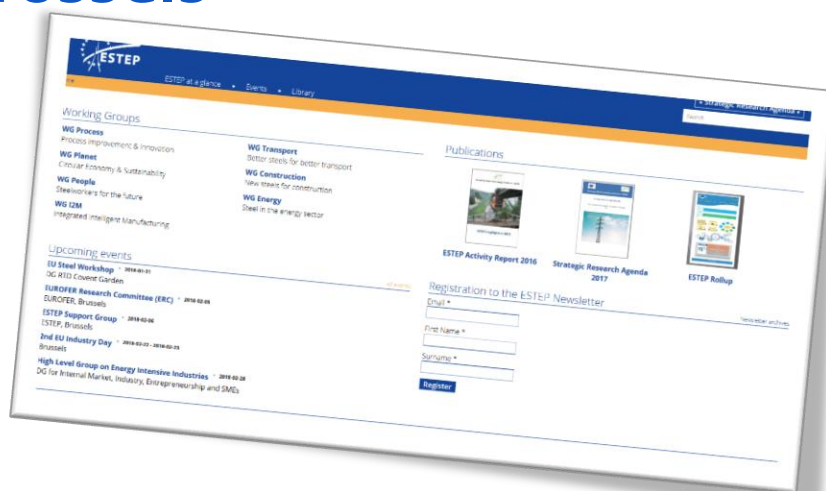


Editorial news from Brussels

Updated Strategic Research Agenda (SRA)

Since 17 October 2017, the updated electronic version of the Strategic Research Agenda (SRA) has been adopted by the ESTEP Support Group and Steering Committee. From now on, this updated version is available [here](#) on ESTEP's website.

and to provide comments and additional content to the ESTEP Secretariat. There is also the possibility to subscribe to the newsletter.



ESTEP new website

On 17 October 2017, ESTEP has launched its renewed website: www.estep.eu. It is designed with a fresh new look and user-friendly navigation, updated with the latest information about its activities.

In the past, the European Commission provided the service of hosting the ESTEP website. From now on, ESTEP is managing it on its own with the help of EUROFER.

All members and visitors are encouraged to explore the new website

9th Framework Programme for Research & Innovation (FP9)

Since mid-2017, the discussions about the successor of Horizon 2020 (H2020), which is for the time being called the 9th Framework Programme for Research & Innovation (FP9), have been started. In this regard, it appears that changes will occur compared to H2020, which is shaped by three pillars: excellent science, industrial leadership and grand societal challenges. Indeed, the European Innovation Council will visibly

be implemented and the concept of a mission-oriented and impact-focused approach in order to address global challenges may be introduced. The [Lamy report](#)¹ on FP9, published in July 2017, presents eleven recommendations for the future of European research and innovation, including one on the concept of a mission-oriented approach. Here, the report clearly identified a potential mission for the steel industry as following: "producing steel with zero carbon in Europe by 2030" (page 16).

Moreover, even if the pillar of industrial leadership of H2020 may vanish in FP9, some indications show that optimism should not be relinquished: the important role of industry in the research and innovation ecosystem is well perceived and the industry will remain in FP9. MEP Christian Ehler, who is one of the European Parliament's main draftsmen on FP9, stated that the European Parliament will propose more than €100 billion for the programme.

It is in this context that the [9th European Innovation Summit](#), organized by Knowledge for innovation ([K4I](#)), took place from 27 November to 1 December 2017. Main discussions on this event focused about concrete solutions addressing major challenges that need more innovation as well as on the importance of continuing to invest in R&D&I.



Some speakers defended the necessity to consider the industry as a big player in the next framework programme. Indeed, e.g. MEP Christian Ehler (EPP) strongly emphasized that the Key Enabling Technologies (KET) need to be maintained in the next FP9, especially as there are important features of Europe's industrial policy.

In regard to the mission-oriented approach discussions, several panellists argue that missions should address issues that do not already benefit huge investments, while including, e.g., venture capitalist to this mission ecosystem. At the debate on the "Future of Research and Innovation", Renzo Tomellini, (Head of Unit, H2020

Policy and Foresight, DG RTD – A3) highly encouraged the various stakeholders to come up with suggestions and ideas in order to boost the impact and bridge the gap of innovation in Europe.

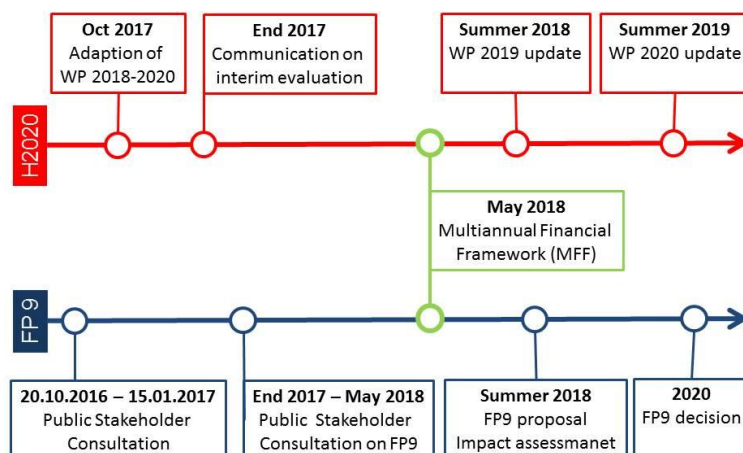
As for 2018, the following timeline shows the several key steps in the run-up to the next Framework Programme. May 2018 will be the next important milestone for the decision on the Multiannual financial framework (MFF).

¹ Pascal Lamy, the chair of the High Level Group on maximising the impact of EU Research and Innovation programmes, has presented the [Group's vision and recommendations for the future](#). This report is based on the results of the interim evaluation of Horizon 2020.

Steel on the EU political agenda

Since several months, there is supporting communication for steel at EU level. Indeed, one of the potential windows of opportunity for steel is amongst others the possible mission on steel identified in the [Lamy report](#).

On 13 September 2017, President Jean-Claude Juncker reaffirmed in his annual [State of the Union](#) speech the importance to make the European industry stronger and more competitive. He unveiled the new [Industrial Policy Strategy](#), which aims at empowering European industries to address the challenges of innovation, digitisation and decarbonisation. Regarding the steel sector, modernization and investment in innovation, e.g. through public-private partnerships are potential responses to



the challenges the steel industry is facing.

Furthermore, several initiatives and high-level events focused on steel are planned on 2018. One of them is the seminar entitled "European Steel: The Wind of Change" that will take place on 31 January 2018 in Brussels.

SPIRE

In mid-September, the first SPIRE conference, "the [SPIRE 2017 EU process industry conference](#)" took place in Brussels. It lasted for three days with an intensive programme covering several debates with speakers coming from the European Commission as from the industry side. It covered process industry topics and a SPIRE pre-brokerage event. The conference was well attended and received overall positive feedback. The next SPIRE conference may take place in 2020.



This conference was also the official change of the presidency of A.SPIRE. Klaus Sommer stepped down and

Daniel Gauthier from the cement sector took over (left on the picture page 2).

At the conference, the steel sector was also well represented with the participation of ESTEP's Secretary General, Klaus Peters, in the panel discussion about the future of the process industry (right on the picture below).



Another important topic at this SPIRE conference was the presentation of the working programme of the remaining three years (2018-2019-2020). In regard to the calls for the year 2020, only the titles are published. Here, there is still work in defining the details of the subjects. Moreover, the SPIRE community faced the request to reduce the number of topics and to be more ambitious. As a consequence, some topics discussed in the Partnership Board were merged and coordination & support actions are not launched in the working programme of 2018, 2019, and 2020 in SPIRE. In order to consider the aspect of social innovation and people, each call text was enriched by an impact bullet point addressing these requirements.

Industrial Innovation Info Days

The [Industrial Innovation Information Days](#) took place on 3-4 October 2017. The main goals of the event were to strengthen cooperation between several industry players, to inform suppliers and users of relevant industrial technologies and to build the foundations for the future of industrial research in Europe.

Around 1000 stakeholders were gathered and discussed about activities in the Key Enabling Technologies part of Horizon 2020. Plenary sessions with political impact on the industrial environment and keynotes speeches by high level speakers were followed by different parallel session in which the topics in the area of nanotechnologies, advanced materials, advanced manufacturing and processing, and biotechnology were presented.

RFCS

On the current situation of the RFCS call for the steel proposals 2017, the outcome of the calls are as follows: on a total of 140 submitted proposals (1 is not admissible because of its length), accompanying measures received 10 proposals, 9 for pilot & demonstration, and 120 for research projects. With a budget of approximatively €20 million, in 2018 less than 20 projects for steel are expected to be financed.

It must be acknowledged that the budget of the RFCS programme is shrinking (a total of only €27 million available). With greatest effort, the Unit for Coal and Steel in DG RTD is trying to implement countermeasures, e.g. the use of de-commitment money¹ since 2003, to keep the budget for the 2018

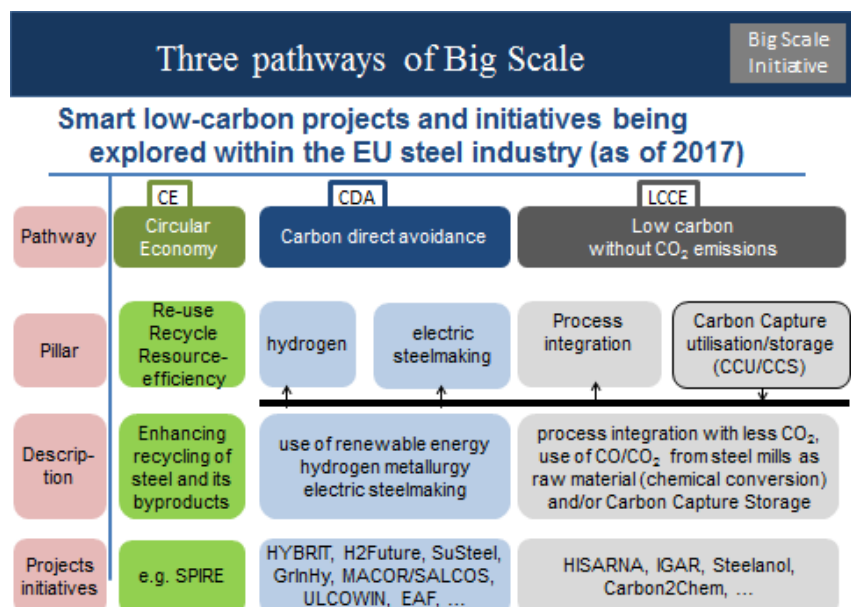
call and 2019 call at the same level as for the 2017 call. The idea is to compensate the de-commitment money for the several calls. However, the details will depend on when the decisions will be made and when the money will be available. Moreover, as the intended countermeasures are a one-time shot, the outlook of the interest rates is not encouraging, which is the reason why additional actions are needed. The steel community is intensively working on this issue with the close cooperation of the European Commission.

¹ If a sum committed to a programme has not been claimed by the end of the second year following the programme's adoption, any unpaid money ceases to be available to that programme.

Big Scale Initiative

ESTEP and its stakeholders are exploring new opportunities and future activities related to the large scale ultra-low carbon future steelmaking project, the so-called the Big Scale Initiative.

The three pathways of the Big Scale Initiative and the possible synergies by establishing collaboration at EU level is expressed in the following table. More



information is also available in ESTEP's [Strategic Research Agenda](#) (page 20).

In order to express the strong commitment of the steel sector to a deep decarbonisation of the steel industry, all EUROFER Vice-presidents signed a letter of intent for the Big Scale Initiative, and which was sent to President Juncker and all Commissioners in September. Besides explaining the opportunities for Europe, it clearly points out that several preconditions need to be fulfilled in order to have a sustainable transition of the EU steel sector towards carbon neutrality.

Moreover, as regard to EU funding opportunities, ESTEP strongly supported the accompanying measure "LowCarbonFuture" in the RFCS framework, which aims at supporting the Big Scale Initiative. This accompanying measure may start in spring 2018.

For the next few months, the steel community is working to implement the Big Scale Initiative in the next Framework Programme (FP9), e.g. as a mission. This will be one of the key components in the upcoming events of the European Commission, namely at the steel seminar, "European Steel: The Wind of Change" to be held on 31 January 2018, and at the second EU Industry Days on 22-23 February 2018.

SI-Drive Conference: The new innovation paradigm is combining technological and social innovation

The "Social Innovation – Research and Policy of the Future - [Towards a Comprehensive Innovation Policy](#)" conference took place on 24-25 October 2017 at the Royal Flemish Academy of Belgium for Science & the Arts. This key event on social innovation was planned with the project of "Social Innovation:

Driving Force of Social Change" (the so-called [SI-DRIVE](#)), and in cooperation with the Horizon 2020-funded Social Innovation Community (SIC). One of the highlights of the conference was the policy debate about the contours of a social innovation policy.

Besides high ranked panellists from the United Nations, the European Commission and the European Parliament, several traditional and social innovation researchers were involved in the discussions. The ESTEP Secretary General, Klaus Peters, underlined the importance of social innovation, especially for technological and economic developments. The so-called 4th industrial and digital revolution is concerning not only on the technological and economic aspects, but also on the people's aspect. Indeed, as he stated: *"Digitalisation does not undermine human involvement, humans are driving innovation. [...] ESTEP is one of the only European Technology Platforms not having only technological oriented working groups but a specific working group people dealing with human issues"*.



Antonius Schröder (from TU Dortmund University and coordinator of SI-DRIVE) is engaged in the ESTEP Working Group People. He is namely pushing social innovation on the technological agenda by stressing that every (technological) innovation is also a social innovation process. The integration of all the people concerned into the process of innovation and reflexion (economic and societal impact) from the beginning, is crucial for the effectiveness and

sustainability of the new solution as well as for the efficiency of the development and implementation process.

SET Plan: The 10th year anniversary at Central European Energy Conference 2017, Bratislava

The Strategic Energy Technologies (SET) Plan finalized the [implementation plans](#) in the dedicated working groups. The WG 6 on energy efficiency is preparing the implementation workshops. EUROFER and ESTEP are contributing to the preparation of these workshops, which are foreseen for mid-2018.

Energy Union Research, Innovation and Competitiveness Priorities		SET-Plan 10 Key Actions
No1 in Renewables		1 Performant renewable technologies integrated in the system 2 Reduce costs of technologies
Consumers in the Energy System		3 New technologies & services for consumers 4 Resilience & security of energy system
Efficient Energy Systems		5 New materials & technologies for buildings 6 Energy efficiency for industry
Sustainable Transport		7 Competitive in global battery sector and e-mobility 8 Renewable fuels and bioenergy
Carbon Capture Utilisation and Storage		9 Carbon Capture Storage / Use
Nuclear Safety		10 Nuclear safety

On 1 December 2017, the SET Plan community followed the invitation of the EU Presidency to the Central European Energy Conference 2017 in Bratislava. In the [5th Panel discussion](#) (minute 30 to 40) on "Decarbonisation: Industry and transport fuels", the steel sector was represented by Franz Hörzenberger, from ArcelorMittal. He explained the situation of the EU steel sector in regard to reducing greenhouse gas emissions



and introduced the EU Big Scale Initiative to the community.

EUROFER Sustainability questionnaire

The EUROFER Sustainability Strategy created in 2015 was aimed to set forth an overarching sustainability narrative and to define the common denominators of the European steel industry as a whole. Thus far the strategy, also with the help of ESTEP, has resulted in [the EUROFER Sustainability Vision paper](#), which was released in April 2016. As a follow-up of this vision paper, EUROFER has developed a [questionnaire](#) on

sustainability for feedback from stakeholders of the European steel industry. The results of this questionnaire will allow to identify the most relevant issues and the most appropriate indicator for the European steel industry. A sustainability report into steel in the EU will then be compiled.

International conference on Carbon Dioxide Utilisation

On 18-19 October 2017, the [9th Carbon Dioxide Utilisation Summit](#) was held in Reykjavík, Iceland. The new ESTEP member Helmut Lachmund from Dillinger attended the conference,

which provided an excellent overview of the state of play and ongoing developments in the field of CCU. Among the highlights of the summit, the presentations from Phillip Williamson on "The critical role of CO₂ utilisation in avoiding dangerous climate change" and "Development of a multidimensional valuation model for the integration of CCU technologies in cross-industrial systems" from Sebastian Stiessel are those that have been greatly appreciated by Helmut Lachmund (more details shown with red arrows on the following [programme](#)).



News from ESTEP's Working Groups

WG Planet



The Working Group Planet continued in the second semester of 2017 its activities on sustainability and circular economy, namely on the finalization of the SRA and the internal document "ESTEP: 2050 Sustainability Roadmap for Steel meeting the needs of a changing society". Moreover, the link with the EUROFER Sustainability Credentials WG (SCWG) has been decided through the participation of Enrico Malfa, chairman of the WG, into the SCWG.

The Working Group has also worked on topics regarding the preparation of common research proposals for RFCS and H2020. The WG is looking forward to its contribution for the collaborative activities, especially in the field of

resource and energy efficiency, which is one of the three pathways of the EU steel [Big Scale Initiative](#). The WG also prepares a common project related to circular economy, which is called "Optimal valorization of waste, residue streams and recycled end-of-life materials as feed".

The dissemination activity, a well-established action over the past years, continued, especially with the publication of the article "Steel and biodiversity: a promising alliance" in *Matériaux & Techniques*. The chairman of the WG also participated as a keynote speaker at the World Congress on Sustainable Technologies ([WCST](#)) 2017 of the IEEE.

WG People

Preparing the Blueprint Development of a New Skills Agenda for the Steel Industry.

Together with the EUROFER Social Affairs Committee and the Sectoral Social Dialogue Committee on Steel (SSDC), Working Group People is engaged in developing an application for the Erasmus+ call "Sectoral New Skills Agenda". The main objective of the planned project is to develop a sustainable, industry driven and coordinated European skills agenda, which is a strategy for an ongoing and short-term implementation of new demands for skills. This will be piloted by the development of modules and



tools for the awareness of new skills for a global competitive industry, ready to anticipate new skills demands and to allow proactive and practical activities to meet the future requirements of the industry. In addition to the steel companies and stakeholders at the European level, the main steel actors on the Member States level (namely steel companies, steel and vocational education and training actors on the level of the steel producing and processing) will be involved to guarantee a national roll out of the blueprint. (Member States such as Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Italy, Poland, Spain, Sweden, The Netherlands, and others are willing to participate).

Lectures at the 2017 European Steelmaster



As part of the annual advanced courses for the European steel and related industries in Italy, Veit Echterhoff hold a lecture on "Future challenges for human resources in

the EU steel industry" at the 2017 Eurosteelmater course (May 2017). In addition to ESTEP, EUROFER, EU and steel companies presenters, WG People was represented by Antonius Schröder at the 2017 Italian Steelmaster (21st edition), which took place in Cremona (9-13 October 2017) and Terni (6-10 November 2017). Antonius Schröder presented and discussed with the participants the role of ESTEP and its Working Group People, the results of the recent surveys conducted, as well as the importance of people and human resources in the European steel industry in the context of combining social and technological innovation.

WG I2M

In the second half of 2017, the Working Group I²M had one meeting held in Pisa, Italy. At this meeting, the submitted RFCS proposals were presented, upcoming calls in Horizon 2020 were discussed and co-operations with other ESTEP Working Groups were prepared. It had also been verified whether all topics for joint European projects were covered by research proposals of the group. Two of these topics, namely "Validation and reconciliation of process data" and "Cyber security", have been identified as possible candidates for joint European projects, which could run outside research funding.



The "Integrated Intelligent manufacturing (I²M) roadmap, as developed by the Working Group, is now an integral part of the updated Strategic Research Agenda (SRA) published in September 2017. Furthermore, the group is still growing due to its large importance of the topic. New members will also be welcome in 2018.

Contributions to conferences

The year 2017 was characterized by many conferences in which the topic of Industry 4.0 played an important role, e.g. the [Future Steel Forum](#) in Warsaw or the European Steel Technology and Application Days ([ESTAD](#)) in Vienna. At all these conferences, members of the Working Group I²M presented results of finished or running projects and contributed to discussions. Moreover, the chairman of the WG, Harald Peters gave a presentation on "Digitalisation and Industry 4.0 in steel industry" at the 50th Anniversary of Worldsteel (combined with the General Assembly) in October in Brussels.

RFCS proposals in the field of I²M / Industry 4.0

Although the WG was not very successful in the previous years with its submitted RFCS proposals in the field of I²M / Industry 4.0, several proposals had been identified this year and prepared by different constellations of partners. Two topics were selected as flagship proposals: a resubmission of last year with the title "NewTech4Steel - Enhanced process stability and product quality in steel production by exploitation of breakthrough technologies for real-time monitoring, control and forecasting inspired by Big Data concepts" and a new proposals in the field of predictive maintenance "CyberMan4.0 - Cyber-Physical System-based approach for intelligent data-driven maintenance operations applied to the rolling area". Both proposals have a strong consortium based on several steel producers, plant manufacturers, SMEs and research organisations.

WG Energy Markets

The Working Group Energy Markets finalized in the second semester the update of the SRA. Another activity was the conference call of the WG on 27 September, which was specifically dedicated to H2020 calls. Pedro Gimondo, the chairman of the WG, will be a speaker at the EU Seminar "European Steel: The Wind of Change" organized by DG RTD on 31 January 2018.



WG Transport

During the second half of 2017, the Working Group Transport provided its final contribution to the SRA, which has been validated by its members.



Based on the outcomes of the EUROFER Research Committee meeting of 5 May 2017, the WG has also worked on the identification of

potential collaborative projects that could be proposed within RFCS or Horizon2020 funding calls in the context of transport issues. Indeed, this meeting issued several proposals for the several ESTEP working groups. "New modelling approaches for sheet metal application (multiscale modelling, mathematical formulation of material behaviour/characterization)" was proposed to the WG Transport and is quite well aligned with the topics already discussed in the previous meetings, especially regarding enabling technologies needed for the

new generation of Advanced High Strength steels. It has been suggested that each steel company should define what could be done individually or in collaborative projects. Research organizations & universities were also invited to make some proposals. It is to that end that the recent Horizon 2020 work program for 2018-2020 was reviewed by the members in the last meeting in November.

WG Construction

The Working Group Construction provided its final contribution to the SRA, which has been analysed and validated by its members.

During the second semester of 2017, the WG has also worked on the analysis of construction research projects in the frame of the RFCS programme. As an outcome, an average on 30 to 35 projects per year are



addressing topics in the field of industry, construction, building, technical and products. Another activity is the attendance of the WG to the General Assembly of the European Construction Technology Platform (ECTP), which was held on 7 October 2017.

WG Process

During the second semester of 2017, the Working Group Process held a meeting in Brussels on 8 December 2017.

The WG worked also on several steel projects positioning steel as an outstanding material. On the topics for joint European projects, the WG was strongly involved into several working groups and task forces of ESTEP and EUROFER, especially by discussing opportunities for joint research projects. It was also very active in SET Plan action 6 & 9.



Upcoming events

31.01.2018	EU Steel Workshop: Wind of change , DG RTD, Covent Garden Building, Brussels
06.02.2018	ESTEP 44th Support Group meeting
22-23.02.2018	2nd EU Industry Days , Brussels
28.02.2018	High Level Expert group on energy intensive industries, Brussels
07.03.2018	ESTEP Steering Committee meeting
15-16.03.2018	CO₂ as chemical feedstock , Cologne
06-07.06.2018	Future Steel Forum 2018 , Warsaw, Poland
07.06.2018	European Steel Day 2018

ESTEP's way forward

ESTEP is preparing to become a legal entity in the form of an international non-for-profit organisation (AiSBL). In close collaboration with its founding members, it drafts the statutes and internal rules. The official application should be expected in early spring 2018.



ESTEP
wishes you
a wonderful
Holiday Season
and a successful
New Year!

ESTEP Newsletter

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

MORE INFORMATION

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.