

Member Newsletter

Issue 9, July 2012



Table of Contents

Table of Contents	1
Word from the Chairman	1
SPIRE: Sustainable Process Industry through Resources and Energy Efficiency. Towards a new PPP ?	2
WG1 Profit	2
WG2 Transport	3
WG3 Construction	3
WG4 Environment	4
WG5 People	4
WG 6 Energy	4
WG on energy efficient steel production	5
Intelligent Manufacturing (I2M) workshop for the Steel Industry, April 23 & 24 2012	5
Society and Materials SAM-6 International Conference, May 30 & 31 2012	5
10 th anniversary of the Consultative Commission on Industrial Change, 12 June 2012	6
European Steel Day	6
New Face of ESTEP website	6
ESTEP Membership	6
Colophon	7
Forthcoming Events 2012 International conferences	7
ESTEP meetings	7

Word from the Chairman

The European economy is currently facing some unpleasant headwinds. Also the steel industry is undergoing some challenges. To develop new steel technologies and to improve existing ones will be the major roadmap that European steel industry needs to work on. ESTEP has been established in recent years under the leadership of Michel Wurth and set up its mission to provide the European steel sector with new competitive and sustainable technologies and green products. However, also ESTEP may sometimes be affected by changes.

On the occasion of the last ESTEP Steering Committee, on the 1st of March 2012, several important modifications within the organization of our technology platform were announced. After five years as Chairman, Michel Wurth decided to step down due to changes in his responsibilities at ArcelorMittal. I would like to thank Michel Wurth very warmly for his always strong commitment and his outstanding support to ESTEP during all these years. With his work, he contributed so much to the ESTEP mission to develop new sustainable technologies.

Within the Steering Committee, Emilio Riva, Riva Group, is nominated Vice-Chairman and Enrico Gibellieri is confirmed as Deputy-Vice-Chairman.



Chairman

Dr Heribert Fischer

At the same time François Mudry, ArcelorMittal, has replaced Peter Schwab, Voestalpine, who also decided to step down, as Chairman of the Support Group. Many thanks as well to Peter Schwab for his enduring and most successful work as Chairman of the Support Group.

In the context of the preparation of the next Research & Innovation program of the European Commission, Horizon 2020, ESTEP has a number of challenges.

The first one is to prepare the possible Public Private Partnership (PPP) SPIRE, Sustainable Process industry through Resource and Energy efficiency, where ESTEP is very active. The SPIRE draft research roadmap has been submitted to the Commission at the beginning of this month, and a public consultation about the future of the PPPs will be launched this summer, including SPIRE as well. The second challenge is our involvement in some European Innovation Partnerships (EIP) such as Raw Materials, Water Resource and the Key enabling Technologies.

Our third challenge is to revisit our Strategic Research Agenda (SRA) in order to show the coherence and consistency within Horizon 2020. All our Working Groups contribute to this task, with the ambition to publish our updated Strategic Research Agenda in October.

Many members of our partner companies together with the ESTEP experts are working on those activities. I am sure that with all the contributions, ESTEP will continue its road to success in the future.

Be sure of my full support,

Dr. Heribert Fischer

ESTEP Chairman,

Member of the Executive Board of ThyssenKrupp Steel Europe, responsible for Rolling and Metallic Coating.

SPIRE: Sustainable Process Industry through Resources and Energy Efficiency. Towards a new PPP?

The Resource and Energy efficiency Partnership (REP) consists of European associations and European technology platforms dealing with process industries producing materials. ESTEP, in cooperation with Suschem



Secretary General
Bertrand de Lamberterie

(Chemicals) and EUnited (equipments supplier) is at the origin of this initiative. Our strategic document 'SPIRE' for **Sustainable Process Industry through Resource and Energy Efficiency** was published in October 2011, in order to present a proposal for a new Public Private Partnership for research and innovation. SPIRE has the objective to develop the enabling technologies and solutions along the value chain that are required to reach long term sustainability for Europe in terms of global competitiveness, ecology and employment.

We received very good feedback from the European Commission, showing that our initiative was fully in line with the HORIZON 2020 roadmap published on 30th November 2011, matching with the pillars "Industrial Leadership" and "Tackling Societal challenges".

No fewer than 10 industry sectors have contributed to the development of SPIRE. Sectors such as steel, chemicals, minerals, water, non-ferrous metals, glass and cement representing big and small companies have joined forces, including Research and Technology Organisations (RTOs) in order to prepare a cross-sectorial research and innovation roadmap. Over all the first half of 2012, we have developed this roadmap with close exchanges with the European Commission in the aim to provide a relevant input for the implementation of Horizon 2020.

During the info days on the PPPs, 9-10 July 2012, the European Commission explained the importance of Public Private Partnerships for Research and Innovation in Europe promoting within Horizon 2020 a better oriented partnership between Industry and Research. The EC recommended the continuation of the three existing PPPs: Factories of the Future, Energy-Efficient Buildings and European Green Cars Initiative, each of them presenting their new multi-annual roadmap for the period 2014-2020. In addition the multi-annual roadmap of SPIRE was distributed to the 900 participants, as a potential new PPP.

6 Key Components which are at the core for a resource and energy efficient process industry are proposed:

- 1- **Feed/ raw materials** : increased energy and resource efficiency through better

preparation and product mix of raw materials, higher levels of alternative and renewable feedstock, as well as better management of increased quality variations in material resources

- 2- **Process**: solutions for more efficient processing and energy systems for the process industry, including industrial symbiosis,
- 3- **Applications**: new processes to produce materials for market applications that boost energy and resource efficiency up and down the value chain
- 4- **Waste2Resource**: valorization and re-use of waste streams within and across sectors, including recycling of post-consumer waste streams and new business model for eco-innovation
- 5- **Horizontal**: underpinning the accelerated deployment of R&D&I opportunities identified within SPIRE through sustainability evaluation tools and skills and education programmes as well as enhance the sharing of knowledge and best practices
- 6- **Outreach**: reach out to the process industry, policy makers and citizens to support the realisation of impact through awareness, stimulating societal responsible behavior.

As for the 3 existing PPPs, the SPIRE roadmap will be updated through an open consultation process

during this summer (24 July- 30 September).

Last but not least, the SPIRE stakeholders that have committed themselves to the writing of this roadmap and the associated objectives and vision have created a new association; Association SPIRE AISBL (A.SPIRE) on 18th July 2012. A.SPIRE intends to be the partner to the EC, representing the private sector (industry and RTOs), to assist the public sector in execution of this new PPP.

More infos: www.SPIRE2030.EU

WG1 Profit

During the first half of the year, two meetings have been organized to cover the following topics:

- In line with the new framework programme of the European Commission called "Horizon 2020", the contribution to the SPIRE initiative and the preparation of a dedicated roadmap. To be especially underlined is the strong support of several RIES



WG1-Chairman
Christian Marique

partners in the fields of “raw material input, process, recycling and energy”,

- The effective launching of the ad-hoc working group on “Efficient use of raw materials” under the coordination of Riva Group (Dr. M. Zagaria with the support of V. Colla). The main mission of this WG is to identify solutions and technologies able to find a very wide and global application not necessarily restricted to a plant or regional level. A first report has been given in front of the ESTEP Support Group on June 27, 2012 and a draft document is under preparation.
- The updating of the ESTEP Strategic Research Agenda has been initiated with the active support of several WG1 members; the work being especially focused on the chapter 2.2 “Safe, clean, cost-effective and low capital intensive technologies”,
- Thanks to the strong involvement of the ad-hoc working group in ‘Intelligent Manufacturing’ and especially ArcelorMittal (L. Chefneux) and BFI (H. Peters), the first edition of the Integrated Intelligent Manufacturing (I2M) workshop took place in ArcelorMittal’s Maizières research centre on April 23rd and 24th with more than 70 participants (see specific focus on this event).

WG2 Transport

The last of two meetings of workgroup 2 this year was held 12th July. One of the main topics was our mission statement, a document which summarizes the necessity and potential of steel for the transport sector. Light weight design possibilities, new and developed joining and forming technologies, semi-finished products, electric applications, corrosion protection and Life cycle assessment (LCA) as well as applications in trucks and trains are some of the topics. Short chapters show an overview and invite for discussion. One main goal is the establishment of steel as a driver for new sustainable and affordable solutions. The socio-economic aspects are also well considered.



WG2-Chairman
Oliver Hoffmann

The Strategic Research Agenda of ESTEP regarding steel applications for transport is going to be updated. The group is working on the new vision for the next years focused on the coming European framework program “Horizon 2020”. The targeted development of a production and manufacturing chain using new high performance steels for lightweight constructions including new or modified

forming and joining techniques and new coating processes will be a very ambitious Research & Innovation aim. The new hot forming steel grades with advanced corrosion protection coatings and new process technology approaches like tailored tempering for weight reduced steel cars are good examples of the capability of the steel industry - and the development is still going on.

Partly shown was the potential of steel in Aarhus during the conference “Industrial Technologies 2012” - funded by the European Commission - on 19th June 2012. Around 100 participants were in the session “Industry of lightweight, low emission transportation” to get in impression of “Steel lightweight materials and design for environmental friendly mobility”. The high amount of contacts after the presentation showed the big interest in innovative steel solutions for the transport sector.

Members of WG 2 are involved in three European projects. Beside the running projects “Green press hardening Steel Grades” (GPHS) and “Advanced Electric Vehicle Architectures” (ELVA), the proposal team of the project “Advanced Light Vehicle” (ALIVE), submitted under FP7 call GC.SST.2012.1-1. “Innovative advanced lightweight materials for the next generation of environmentally-friendly electric vehicles” was successful. Final negotiation is on-going.

The next meeting will take place in November in Essen, Germany.

WG3 Construction

In the first half of this year, WG3 has been strategically repositioned to deliver the Construction objectives. The group has agreed to adopt a pyramid approach whereby the interested active members would focus on delivering the groups objectives and a consultation platform of the remaining



WG3-Chairman
Samir Boudjabeur

stakeholders will be kept informed of overall activities and have opportunities to provide feedback. In our last meeting in May 2012, the group agreed a number of objectives including setting research priorities, working with TGS8, linking up with framework and associated organisations/initiatives (such as ECTP, ECCS, Building Up, reFINE, etc), supporting members involvement in FP7 and submitting at least 2 ERFCS per year.

WG3 has been very active in organising a joint workshop with SB_Steel and ECCS TC14 on Sustainable Construction, leading to the publication of a book on the subject. Priority topics were set for ERFCS call, retaining energy efficiency and introducing a new one on Eurocodes. Building Up, SET-Plan and E2B Energy Efficient Roadmaps were contributed to. ESTEP SRA was also updated.

WG4 Environment

WG4 has been continuing its work of preparing for the future by extending the scope of its roadmapping exercises.

A 37 page *Draft report on resources of the Steel Industry*, co-authored by J-P. Birat, J-S. Thomas, P. Hodgson, P. Russo, V. Colla, J.I. Barbero, B. Peña, H. Wolfmeir



WG4-Chairman
Jean-Pierre Birat

and E. Malfa, is now available and examines the status of the industry raw material resources, from the standpoint of the Commission's flagship initiative on Resource efficiency. It focuses not only on primary raw materials, from the standpoints of security of supply, scarcity and criticality, but also on secondary raw materials, examining recycling, reuse and synergetic exchange of resources between industries in an industrial ecology approach. Beyond a vision of issues, serious ones and many that do not concern the steel sector, the paper offers a program for future studies, research, development and innovation that are needed to come to grip with them. This work was presented in June at the Technologies 2012 event organized by the Commission in Aarhus.

Another roadmapping document related to water and steel production is under final drafting. It is the result of the exchanges which took place with the water platform, in 2011 and 2012.

WG4 has also been very active in reviewing the SPIRE roadmap and in the preparation of the new ESTEP SRA.

The next meeting of WG4 is scheduled for 18 September, in Saint Denis, France. On the agenda will be an examination of the biodiversity Grand Challenge and a discussion on how it can be handled by steel business.

For more information please contact jean-pierre.birat@arcelormittal.com

WG5 People

In the first half of 2012 WG "People" members focused mainly on managing the GT-VET project. In April we had a two days workshop in Duisburg at ThyssenKrupp Steel Europe to discuss approaches



WG5-Chairman
Rudolf-Carl Meiler

to the European learning module. The research partners from Italy, Poland, United Kingdom and Germany developed together with located steel companies learning concepts for technical apprentices and skilled workers to foster green skills and awareness. Actually, the approaches will be harmonized and in

autumn 2012 the module will be tested in the steel companies.



WG5 members attend workshop at ThyssenKrupp Steel Europe, Duisburg

WG 6 Energy

The activities carried out in the frame of this WG have grown substantially in the last 3 years. The number of experts involved, the proposals submitted, the industrial interest have somehow created a sector, where a sector was not conscious of the related relevance.



WG6 Chairman
Pietro Gimondo

The topics addressed are on the energy transportation of standard and not standard fluid, mainly by pipelines, power generation and renewable, photo-voltaic, wind, concentrated solar thermal.

WG6 won various FP7 Grant Agreement, about CO2 quality, on H2 transportation, oxy-combustion and various others.

Among the various projects the one on CO2 quality for transport via pipeline addresses technical topics from capture site to disposal site (offshore and onshore), while developing knowledge and unified rules for design, fracture control and overall fitness-for-service of pipelines for safe transport during entire life-span of the pipelines.

WG6 is extremely oriented to work with industry in order to tackle the societal, industrial and economic challenges of the growing integrated world.

Next meeting of WG6 is scheduled on the 4 of October in Brussels.

WG on energy efficient steel production

This temporary working group is co-piloted by Eurofer (Climate change committee) and ESTEP. Three meetings were organized in the last six months. The working group has defined an energy-benchmark methodology for the process of data collection. The energy data have been completed for representative plants of European steel companies, both for the BF/BOF route and EAF route. A first data comparison from the different plants was carried out. A synthesis of the results will be prepared and discussed during the next meeting planned on 2 October. Final results and recommendations for energy savings are expected by the end of the year.

Intelligent Manufacturing (I2M) workshop for the Steel Industry, April 23 & 24 2012

The very first edition of the Integrated Intelligent Manufacturing (I2M) workshop took place in ArcelorMittal's Maizières research centre on April 23rd and 24th.

The first objective of this workshop, co-organized by ArcelorMittal and BFI (Betriebsforschungs-institut), was the dissemination of the I2M concepts which have been developed in the Process Factory of the Future of ESTEP working group, which is managed by our ArcelorMittal colleague Luc Chefneux.

The second objective was to communicate on the projects already completed or still running, mainly in the RFCS program.

As regards the objectives, this workshop has been a real success. It welcomed 72 registered attendees and some "free" participants, colleagues from Maizières partly attending.

Mr Alan Haigh, Head of Unit RFCS at the DG Research & Innovation of the European Commission was present during the two-day seminar. He presented the first key note in which he explained the support that Europe is giving to research and especially to the steel industry, through the RFCS program. Other possibilities do exist, especially PPPs (Public Private Partnerships) and will be increased in the next Frame program, Horizon 2020.

Dr Harald Peters, co-chair of the workshop with Luc Chefneux, concluded that this success will encourage the ESTEP working group devoted to

I2M to continue its actions with the support of the European Commission.

Society and Materials SAM-6 International Conference, May 30 & 31 2012

The 6th edition of the SAM-6 conference was held at KU Leuven on May 30 and 31, 2012. The conference was hosted by ArcelorMittal and KU Leuven, with the support of ESTEP, Materialia, the International Life Cycle Chair CIRAI, and the Eco-SD cluster. This year, the conference attracted 97 participants from 3 different continents.

As part of the SOVAMAT initiative, the SAM conferences aim at bringing together an interdisciplinary research community to discuss the connection between materials and society and to identify the evolution of methodologies that are available for bridging between them.

A pluridisciplinary audience was present, including sociologists, economists, process engineers, ecologists, political scientists, LCA and MFA experts. A multi-material presence was achieved, as there were representatives from the aluminium, wood, plastics, zinc and steel industry. Session themes looked beyond traditional LCA methodologies, and expanded into more diverse areas of study, such as sustainable assessment of technologies, sustainable cities, construction and transportation, biodiversity, resources and energy economics.

Three keynote lectures from high level speakers were featured in the conference, including two from members of the European Commission.

- Prof. S. Moskowitz of the College of Saint Benedict and Saint John's University presented models of advanced materials innovation and global competitiveness in the 21st century.
- R. Tomellini, head of Materials Unit of the European Commission (DG Research), explained how materials are the key to European industrial competitiveness.
- R. Ricci, who represented D. Rossetti, from the SSH unit in DG Research, gave a vision of the World in 2050 and of the challenges it will encounter.

They showed how intertwined are economy growth, society's well being and materials consumption. LCA and Life Cycle Thinking (LCT) demonstrated once again how important they are to make informed choices regarding the economy and especially materials. However, more tools extending beyond LCT have to be used to avoid rebound or even perverse effects and they are indeed under intensive development, as the whole conference showed very explicitly.

Presentations are available on-line at www.sovamat.org and the papers will be published in a special issue of Revue de Métallurgie.

SAM-7 will be held at RWTH Aachen University on the 25 and 26 of April 2013.

For more information please contact jean-pierre.birat@arcelormittal.com and Adriana.carvalho@arcelormittal.com

10th anniversary of the Consultative Commission on Industrial Change, 12 June 2012



Mr Gibellieri, our deputy vice-Chairman talking about the creation of the CCMI.

The Consultative Commission on Industrial Change (CCMI) of the European Economic and Social Committee (EESC) celebrated its 10th anniversary on 12 June 2012 at EESC, Jacques Delors building. On the 23 July 2002, the treaty of the European Coal and Steel Community (ECSC) expired and the consequence was the creation of the CCMI as a horizontal consultative committee in the EESC.

This conference has contributed significantly to the reflection on current developments and future trends in the different European Industrial sectors.

During the conference (see photo) Enrico Gibellieri – Member of the Bureau of the CCMI and ESTEP Deputy Vice-Chairman talked about the history of ECSC and the creation of the CCMI.

European Steel Day



Over 400 participants at the European Steel Day 2012

On 28 June 2012, EUROFER held its second European Steel Day at The Square Conference Centre in Brussels with 400 participants from the steel industry, steel suppliers and customers, representatives of the EU institutions and member states, journalists and other interested stakeholders.

The event attracted more participants than last year and proved to be a real success.

The main conference in the morning included presentations and discussions on EU internal and external challenges such as the competitiveness of the EU steel industry, the financial and economic crisis, unfair trade praxis by third countries and the EU's resource, climate and energy policy. Speakers agreed on the enormous role European steelmakers play for the manufacturing value chains in Europe and European economy as a whole.

ESTEP had a stand at the entrance of the main hall and Bertrand de Lamberterie and Nicol Remoy greeted many participants including the new Chairman, Dr Heribert Fischer (see photo above). ESTEP was proud to have the new ESTEP website on display, interactive for the Chairman and many other visitors to explore and get to know.

New Face of ESTEP website



The ESTEP website has been re-designed to make it clearer and more user-friendly. Professional website designers were hired by CORDIS to update the website. You will find in this new website all the information about ESTEP such as organisation, WGs activities, lighthouse projects, events and publications. <http://cordis.europa.eu/estep/>

ESTEP Membership

One of the most frequent questions for the ESTEP secretariat: How can I join ESTEP? When ESTEP started, the whole European steel industry in EUROFER joined forces with steel research institutes and these formed the basis for the platform together with the European Commission and Member States. Machine builders and representatives from universities (time) and universities have been invited to join the platform. However these "founding fathers" are not the exclusive members of ESTEP. ESTEP is open to any organisation with activities linked to steel research and technology. As a platform we want to

be a forum for steel dialogue in the steel sector and relevant public organisations. The main request is that new participants not only join but become really active members to participate in the day to day activities of the working groups: setting up roadmaps, defining priorities, formulating proposals and setting consortia, communicating with relevant bodies over common themes. Any application will be handled in principle through the respective working group. A definitive decision on participation is after a few meetings to assess whether membership is useful for both sides. In this way the membership has changed over the years. ESTEP has now also members from outside the EU.

Colophon

The ESTEP Member Newsletter is issued on a regular basis by the ESTEP Secretariat to the ESTEP members. The editorial panel consists of Bertrand de Lamberterie, N. Remoy and Wim Moonen.

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

C/o EUROFER

Avenue Ariane 5, Third floor

B-1200 Brussels

Tel +32 2 738 79 43

Fax: + 32 2 738 79 56

Email: secretariat@steelresearch-ESTEP.eu

Web: <http://cordis.europa.eu/estep/>

Forthcoming Events 2012 International conferences

RFCS Event 10th anniversary Sept 19,20, '12
Luxembourg

STAHL 2012 Conference, Nov 8-9 2012,
Düsseldorf

**JSI 2012. 30th International Steel Industry
Conference**, Dec 18-19 2012, Paris

ESTEP meetings

WG4 meeting Saint-Denis, France	Sept 18 2012
WG1 meeting Brussels	Sept 27 2012
ESTEP Energy Efficiency Brussels	Oct 2 2012
WG 6 meeting Brussels	Oct 6 2012
Support Group meeting Brussels	Oct 23 2012
Mirror Group meeting Brussels	Nov 7 2012
WG2 meeting Essen	Nov 2012
Joint ESTEP RFCS meeting Brussels	Dec 7 2012