

NEWSLETTER

Summer | Issue n. 18 | July 2017



EDITORIAL NEWS FROM BRUSSELS

EU Industrial day



Driven by rapid technological change, the nature of industry is changing. The evolution of industrial activity is characterised by digitalisation, clean and circular technologies, and a higher reliance on services. On February

28, the first [EU industry day](#) took stock of existing actions and stimulated a debate on a joint vision for the long-term future of European industry. Identifying gaps to make further progress towards clean, smart and innovative industry as well as creating employment and high living standards for EU citizens were key topics during the event.

Participants included high-level policy makers, representatives of various industrial sectors, entrepreneurs, innovators, start-ups and the tech community. It is remarkable that since many years, this has been the first high level event from the European Commission dedicated to the industry, especially as it nearly announced a kind of an “industrial strategy”. Moreover, the focus lied on just three sectors, next to space and defence, steel could manage to be on the top page of industrial attention.

EU Steel seminar: The future of European Steel industry

On March 8, more than 80 stakeholders and decision-makers discussed the future of European Steel at a [seminar](#) organised by the European Commission, DG RTD, with strong contribution of ESTEP and EUROFER. The seminar shed light on Research & Innovation results in the steel sector. It focused on energy savings and environmental aspects of the steel production as well as on innovative construction and automotive applications.



The steel sector received strong encouragement on its way forward towards a carbon limited way by MEP Christian Ehler. The EU steel ‘Big ticket’¹ initiative on ultra-low carbon future European steelmaking was presented by ESTEP and discussed with high-level Commission representatives from DG CLIMA, DG TRADE, DG ENER and DG GROW.

¹ Since April 2017 the name has changed to Big Scale. The initiative is currently driving towards a Joint Technology Initiative on steel.

60 years of the Rome Treaties



On March 25, EU leaders met in Rome to celebrate the 60th anniversary of the Treaties of Rome. As clearly stated, the European Coal and Steel community (ECSC) put the first steps towards the EU construction. The video can be found [here](#). The next celebration will be dedicated to the ECSC anniversary.



60
ROME

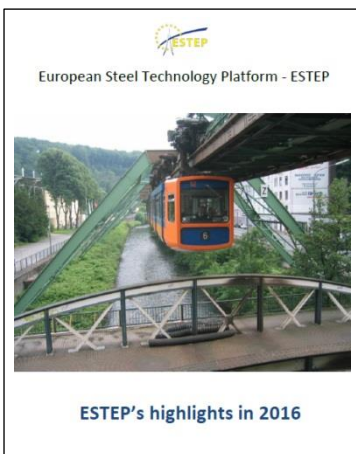


#EU60

14th ESTEP Steering Committee

On March 24, the 14th ESTEP Steering Committee (SC) took place and was characterized with the nomination of a new chairman of ESTEP. Heribert Fischer (thyssenkrupp Steel Europe), chairman since 2011, stepped down and Carl De Maré (ArcelorMittal) took over the new chairmanship of ESTEP.

The members of the SC meeting appreciated that nearly all targets of ESTEP were accomplished in 2016. Some still need acceleration such as the low carbon future steelmaking innovation initiative (Big Scale) and the implementation of ESTEP's way forward



to become a legal entity. The ESTEP [activity report](#) was presented in the new format as "ESTEP's highlights" and was approved by the Steering Committee.

Extra EUROFER Research Committee

On May the 5th, an extra meeting of the EUROFER Research Committee took place in order to define 10 common topics for collaborative projects at EU level between the steel producers. At this meeting, the ESTEP's mission was also established, which is as follows: *"to engage in collaborative EU actions (projects) on technology & innovation, which are tackling EU challenges (renewable energy, climate change (low-carbon emission), circular economy) in order to create a sustainable EU steel industry"*.

European Steel day 2017: A digital, low-carbon future for steel?

Hosted by the European Steel Association (EUROFER), the [European Steel Day 2017](#) took place on 10 May 2017 in Brussels. This high level conference, with participants from top industry executives and stakeholder representatives, explored how to build a digital, low-carbon future for steel, examined how innovation in the European steel industry will change everything from the way steel is produced, to the way people work in the industry, and to the type of products we make. In particular, the European Steel Day investigated the potential for CO₂ mitigation with steel and using steel, as well as looking at the impacts of digitisation and industry 4.0. Carl De Maré, ESTEP's chairman and Harald Peters, chairman of WG I2M, participated in the panel discussion.



Eurosteelmater 2017, Advanced training course for the European steel sector

The XIth edition of the [Eurosteelmater](#), the advanced training course for the European steel sector, was held successfully from 15 to 19 May. The course was organized by CSM with the support of the European Commission, EUROFER, Federacciai and ESTEP. Steel production and application aspects as well as relevant external influences on the European level were key topics during this training course.

LCA Workshop

As a follow-up on the ESTEP/EUROFER co-organised CCU workshop of October 2016, the European Commission organised on June the 6th a [LCA workshop](#), where the main objective was to benchmark LCA approaches and methodologies for CCU applications in order to start a process in establishing a common understanding for a sound basis and to improve the comparability of the various studies. The workshop was attended by 100 stakeholders from all sectors of CCU and LCA practitioners.

Finance for ETS Innovation Fund

On June the 12th, the European Commission (DG CLIMA) presented its final report of recommendations from the sectorial consultation roundtables with a view to designing key elements of the future Innovation Fund. The final report can be found [here](#). The steel sector is well represented by its key initiatives to mitigate CO2 emissions.

EMIRI & SPIRE

Up until now, ESTEP contributed to defining the SPIRE calls in the work programme 2018-2020. Since January 2017, the new Executive Director of A.SPIRE, Angels Orduna, is advertising for a continuation of SPIRE in FP9. She already showed her commitment to the steel sector by attending the ESTEP Support Group meeting in February 2017.



In regard to EMIRI, it continues to provide opportunities for materials solutions in the challenging time of energy transition.



Cooling EU

On June the 19th, the [cooling EU launch event](#) was held in Brussels. Cooling EU is an open initiative to promote the issue of cooling. ESTEP is supporting this initiative to keep the focus of cooling EU not only on space cooling (buildings, food sectors, etc.) but also on cooling applied in the process industry.



LAB – FAB – APP

Investing in the European future we want

Report of the Independent High Level Group on maximising the impact of EU Research & Innovation Programmes

Missions in FP9

The discussions on the 9th Research & Innovation Framework Programme (FP9) have been launched. In this regard, the aim of a workshop on future technology challenges/ missions organized by DG RTD on the 16th of June was trying to define the concepts of missions. The European Commission invited the European Technology Platforms (ETP) and some cPPP (e.g. SPIRE) to brainstorm and to sketch out which emerging technologies and new fields of research should be funded by the successor to Horizon 2020. The participants voted for these missions to be ranked top three. The workshop was a kick-off to further discussions on the mission concept and will be followed by another workshop end of 2017.

Missions were also introduced on July 3 at the conference [Research & Innovation – shaping our future](#), hosted by DG Research, Science and Innovation. Commissioner Carlos Moedas brought together policymakers from EU institutions, stakeholders and interested actors to discuss the role of research and innovation for Europe's future. Pascal Lamy, the chair of the High Level Group on maximising the impact of European research and innovation programmes, presented the [Group's vision and recommendations for the future](#), based on the results of the interim evaluation of Horizon 2020. The report clearly identified a potential mission for the steel industry as following: *“producing steel with zero carbon in Europe by 2030”* (page 16).



Big Scale

ESTEP and its Steering Committee are exploring new opportunities and future activities related to the large scale ultra-low carbon future steelmaking project, Big Scale innovation initiative.

In order to find a common way into low-carbon steelmaking, EU steel producers are working on a proposal for collaboration in order to try to create synergies between the activities and to add value to the EU. Moreover, the European Commission welcomes this initiative, which is contributing to drastically mitigate CO₂.

Smart low-carbon projects and initiatives being explored within the EU steel industry (as of 2017)

	CDA	SCC
Pathway	Carbon direct avoidance	Low carbon without CO ₂ emissions
Pillar	hydrogen electric steelmaking	Process integration (± CCU, CCS) Carbon utilisation (CCU)
Description	use of renewable energy hydrogen metallurgy electric steelmaking	process integration with less CO ₂ use of CO/CO ₂ from steel mills as raw material (chemical conversion) and/or Carbon Capture Storage
Projects/initiatives	HYBRIT, H2Future, SuSteel, GrInHy, MACOR/SALCOS, ULCOWIN, EAF	HISARNA, IGAR, Steelanol, Carbon2Chem

As shown on the figure, the steel companies driven solution can be clustered among two pathways, namely carbon direct avoidance (CDA) and smart clean carbon without CO₂ emissions. CDA is focussing on using hydrogen instead of carbon and (clean) electric energy to produce steel. In the second pathway, carbon based metallurgy is applied in a smart way without greenhouse gas (GHG) emissions. In case of

process integration (PI), less carbon is necessary. GHG are avoided by carbon capture and storage (CCS) or by carbon capture and utilisation (CCU), process integration (PI), and carbon capture and utilisation (CCU).

While the EU steel industry is creating its own know-how on CCU, it relies on other partners in case of CCS. This Big Scale EU steel innovation initiative is coherent with the ETS innovation fund as well as with the SET plan action 6 and action 9. Transforming the steel sector to an ultra-low carbon industry is very challenging as the necessary financial means are not covered by growing markets, new products nor new customers. In order to implement the steel projects, reasonable preconditions have to be met like guarantees for clean energy supply at affordable cost, compliant way of cooperation between steel producers, and appropriate.

WG NEWS

WG Transport



The WG continued in the first semester its activities on the update of the SRA. Another key activity the WG is working on is the Lifecycle Assessment, which remains a priority and introduces the link with Circular Economy. The WG has also made a proposal to insist on enabling technologies of new generation “Advanced High Strength Steels” as well as introducing the proposal of Electrical steels related to optimization of EV and PHEV machines.

WG Profit



The WG provided its final contribution to the SRA and validated it by its members. On the topics for joined projects, WG Profit has shown its willingness to take the lead on several topics. With the chairman’s strong involvement and with the proposition of some ULCOS members, they followed up on climate-oriented actions such as important Project of Common European Interest (IPCEI), Big Ticket / Big Scale, Set Plan Action 6 & 9, EUROFER Low-Carbon and Energy Efficiency WG.

WG People

The WG has defined its mission as following: “Anticipating and addressing societal and economic challenges for



the steel industry, enabling technological development with experience and knowledge”. The mission helped to define the WG’s self-conception as a provider of solutions for a highly challenged HR community in the EU steel industry. Furthermore, the WG is happy to promote it as an offer to other WG within ESTEP seeking HR solutions for their business needs.

The WG has also set up the objectives for people and companies, which are as following: (1) Attracting the right people: Be the employer of choice for future target groups; (2) Retention: Meet the employees needs and expectations; (3) Skills Development: Empower people to shape the future of the EU steel industry; (4) Safety: Achieve zero accidents; (5) Health: Work at healthy, safe and innovative workplaces.

Since the WG was set up, it has always been a key issue how to manage knowledge in a more effective way. This was finally discharged into a fruitful dialogue with WG I2M. In a joint workshop ideas for knowledge management and management of knowledge were discussed. The ideas will be fostered in the near future.

Last but not least, WG People was happy to support the “EuroSteelMaster” in Terni by a presentation on future challenges for HR in the EU steel industry. The next meeting will take place on 10 October 2017.

WG Energy Markets

Activities of the WG during the first semester of 2017 included a meeting in ArcelorMittal in Gent (06/06), a meeting at CSM in Rome (07/03) and it continued its participation to the EMIRI and SPIRE applications activities. The WG is also working on future topics regarding the preparation of common research proposals for RFCS and and the preparation of common research proposal within EMIRI WGs.



WG Construction



The main objective of the WG construction has been set up: “Ensuring that steel has the place it deserves and is well represented in European construction research area”.

During the first semester, the working group continued its activities on the finalisation of the SRA, attended several events such as : the Bratislava Conference on “Steel Construction Research, A Journey towards Re-Industrialised Europe”, the MATCH (MATerials Common House) Seminar, “Smart Steel for Construction”, A4M – Sector Technical Groups (STGs) and held two internal workshops (Envelop & Re-use).

WG I2M



On the 23rd of May, the WG had a common session with WG people about Knowledge Management. During that meeting, besides defining two topics for the Flag Ship proposal, Big Data and Predictive Maintenance, there was also some exchange of further ideas in order to define common research proposals. The WG also participated at “Industry 4.0 Day” of Primetals / PSI Metals in Ijmuiden and the WG Chair, Harald Peters, took part of a panel discussion at the European Steel day on May 10 about “Digitisation & Industry 4.0” in the steel Industry.

WG Planet

During the first semester, the WG had 3 meetings. On May 22, it discussed the role of WG Planet vs. the Big Ticket initiative, the opportunities for RFCS common projects and the 5 main SRA topics. The WG also contributed to the SRA with its 5 priorities topics as well as its participation to the paper to SAM11 (15-16 May).



The Chair of the WG also attended two main events: "The future of European Steel: Innovation and sustainability in a competitive world and EU circular economy" (8/03/17) and the workshop on Benchmarking LCA for CCU applications (06/06/17).

UPCOMING EVENTS

- | | |
|--------------------------|---|
| 19-21.09.2017 | Process Industry Conference , the SPIRE mid-term policy event |
| 27.9.-29.9.2017 | Werkstoffwoche Dresden |
| 17.10.2017 | ESTEP 43 rd Support Group meeting |
| 09.11.2017 | Stahltag , Düsseldorf |
| 12.-16.11.2017 | Galvatech 2017 , Tokyo |
| 27.11.-01.12.2017 | 9th European Innovation Summit week |
| 07.12.2017 | SAG (RFCS) meeting |

The ESTEP Newsletter is issued on a regular basis by the ESTEP Secretariat to the ESTEP members. The editorial panel consists of Klaus Peters and Delphine Snaet.

Contributions for the newsletter can be sent to the ESTEP secretariat.

C/o EUROFER
Av. De Cortenbergh 172,
B-1000 Brussels
Tel +32 2 738 79 43
Fax: + 32 2 738 79 56
Email: secretariat@steelresearch-ESTEP.eu