



# MEMAN

INTEGRAL MATERIAL AND ENERGY FLOW MANAGEMENT  
IN MANUFACTURING METAL MECHANIC SECTOR

# REPORT

## CONFERENCE: SEIZING THE OPPORTUNITIES OF CIRCULAR ECONOMY IN MANUFACTURING

DATE: 20 JUNE 2018



MEMAN stands for "Integral Material and Energy flow MANagement in MANufacturing metal mechanic sector".  
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# TABLE OF CONTENTS

1. Event structure and key issues discussed .....	3
1.1 Content & Agenda.....	3
1.2 Speakers presentations .....	9
1.3 Participants .....	9
ANNEX I – Conference agenda .....	10
ANNEX II – Participant list.....	11

# I. EVENT STRUCTURE AND KEY ISSUES DISCUSSED

The eco-innovation expert group [Greenovate! Europe](#) organised an event about “Seizing the opportunities of circular economy in manufacturing” on 20 June 2018 in Brussels.

The event investigated which **barriers** (financial, legislative, technological and non-regulatory) currently **prevent companies from investing more in resource efficiency** and what are the **opportunities** that this can bring for the competitiveness of the manufacturing industry.

Experts also presented a **range of solutions** that can lead to substantial resource savings in industrial processes, showing real-life examples from the metal mechanic sector. The solutions presented included innovations developed in the **EU-funded research [MEMAN project](#)**, which looks into the whole manufacturing value chain – rather than a single company – to make manufacturing processes more resource efficient.

The event brought together over 60 participants from manufacturing companies and associations, research centres as well as regional and European Institutions.



Figure 1. Whole room

## 1.1 Content & Agenda

**Gosse Hiemstra**, Greenovate! Europe President and director of the innovation consultancy Van der Meer & van Tilburg, welcomed the participants. Being a partner in the MEMAN project, he explained that they got involved in the project because they believe that resource efficiency drives excellence.

### Barriers and opportunities of circular economy in manufacturing companies

**John Cleuren**, Senior Policy Officer in the Advanced Manufacturing Systems and Biotechnologies Unit of DG Research, underlined the importance of legislation in driving changes and innovation. He stated that ‘greening’ industry is one of the European Commission’s biggest drivers for the years to come. He noted that it is not only important to look at raw materials, but also at waste as a new resource. He also remarked that there is a strong participation of industry in Horizon 2020, whose research projects should prepare society for the challenges of the future.

See here the [presentation of John Cleuren](#)



Figure 2. John Cleuren, DG Research

**Patrick Kennedy**, Communication Adviser at the European Factories of the Future Research Association (EFFRA) presented the activities of his association, which represents the private sector in the 'Factories of the Future' (FoF) Public-Private Partnership with the European Commission. He explained the importance of sustainability for the future of manufacturing and showed the results of some of the research projects that the partnership has financed in this field. He announced that the next FoF call opens on 14<sup>th</sup> October 2018 (to be found here: <https://www.effra.eu/calls-proposals>) and invited participants to answer EFFRA's consultation about Horizon Europe, available at the EFFRA Innovation Portal.

See here the [presentation of Patrick Kennedy](#)

**Malte-Matthias Zimmer**, Regulatory Affairs Group Chairman at the European Committee for Surface Treatment (CETS) gave his opinion about the main barriers for 'circular manufacturing', based on his pluriennial experience working for SMEs in the electroplating and steel sectors. He noted how the complexity of manufacturing processes involves the interaction of dynamic systems; every company is dealing with its own issue. The key challenge is that there is no overall co-ordination.

See here the [presentation of Malte-Matthias Zimmer](#)

**Ander Elgorriaga**, Head of Resource Efficiency in Industrial Companies at the Basque Resource Efficiency Agency (IHOBE) explained IHOBE's work in the Basque country on how to make resource efficiency happen in manufacturing companies. He said that to do so, they work on policy instruments and on knowledge dissemination and he presented some success stories from his Region. He also explained the work of EREK, the European Resource



Efficiency Knowledge Centre, a European platform – of which IHOBE is a member – that supports companies to take action for resource efficiency in Europe.

See here the [presentation of Ander Elgorriaga](#)



Figure 3. Panel discussion. From left: Malte-Matthias Zimmer, Ander Elgorriaga, Patrick Kennedy and John Cleuren

The **panel discussion** at the end of the presentations underlined the following key points:

- The Commission will keep an open dialogue with factories to shape the next research programme 'Horizon Europe', as it will support industrial innovation.
- According to a poll launched among the audience on sli.do, the most important barrier preventing businesses from investing more in circular economy is an inadequate legislative framework. Speakers agree with this.
- SMEs need to comply with legislation, which is often challenging. They need more hands-on support, and cannot just rely on information and help desks. Incentives and goals for compliance are often better than regulations. Companies should be allowed to find their own ways to innovate for sustainability.

### Lean Energy within Volvo Construction Equipment

Dr. Johan Wollin, Global Director at Volvo Production System and Energy Management, presented Volvo's actions for energy efficiency, as part of a WWF campaign to become the world leader in sustainable transport. The main concept is that the most efficient energy is the one that is not consumed in the first place (idle electricity). He underlines how important the mind-set is to drive the change and explain the innovations introduced in Volvo to make this happen.

See here the [presentation of Johan Wollin](#)

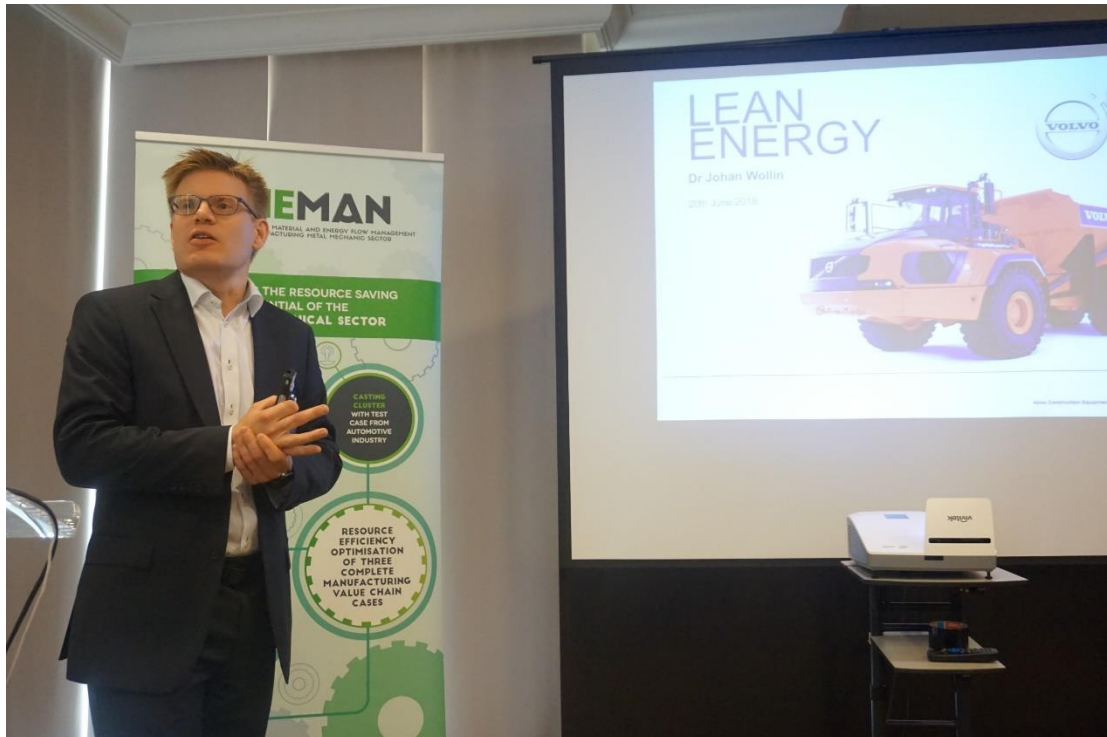


Figure 3. Johan Wollin, Volvo

### A successful approach to resource efficiency: the MEMAN project

**Sebastian Thiede**, Head of Sustainable Manufacturing Research Group at the Braunschweig Technical University, introduced MEMAN's results, an EU-funded Horizon 2020 project aiming to unlock the potential of resource efficiency in metal-mechanic companies at value chain level. MEMAN provides an approach to achieve major cost reductions, reduce emissions and improve environmental performance, as well as to improve regulatory compliance.

See here the [presentation of Sebastian Thiede](#)



Figure 4. Partners from the MEMAN consortium

**Stefan Blume**, Researcher at the Braunschweig Technical University explained how the MEMAN methodology for resource efficiency works. This methodology, for the first time, covers both company and value chain levels to reveal hidden resource saving potentials on a global scale. It comprises the development of a decision-making toolbox that helps companies to assess and decide about strategies to improve their resource efficiency.

See here the [presentation of Stefan Blume](#)

### Three case studies from MEMAN: Casting, Machining and Surface Finishing

The MEMAN project has applied and tested its methodology, developing a wide range of recommendations on energy and material optimisation for three different competence clusters: Casting, Machining and Surface finishing. The event featured the presentations from the different clusters.

**Jaio Manzanedo**, Senior Engineer at the Basque Technological Research Centre IK4-IKERLAN, presented the case study on the casting cluster. The goal of the cluster was to demonstrate a significant reduction in energy consumption, environmental impact and cost during the life cycle of an automotive part.

See here the [presentation of Jaio Manzanedo](#)

**Thierry Ameye**, Manager of Ecodesign and Energy Efficiency at the French Technical Centre for Mechanical Industries (CETIM) presented the case study on the machining cluster. The cluster focused on the optimisation of the resources needed to produce an aero-structural component and a jet engine component.

See here the [presentation of Thierry Ameye](#)

**Ernst-Udo Sievers**, Managing Director at the German cooperative organisation Eiffo presented the case study on the surface finishing cluster. The cluster took into consideration the resource saving potential in the manufacturing of a hydraulic piston rod, used in mechanical engineering applications.

See here the [presentation of Ernst-Udo Sievers](#)



Figure 5. Grzegorz Drozd, DG GROW



## Conclusions “The future of manufacturing in the *EU Industrial Policy Strategy*”

**Grzegorz Drozd**, Policy Officer at the ‘Innovation policy and investment for growth’ Unit at DG GROW, concluded the day with some remarks about what companies can expect from the new European Industrial Policy Strategy. He underlined that industrial innovation will not only be supported by Horizon Europe but also by the EU Investment Plan, the structural funds and the new Single Market programme. He explained that for the moment there will be no new legislative initiatives to follow-up on the Strategy, at least until the new Commission in 2019. However, there are many ‘soft’ initiatives, such as the High-level Round Table Industry 2030 and the European Industry Days, to keep an open dialogue between the Commission and the Industry to face today’s challenges together.



Figure 5. Some of the speakers and participants

Here you can find the [picture gallery](#) of the event.

More information on the MEMAN project can be found in this booklet:  
<http://meman.eu/contents/publications/meman-brochure-digitalversion2a.pdf>





## 1.2 Speakers presentations

Below you can find the link to the speakers' presentations:

- **Barriers and opportunities for circular economy in manufacturing companies:**
  - [John Cleuren, Senior Policy Officer](#), Advanced Manufacturing Systems and Biotechnologies Unit, DG Research, European Commission
  - [Patrick Kennedy, Communication Adviser](#), EFFRA
  - [Malte-Matthias Zimmer, Regulatory Affairs Group Chairman](#), European Committee for Surface Treatment (CETS)
  - [Ander Elgorriaga, Head of Resource Efficiency in Industrial Companies](#), Basque Resource Efficiency Agency (IHOBE)/ EREK
- **[“Lean Energy” within Volvo Construction Equipment](#)**, Johan Wollin, Global Director, Volvo Production System and Energy Management
- **[A successful approach to resource efficiency: the MEMAN project](#)**, Sebastian Thiede, Head of Sustainable Manufacturing Research Group, Institute of Machine Tools and Production Technology (IWF), Braunschweig Technical University
- **[Innovative toolbox for improving resource efficiency in metal mechanic value chains](#)**, Stefan Blume, Institute of Machine Tools and Production Technology (IWF), Braunschweig Technical University
- **[Case Study on Casting Value Chain](#)**, Jaio Manzanedo, IK4-IKERLAN
- **[Case Study on Machining Value Chain](#)**, Thierry Ameye, CETIM
- **[Case Study on Surface Finishing Value Chain](#)**, Ernst-Udo Sievers, Eiffo

## 1.3 Participants

The event brought together 61 participants (out of 118 registered) from manufacturing companies and associations (such as Eurelectric, CECE, Thyssenkrupp and Goodyear), research centres, innovation consultancies as well as regional and European Institutions (See Annex II).

# ANNEX I – CONFERENCE AGENDA

The agenda of the Conference can also be found [here](#)



The event will investigate which **barriers** (financial, legislative, technological and non-regulatory) prevent companies from investing more in **resource efficiency** and what are the **opportunities** that this can bring for the competitiveness of the manufacturing industry. It will also present the **solutions and innovations** that can lead to substantial resource savings in industrial processes, showing real-life examples in the metal mechanic sector.

**09:00-09:30** Registration and Coffee

**09:30-09:40** **Opening and Welcome**

Gosse Hiemstra, President, Greenovate! Europe

**09:40-11:00** **Barriers and opportunities for circular economy in manufacturing companies**

- John Cleuren, Senior Policy Officer, Advanced Manufacturing Systems and Biotechnologies Unit, DG Research, European Commission
- Patrick Kennedy, Communication Adviser, EFFRA
- Malte-Matthias Zimmer, Regulatory Affairs Group Chairman, European Committee for Surface Treatment (CETS)
- Ander Elgorriaga, Head of Resource Efficiency in Industrial Companies, Basque Resource Efficiency Agency (IHOBE)/ European Resource Efficiency Knowledge Centre

**Q&A from audience**

**Moderation:** Valeria Mazzagatti, Communication & Events Manager, Greenovate! Europe

**11:00-11:20** Coffee break/ video projection

**11:20-11:40** **"Lean Energy" within Volvo Construction Equipment**

Johan Wollin, Global Director, Volvo Production System and Energy Management

**11:40-11:50** **A successful approach to resource efficiency: the MEMAN project**

Sebastian Thiede, Head of Sustainable Manufacturing Research Group, Institute of Machine Tools and Production Technology (IWF), Braunschweig Technical University

**11:50 -12:05** **Innovative toolbox for improving resource efficiency in metal mechanic value chains**

Stefan Blume, Institute of Machine Tools and Production Technology (IWF), Braunschweig Technical University

**12:05-12:45** **Three case studies from MEMAN: Casting, Machining and Surface finishing**

- Jaio Manzanedo, Senior Engineer, IK4-IKERLAN (Spain)
- Thierry Ameye, Manager of Ecodesign & Efficiency Team, CETIM (France)
- Ernst-Udo Sievers, Managing Director, eiffo (Germany)

**12:45-13:00** **Conclusions "The future of manufacturing in the EU Industrial Policy Strategy"**

Grzegorz Drozd, Policy Officer, DG Growth, European Commission

**13:00-14:00** End of the workshop & Networking lunch/ video projection

## CONTACT

Valeria Mazzagatti, Greenovate! Europe, [v.mazzagatti@greenovate-europe.eu](mailto:v.mazzagatti@greenovate-europe.eu), +32 (0)2. 400 10 07  
[www.meman.eu](http://www.meman.eu) - [www.greenovate-europe.eu](http://www.greenovate-europe.eu)



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## ANNEX II – PARTICIPANT LIST

Last name	First name	Organisation	Position
Ameye	Thierry	CETIM	Manager of Ecodesign & Efficiency Team
Amorosi	Gilda	EURELECTRIC	Advisor on energy efficiency and generation
Axelson	Matilda	Institute for European Studies, Vrije Universiteit Brussel	Doctoral Researcher
Balogh	Judit	JA Europe	Project Manager
Barczak	Piotr	European Environmental Bureau	Waste Policy Officer
Blankemeyer	Hanna	VDMA	Policy Adviser
Blokhuis	Daphne	Permanent Representation of the Netherlands	Attaché Transport, Climate and Environment
Blume	Stefan	Technical University Braunschweig	Research Assistant
Bluseviciute	Migle	Goodyear	EMEA Government Affairs Officer
Branco	Maria Manuel	AICEP Trade / Investment Agency of Portugal in Brussels	Director
Bravo	Belen	CECE	Technical Policy manager
Brose	Isabelle	FEP	Managing Director
Catel-Arutyunova	Nadiya	Veolia Environnement	Policy Officer
Ceccarelli	Gabriella	Umbria Region - Brussels Office	Head of office
Charlaftis	Angelos	ePAPHOS ADVISORS TEAMWORK	Consultant
Christ	Angelika	FEFCO	Secretary General
Cleuren	John	European Commission – DG RTD	Senior Policy Officer
Coda	Alessandro	CLEPA	CTO



Last name	First name	Organisation	Position
Coelho	Ana	ACCIO-Catala	Director
Costea	Mihai	BROmotion Representative	CEO
Dahar	Shahzad Shabbir	Hashoo Group	Advisor
De Waziers	Marine	Pool	Founder
Debruyne	Dries	Interreg 2 Seas Programme	Facilitator
Dresin	Eric	European Metal Union	General Secretary
Drozd	Grzegorz	European Commission – DG GROW	Policy Officer
Eberl	Hans-Christian	European Commission – DG ENVI	Policy Officer
Eche	Caroline	France Industrie	EU Policy Officer
Egvad	Rasmus	Gate2Growth	Senior Consultant
Elgorriaga	Ander	IHOBE	Head of Resource Efficiency in Industrial Companies
Ermacora	Eliasabetta	University of Udine	Student
Esquerré	Camille	Mecanic Vallée	European project manager
Fay	Eszter	European Environment Agency Brussels Office	Institutional Relations
Fleuret	Lucile	Renault	Public Affairs Officer
Ghassempouri	Mani	COMAU France	R&D Innovation Manager
Ghecea	Monica	Union europäischer Industrie- und Handelskammern (UECC) Für Verkehrsfragen	UECC Brussels Representative
Girard	Adrien	Greenfish	Senior Project Manager
Girardi	Francesca	IMA Europe	Industrial affairs adviser

Last name	First name	Organisation	Position
Gobello	Simone	Interel EU	Junior Consultant
Gonzalez	Eva	FAGOR EDERLAN	International Alliance Manager
Goumas	Athanassios	REGIOEUROPA	Director
Hede Kjeldgaard	Jesper	Confederation of Danish Industry	Bachelor's in business administration and Commercial
Hiemstra	Gosse	Van der Meer & van Tilburg	Director
Hill	Adrian	Latitude	Project coordinator - Cities of Making
Holst	Sidsel	Confederation of Danish Industry (DI)	Deputy Director, Brussels
Hunkin	Simon	Greenovate! Europe	Thematic expert
Icardo Isasa	Irati	Delegation of the Basque Country to the EU	Junior Policy Assistant
Idareta	Igor	ZABALA Innovation Consulting	EU R&D Project Manager
Inoue	Seiji	Mitsubishi Electric Europe	General Manager
Julliard	Bénédicte	Greenovate! Europe	Project Manager
Jungk	Gunnar	thyssenkrupp AG	Head thyssenkrupp Office Brussels
Kennedy	Patrick	EFFRA	Communication Adviser
Khan	Ubaid ullah	Allied Engineering services	Procurement Manager
Kohli	Djilali	Wavestone	Manager
Krell	Katharina	GreenMatters	Managing Director
Ling	James	Greenovate! Europe	Project Manager
Loukaskorpi	Anni	Miltton Brussels	Advisor
Malvestiti	Michele	Confindustria	Advisor

Last name	First name	Organisation	Position
Mamalis	Petros	European Commission – DG RTD	Policy Officer
Manzanedo	Jaio	Ikerlan S.Coop.	R&D&i Engineer
Marešová	Karolína	Access EU! - EEIG	Junior Consultant
Martin Castellote	Maria Soledad	ACCIONA	Project Technician
Martin Uriol	Macarena	Université Libre Bruxelles - Vrije Universiteit Brussel	Student
Martinez Puche	Antonio	ACCIONA	Project Technician
Matysiak	Anna Weronika	Information Office of Wielkopolska Region	Intern
Mazzagatti	Valeria	Greenovate! Europe	Manager Communications & Events
Mendes Palma	Francisco	aicep Global Parques, S.A.	CEO
Mercuri	Giuseppe	Prometeon	Institutional Affairs Manager
Michael	Kollenz	Stahl Judenburg	Master
Milella	Luciana	Puglia region	Policy officer
Mosteyrin Perdiguero	Vicky	Greenovate! Europe	Managing Director
Müller	Hendrik	Independent	Job seeker
Naudy Chambaud	Adele	Schneider Electric	EU Government Affairs Manager
Nogueira	Marcos	IrRADIARE, Lda	Managing Partner
Olabarria	Maitane	CECIMO	Manager Technical Regulations
Olea	Ales	Loramendi S. Coop.	R&D project manager
Oliveira	António	IAPMEI	Head of Department
Overmeyer	Christiane	VKU Brussels	Policy Manager
Ozdemir	Guner	Turkish Exporters Assembly - TİM	Industry Department Chief



Last name	First name	Organisation	Position
Pacalová	Hana	AccessEU! - EEIG	Junior consultant
Perez Jiménez	Jose Ant	CETEMET (Metalmechanic and Transport technology Center)	Director
Petein	Arnaud	European Commission – DG RTD	Programme Officer
Pieretti	Giacomo Arrigo	Etra Spa	Environmental engineer
Podgorski	Marcin	Regional Office of Lodzkie Region in Brussels	Director
Porter	Martin	European Climate Foundation	Europe Group co-ordinator
Pripa	Aurica	ArcelorMittal	Deputy Head of European Affairs
Rama	Mathieu	RREUSE	Policy Officer
Ranzato	Maria Fabiola	Friuli Venezia Giulia Autonomous Region	Policy Officer
Rega	Nicola	CEPI	Climate Change & Energy Director
Rensonnet	Melanie	Service public de Wallonie	Project Manager
Rodriguez	Carolina	European Commission – DG RTD	Policy Officer
Rosenmayr	Clemens	EUROCHAMBRES (Association of European Chambers of Commerce and Industry)	Policy Advisor
Sasshofer	Katharina	Austrian Federal Economic Chamber	Intern
Scaroni	Elena	LightingEurope	Policy Director
Schäfer	Tobias	VCI	Policy Advisor
Scumpieru	Mihai	Mitsubishi Electric Europe	Manager Brussels Representative Office
Sessler	Berthold	eiffo eG	Managing director

Last name	First name	Organisation	Position
Severin	Astrid	GreenMatters	Managing director
Shaumarova	Dilnoza	Mologo	Manager
Sherriff	Beau	Dow	LSS Black Belt
Sievers	Ernst-Udo	eiffo eG	Managing director
Skenazi	André	EAMTM	Secretary General
Sposato	Simone	Bridgestone	Senior Engineer
Tawil-Jamault	Daniel	TECHNOFI	Resource efficiency and CSR manager
Thiede	Sebastian	TU Braunschweig	Group leader „Sustainable Manufacturing“
Trinchieri	Paolo	CLEAN SKY Joint Undertaking	Project Officer
Tudisco	Valeria	Sviluppumbria	Information & Communication Office
Unsoeld	Maurus	BMW Group	Manager Governmental & External Relation
Vaccaro	Davide Gianluca	Greenovate! Europe	Communication Officer
Van Veen	Janneke	European Commission – DG RTD	Policy officer
Varsou	Maria	Helios PS	Project Manager
Villanueva	Alejandro	European Commission – DG GROW	Policy officer
Wilson	Glen	ECOS	Programme Manager
Wollin	Johan	Volvo Production System and Energy Management	Global Director
Yebra	Ignacio	INSERTEC	Manager
Zeiger	Bastian	European Environment Agency	Project Manager

Last name	First name	Organisation	Position
Zimmer	Malte	CETS European Committee for Surface Treatment	Chairman Environmental Working Group
Zinck	Sebastien	Luxembourg Institute of Science and Technology (LIST)	Senior Engineer
Zuber	Michael	Stahl Judenburg GmbH	Vice President Engineering & Operations