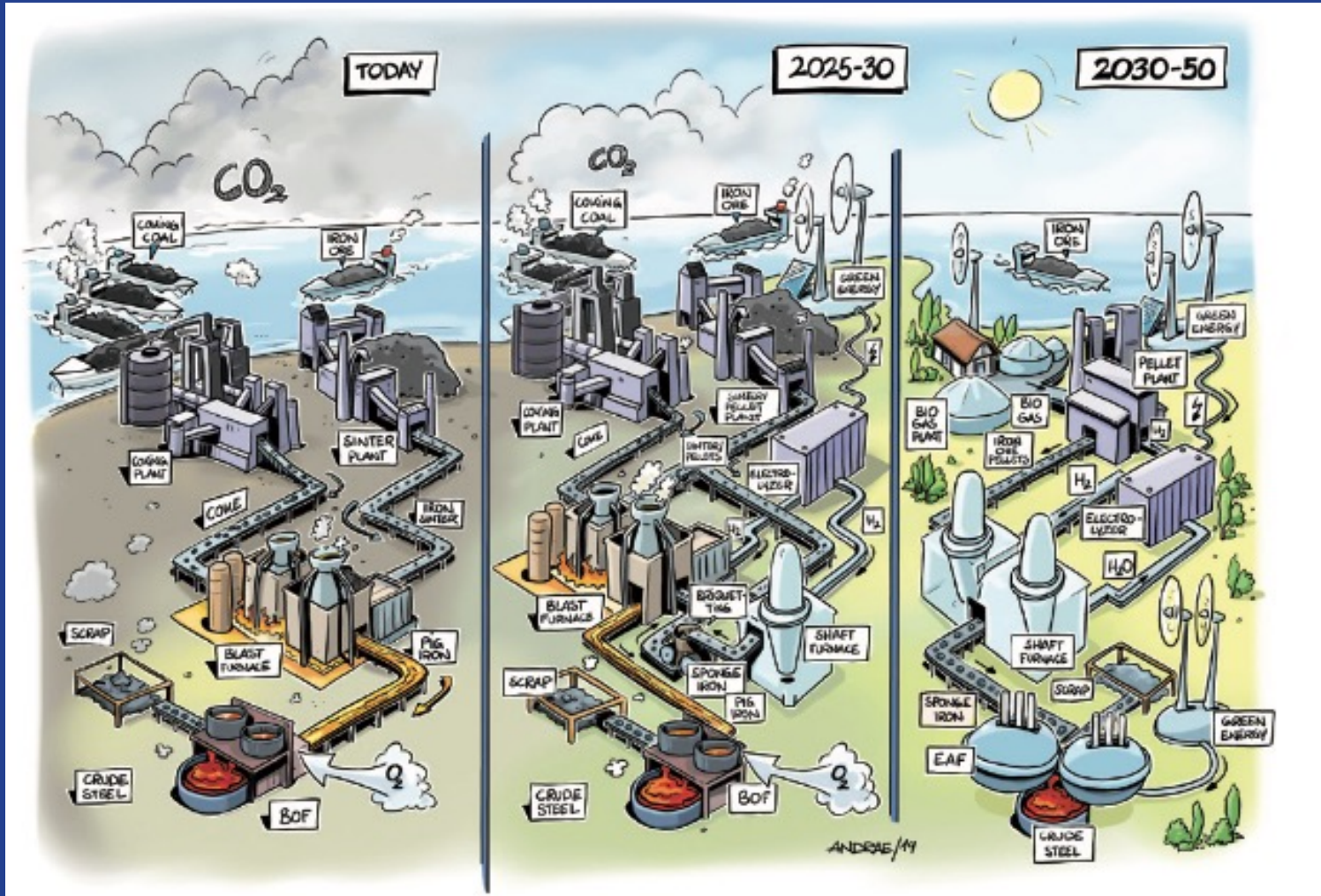




Next steps are green especially in EU

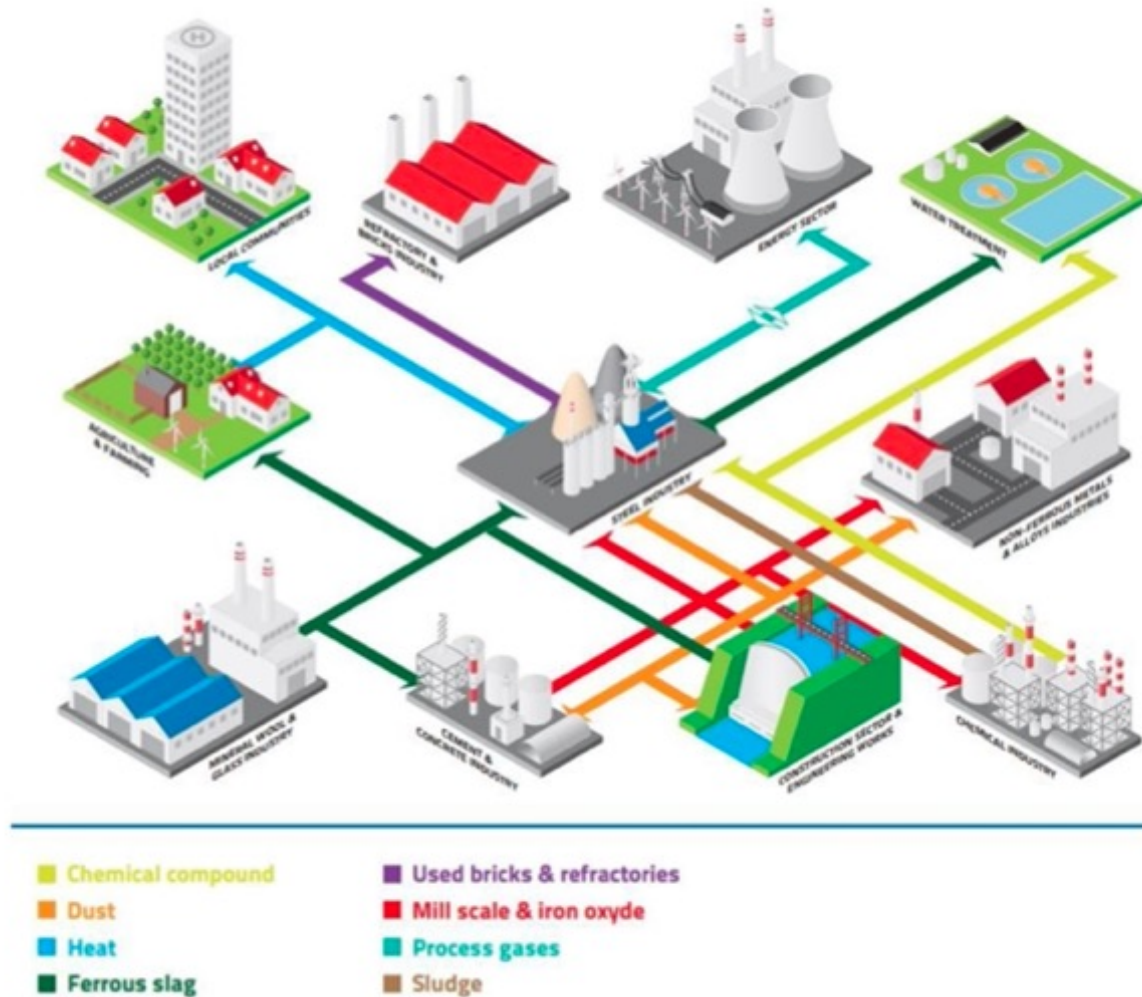
Steels include more than 85% of the metal's consumption it is growing about 5 Mtn per year

Steel industry and steel applications have the most critical role to achieve this target but using steel know-how even 15 % of CO₂ reduction is possible... This is now understood





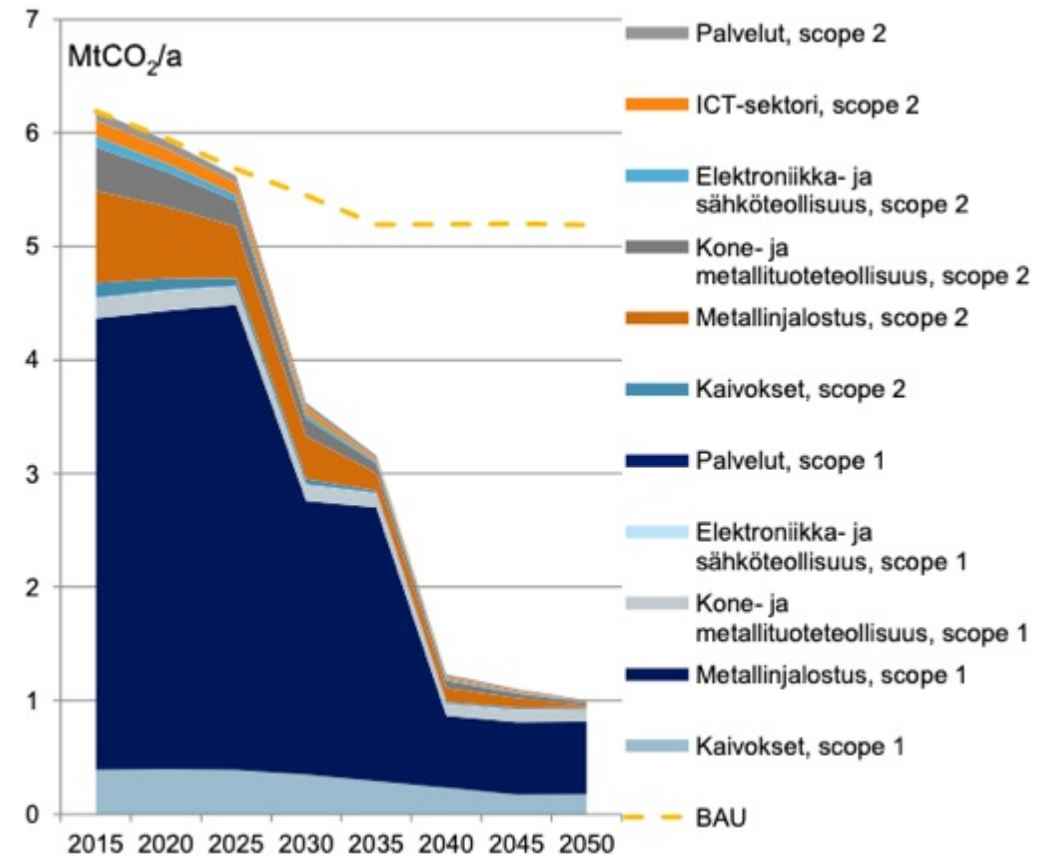
Next steps are green – toward zero-waste production



The industrial symbioses related to the EU steel sector, source EUROFER 2021

Suomen kasvihuonepäästöjen vähentäminen Teknologiateollisuuden 2015 – 2050 tiekartan mukaisesti

- Teknologiateollisuuden omat suorat päästöt vähentyvät skenaariossa 38 % vuoteen 2035 ja 80 % vuoteen 2050 mennessä verrattuna vuoteen 2015.
- Suurin vaikutus on investoinneilla metallinjalostuksessa, jossa erityisesti siirtyminen vetytelkistykseen vähentää fossiilisten käyttöä.
- Lisäksi sähköistäminen vähentää päästöjä korvaten fossiilisia polttoaineita.
- Energiatoteokkuus paranee valmistavassa teollisuudessa ja palveluissa perusuraa enemmän.



Lähde: Teknologiateollisuus 13 tiekartta hiilineutraalin teknologiateollisuuden saavuttamiseksi, PÖYRY



steel – funding the green





The European Steel Association (EUROFER)

The **European Steel Association (EUROFER)** is located in Brussels and was founded in 1976.

It represents the entirety of steel production in the European Union.

The European Steel Association's members are steel companies and national steel federations throughout the EU.

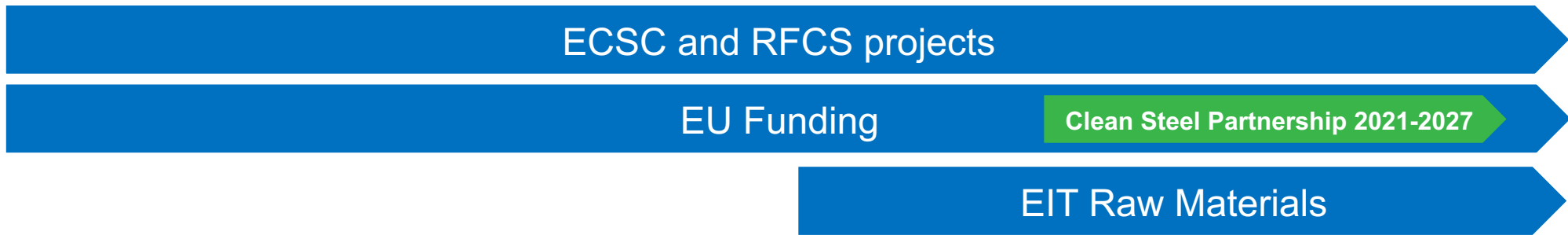
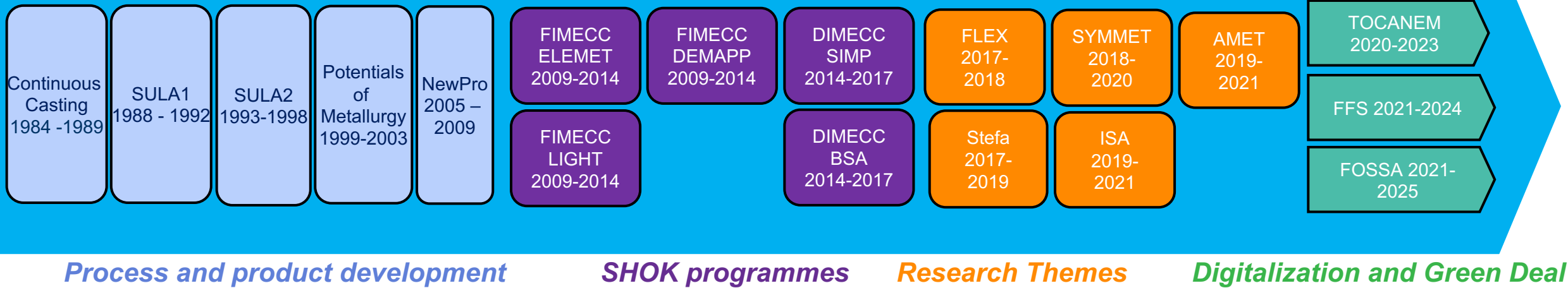
Note:
The **European Coal and Steel Community (ECSC)** was an organisation of six European countries created after **World War II** to regulate their industrial production under a centralised authority. It was formally **established in 1951** by the **Treaty of Paris**, signed by Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany. The ECSC was the first international organisation to be based on the principles of supranationalism, and started the process of formal integration which ultimately **led to the European Union**.





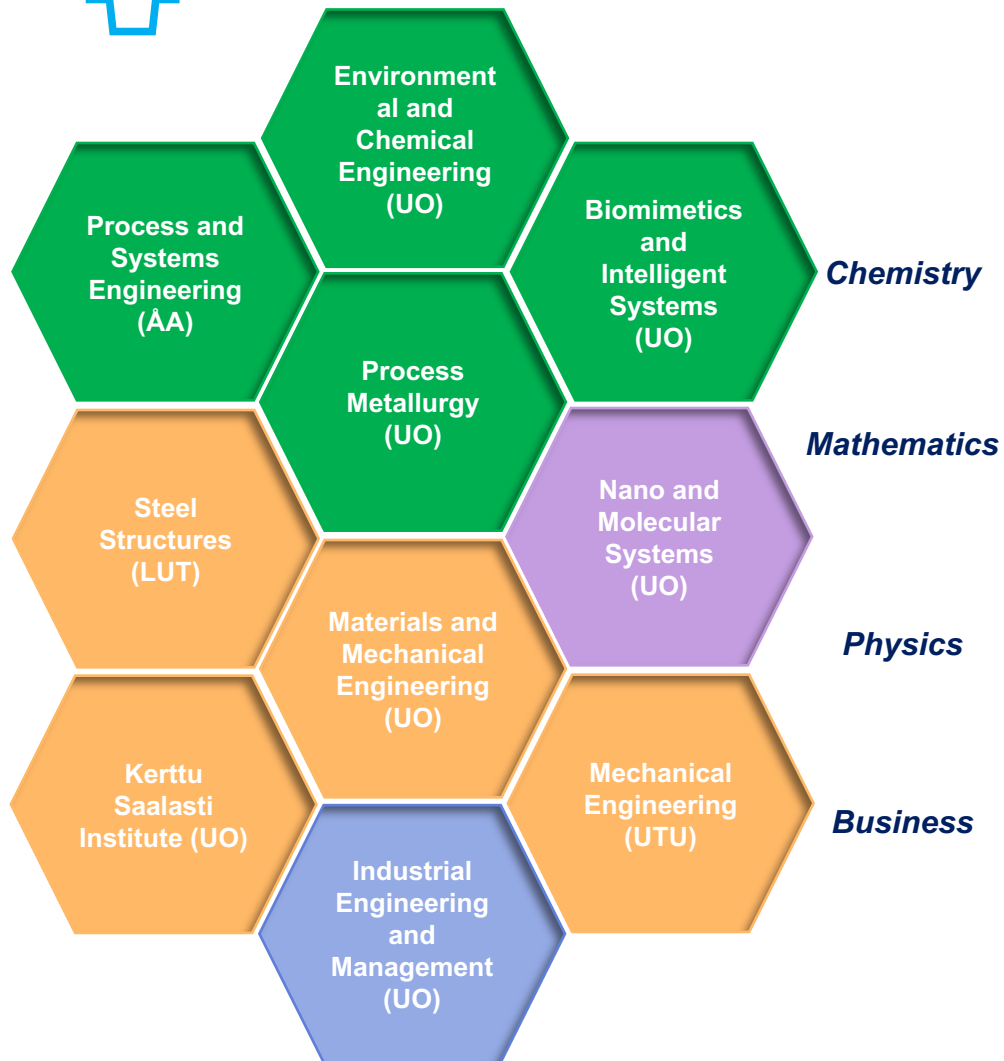
Cooperation project portfolio with Finnish steel industry

TEKES and Business Finland Funded projects





Centre for Advanced Steels Research, CASR



Vision: Steeling the Show

The largest steel research community in Nordics

- Nationally the most important unit for steel education and research
- Cover whole process chain from raw materials to final products
- Approximately 140 research professionals
- > 220 publications and about 10 PhD's annually
- The main funding: EU (H2020 and RFCS), Business Finland, Academy of Finland and Foundations. Research annual budget about 8 M€
- Some memberships: ERC, ESTEP, RFCS (TGA3), VDEh, IIW, AF, MAX IV, Finnish Steel and Metal Producers, University of Oulu Board of Directors and board of Kajaani University Consortium, METSTA, Dimecc



Kiitos!

... kysymyksiä, kommentteja ...

