



INTERNATIONAL ASSOCIATION OF ENGINE REMANUFACTURERS
FEDERATION INTERNATIONALE DES RECONSTRUCTEURS DE MOTEURS

e-newsletter

January/February 2020

1. **FIRM General Assembly 2020**
2. **Corona Virus affects the branch**
3. **FIRM's President visited BOVAG and FER**
4. **Circular Economy Action Plan – European Remanufacturing Council**
5. **Rhenoy signs Letter for acquisition of MRT Engines, Bols Motoren and MRT Polska**
6. **APRA Automechanika Partnership**
7. **Diesel of the year 2020**
8. **Synthetic natural gas as shipping fuel**
9. **How much do the new diesel engines pollute?**
10. **AERA Technical Bulletins**

Annex 1: Forthcoming Events

Annex 2: Reman White Paper “Better Than New”

1. **FIRM's General Assembly**

FIRM's Secretary already asked for a possible meeting frame for the 2020 General Assembly. So far Friday 11th of September, during Automechanika exhibition in Frankfurt between 16:00hrs and 18:00hrs p.m. would be the best choice. So please note that date, Secretariat will soon publish the location

2. Corona Virus affects the branch

WERC already made a quick survey how much the Corona Crisis impact is. At this stage the shops are open and busy but with limited access to public visitors and split shift operation to avoid too much employees in one place. Let me cite Joe Kripli in his last "APRA Latest News": *"Remanufacturers are clever, craftsmen, smart, thinkers, visionaries, who get the job done because we have to think outside the "box". Already I have heard of Remanufacturers who are measuring employee's temperatures as they enter the building to work, this is just being smart, protect the employee and help the employee, because they might not know they have just started a slight fever. Because we are being split up with people who are working from home and people who must be at work to physically do the work, we need to think different."*

3. FIRM's President visited BOVAG and FER

In February FIRM's President visited BOVAG in the Netherlands and FER in United Kingdom to discuss some strategic developments in the future, following the discussions with GMY in June and VMI in September 2019. In general FIRM targets to cooperate closer with APRA Europe's new entity. APRA Europe has a similar structure with their a.i.s.b.l. registered in Brussels, so the idea is to merge both associations with gaining a lot of synergies and more power in European Institutions. In the next weeks there will be more discussion about next steps.

4. Circular Economy Action Plan – European Remanufacturing Council

The European Remanufacturing Council welcomes the publication of the Circular Economy Action Plan. In particular ERC supports the proposal to prioritize reuse and repair of products before they are ultimately destroyed for material recycling and disposal. Evidence provided by UNEP in an international study led by Professor Nabil Nasr demonstrates that the CO₂ emissions from most product life cycles can be up to 98% lower when the product is designed to be returned for an industrial-scale value retention process such as remanufacturing, refurbishment, reconditioning, maintenance and overhaul. A white paper, "Better Than New" (*see annex 2*), developed in 2019 by the Council in collaboration with the Ellen MacArthur Foundation and setting out recommendations for CO₂ reduction is appended to this submission. Many products, especially but not exclusively electrical and electronic products, contain very small quantities of highly functional raw materials, the economic value of which is so low that they are unrecoverable from the ferrous and non-ferrous material recycling processes at end of life. By extending the life of components and products, this permanent loss of many functional raw materials, often used in alloys, can be slowed. Linking the plan with the forthcoming industrial strategy is welcome. Existing remanufacturing activities in the EU are valued at €30 billion, representing only 2% of the equivalent manufactured sales. However, it is the potential for this activity to increase that makes it relevant to the industrial strategy. The EU is well positioned to be home to large-scale regional centers for industrial-scale remanufacturing because of the size of its regional market for used products. If such a target/development were accompanied by a review of existing regulations to remove regulatory uncertainty, many more consumer and business products could see their working lives extended. Industry 4.0 technologies are being used to enable this improved product life cycle: "digital twin" techniques, additive engineering, robotic disassembly and in-use data monitoring are already in evidence amongst our membership companies. The circular economy will be an important element of a higher value, innovation-led growth economy for Europe in which net zero carbon emissions can be achieved. We look forward to supporting and contributing to the proposed "series of initiatives along the life cycle of products".

5. Rhenoy signs Letter for acquisition of MRT Engines, Bols Motoren and MRT Polska

January 22nd 2020, Nick van Kessel on behalf of the Rhenoy Group and Johan van Gerven on behalf of MRT signed a Letter of intent for the 100% acquisition of MRT Engines BV, Bols Motoren BV and MRT Polska Sp. Z o.o.. MRT Engines BV has been specialized in remanufacturing combustion engines and cylinder heads for more than 30 years. From its headquarters in Veghel, MRT Engines BV and Bols Motoren BV supply a wide range of exchange engines throughout Europe and is market leader in this field. MRT Engines BV is supported by its production site in Starachowice, Poland. 90 employees work daily on the best remanufactured product that the market has to offer. The Rhenoy group with its origins in car dismantling has grown into a supplier of alternative car parts from all facets within the circular economy. As a recycling partner of insurance companies and car manufacturers, Rhenoy supplies used, remanufactured and new original parts brought together in the Approved Green concept. As a result of this acquisition, MRT Engines BV will not only have its own remanufacturing product but also the possibility of supplying Approved Green products. This broadens and deepens the delivery program, a delivery program that is unique in Europe. Both, Rhenoy Onderdelen BV in the Benelux and MRT Engines BV in Europe, will implement this program.

6. APRA Automechanika Partnership

Automechanika has entered into a partnership with the International Automotive Parts Remanufacturers Association (APRA). According to Olaf Mußhoff, Director of Automechanika Frankfurt: "With APRA we have secured an expert partner that is one of the most important organisations in the remanufacturing sector. In a time where climate change and environmental protection are of such concern, the circular economy and remanufacturing are more important than ever." To raise the profile of this theme at Automechanika Frankfurt, a green remanufacturing logo has been developed that will now be placed directly on stands to identify exhibitors offering relevant products. Starting in mid-July, it will be possible to find out about these exhibitors online on the [Automechanika Frankfurt website](#) under the 'Special Interest – Remanufacturing' label in the exhibitor search. Before this feature goes online, the APRA association and Automechanika Frankfurt will assess the exhibiting companies according to a specific set of criteria. Visitors will also be able to find out about the latest developments in the industry in specialist presentations being given on 'Automechanika Remanufacturing Day', which is making its debut as part of the Automechanika Academy. Experts and industry insiders can look forward to captivating discussions with participants followed by excellent networking opportunities.

7. Diesel of the Year 2020

FPT Industrial 2.8 L engine won the Diesel of the year 2020. The Diesel of the year 2020 and FPT Industrial will 'meet' for the first time at ConExpo, Las Vegas, during a ceremony addressed to the North American market. The second ceremony, for the benefit of the European market, is scheduled two weeks later in the same place where FPT Industrial was awarded for the very first time. It was the year 2008, at SaMoTer in Verona, and the F32 inaugurated the era of compact engines, acting as a springboard for FPT Industrial in the free market. The company won the Diesel of the year for the second time in 2014, thanks to the Cursor 16. Some technical insights of the new engine. The F28 follows the road of compact engines already taken by the 3.4 and 3.6 L engines. Designed in compliance with the Stage V and Tier 4 Final standards, the F28 engine features a double after-treatment formula. The DOC is coupled with the DPF for the European market, while a 'DOC-only' system is fully compliant with the EPA standard. Thanks to its 375 Nm maximum torque, the engine reaches the highest rate provided by the competitors. The specific torque is 133.5 Nm. Among the most relevant features are the integrated EGRs and a low-height axle

solution, so to make the engine more compact and simplify its installation on the vehicles. The latter, either on the fields or, sometimes, in construction sites, have to cope with quite a short steering radius. Besides, its ease of maintenance, with the possibility to intervene on only one side of the engine as well as with oil replacement intervals of 600 hours, makes it possible to reduce operational costs.

Diesel International 25.2.2020

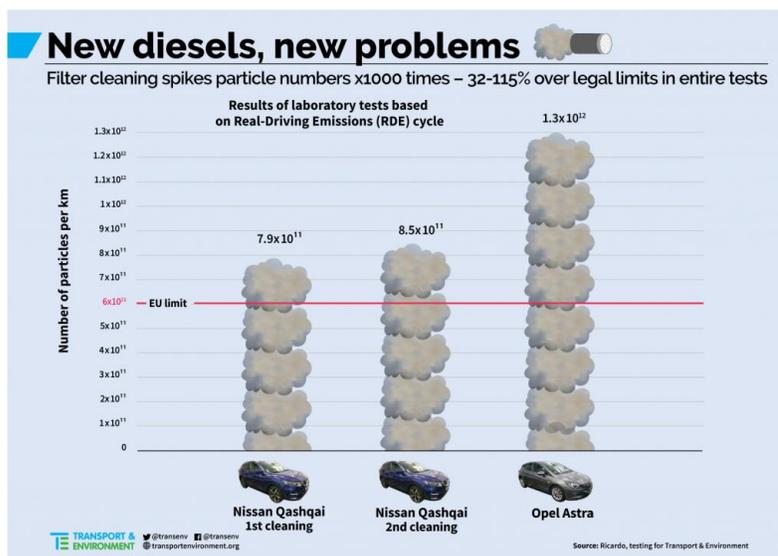
8. Synthetic natural gas as shipping fuel

The first dual-fuel retrofit project now set to be first vessel globally to use synthetic natural gas (SNG) derived from renewable energy. MAN Energy Solutions and Wessels Marine are cooperating on the Wes Amelie project to demonstrate that SNG can successfully be used as shipping fuel. More into details, 20 of the 120 tons of LNG that the Wes Amelie typically uses per round trip will be replaced by climate-neutral SNG. As a result, CO₂ emissions are expected to decline by 56 tons for this trip. The Wes Amelie, owned and managed by Wessels Reederei (Haren/Ems), previously made headlines in 2017 when its MAN 8L48/60B main engine was retrofitted to its current, four-stroke MAN 51/60DF unit that enables dual-fuel operation. It was the first such conversion of its type the world had ever seen. Synthetic natural gas generated by wind energy. Automobile manufacturer Audi's Power-to-Gas facility in Werlte, where a liquefaction plant is currently under construction, will provide the SNG, which will be generated by wind energy and is thus 100% climate-neutral. The SNG trip will take place after the completion of the liquefaction plant in Q2 2020. The project conducted by MAN Energy Solutions is part indeed of what the company calls a 'Maritime Energy Transition' to find clean, decarbonised solutions for seaborne trade and transportation. Essentially, it is the company's call to action to reduce emissions and establish natural gases as the fuels of choice in global shipping. It strongly promotes a global 'turn to gas', driven by the IMO, and a common approach by the shipping industry and politics to invest in infrastructure development and retrofits.

Diesel International 21.1.2020

9. How much do the new diesel engines pollute?

Two different studies on the pollution levels of new diesel engines reveal quite disputable results. The issue is quite a hot one in the news currently, given the traffic restrictions imposed in some large cities. Research commissioned by the environmental organisation



Transport & Environment (T&E) has revealed new doubts about the particulate emissions of new diesel engines. Even newer vehicles would exceed the emission levels due to filter regeneration systems. Transport & Environment tested the two best-selling Euro 6 vehicles in Europe, the Nissan Qashqai and the Opel Astra, and found an increase of 11 to 184 percent in unregulated, smaller ultra-fine particulate matter (see besides).

These are particles, as the press release states, which «are not measured in official tests but are thought to be the most harmful to human health – as they penetrate deep into the body – and have been linked with brain cancer. Filter cleaning, to prevent the diesel particulate filter from clogging, can occur in all driving conditions, including in urban areas. In the tests, the number of particles continued to be higher during urban driving for 30 minutes after the cleaning had ended. Both models tested respected the legal limits for NOx. These tests show that new diesels are still not clean. In fact, they are spewing out highly dangerous levels of particles in our towns and highways every day. On the other hand, the Italian financial newspaper, Il Sole24Ore, cited in a recent article a research promoted by several consumer associations, including the Italian Altroconsumo, aimed at testing the pollutant and CO₂ emissions of some of the cars currently on sale. What emerged, according to the article, is that «in short, the situation between diesel and petrol has been almost reversed. Today a good diesel engine pollutes less than an equivalent petrol engine»

Diesel International 21.1.2020

10. AERA Technical Bulletins

- Timing Mark Installation Measurement On 2000-2005 Subaru 2.5L SOHC Engines (<http://www.engineprofessional.com/TB/TB020320-1.pdf>)
- Cylinder Block Assembly Procedure on 2019-2020 Subaru 2.4L Engines (<http://www.engineprofessional.com/TB/TB020320-1.pdf>)
- Evolving designs improve valvetrain stability (http://www.engineprofessional.com/articles/EPQ318_68-76.pdf)
- Crankshaft and Block Identification on 2003-2008 Honda 2.4L, K24A4 Engines (<http://www.engineprofessional.com/TB/TB012220-1.pdf>)
- Oil Pressure Relief Valve Deflector Shield on 2007-2011 GM LS Engines (<http://www.engineprofessional.com/TB/TB012220-2.pdf>)
- Consistency in Bearing Wall Thickness (http://www.engineprofessional.com/articles/EPQ315_64-72.pdf)

Annex 1: Forthcoming Events

A lot of events and exhibitions were cancelled or postponed caused by Corona Virus

Middle East Electricity

3-5 March 2020, Dubai, VAE

Busworld Turkey 2020

5-7 March 2020, Istanbul Expo Center, Istanbul, Turkey

Automechanika H-Chi-Minh-City

5-7 March 2020, Saigon, Vietnam

ConExpo-Con/Agg, IFPE

10-14 March 2020, Las Vegas, U. S. A.

APRA European Symposium

~~24-27 March 2020, Prague, Czech Republic~~

New date 3-5 December 2020

Trucking Show

~~26-28 March 2020, Louisville, KY, U. S. A.~~
Cancelled

Automechanika Istanbul

~~2-5 April 2020, Istanbul, Turkey~~
New date 25-28 June 2020

Reman Day

9 April 2020, Global

Automechanika Astana

~~15-17 April 2020, Kome~~
New date 2-4 July 2020, new location EXPO IEC, Nur-Sultan, Kazakhstan

Automechanika Dubai

7-9 June 2020, Dubai, VAE

INA/PAACE Automechanika

22-24 July 2020, Mexico City, Mexico

Busworld India 2020

27-29 August 2020, Bangalore International Exhibition Centre, Bangalore, India

SMM

8-11 September 2020, Hamburg, Germany

Automechanika Frankfurt

08-12 September 2020, Frankfurt, Germany

FIRM's General Assembly

11.09.2020, Frankfurt, Germany

INNOTRANS

22-25 September 2020, Berlin Germany

IAA Commercial Vehicle

24-30 September 2020, Hannover, Germany

Big R Show

10-13 October 2020, Nashville, TN, U. S. A.

Diesel Progress Summit

20 October 2020, Loews Chicago O'Hare hotel, Rosemount, U. S. A.

Busworld Russia 2020

26-28 October 2020, Crocus Expo International Exhibition Centre, Moscow, Russia

SIMA

8-12 November 2020, Paris, France

EIMA 2020

11-15 November 2020, Bologna, Italy

EUROTIER, Energy Decentral

17-20 November 2020, Hannover, Germany

Annex 2: Reman White Paper “Better Than New”



“Better Than New”
Designing new products for many lives
#Remanufacturing



ELLEN MACARTHUR
FOUNDATION



CE100

Remanufacturing - a hidden pathway to a low-carbon circular economy

Remanufacturing is a perfect example of circularity; instead of destroying or landfilling products at the end of their life, this industrial process, starting with disassembly, gives them another one.

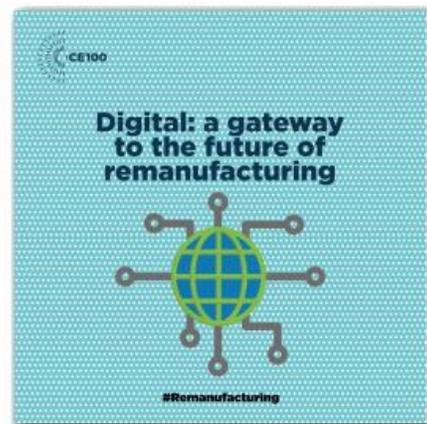
Instead of creating more CO₂ emissions from mining, refining and machining new products, remanufactured products save **up to 98% of CO₂ emission** compared to equivalent new products¹.

Instead of quickly becoming waste, like too many products for businesses and consumers, remanufactured products are **made to last and to be maintained for many lives** - not just one - **while delivering performance**.

Today **digital technologies offer a new gateway for the expansion of remanufacturing**, boosting innovation in the sector at an unprecedented pace, allowing the remanufacturers to know much more about the use-profile, locations and actual wear and tear, and eventually enabling them to **maintain and upgrade** products.

Remanufacturing already represents a €30 billion market in Europe, but its growth is constrained by a regulatory framework refined over many decades to assist the traditional “take, make, waste” model of the current linear economy. If this opportunity was understood and seized upon by the industry and policymakers, then Europe could be home to the largest remanufacturing market in the world – **it could at least triple in size by 2030**.

To make this happen, the Ellen MacArthur Foundation’s network members identified the following recommendations to remove constraints and create strong incentives for remanufactured products.

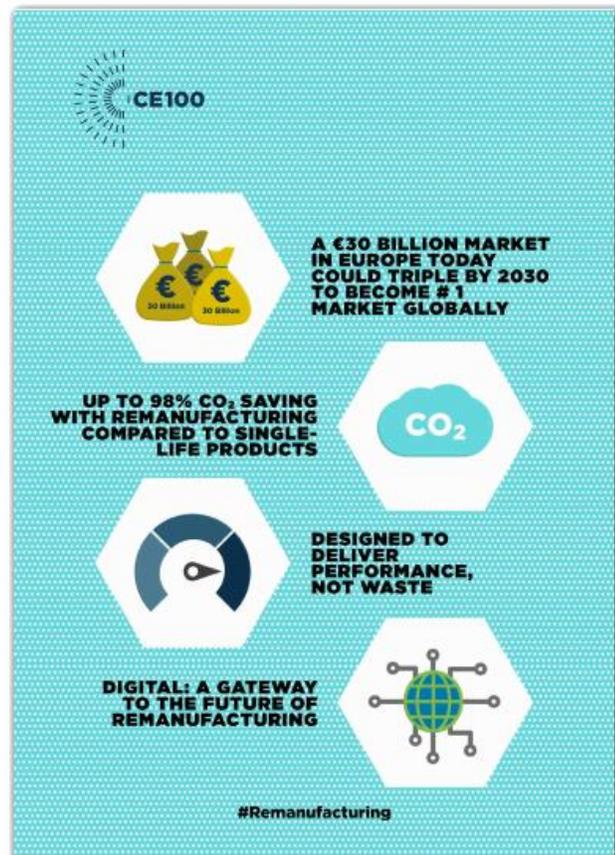


¹Re-defining Value – The Manufacturing Revolution, International Resource Panel, 2018.

RECOMMENDATIONS

For Policy-Makers

1. Align international **legal definitions** of remanufacturing, acknowledging the work underway at International Standards Organisation (ISO)
2. Acknowledge the reduced CO₂ emissions and increased material efficiency from remanufactured components by including them, where possible, in **CO₂ emission reduction and material efficiency instruments**.
3. Introduce specific remanufacturing **targets in waste legislation** that incentivize and/or prescribe the remanufacturing components of products.
4. Confirm the legality of providing **remanufactured replacements** when a new product fails during its warranty period and enforce a **2-year guarantee** on all the sales of used goods by businesses.
5. Eliminate **regulatory barriers** to trade in used products destined for remanufacture. Where possible, draw a new distinction between such used products and waste.
6. Eliminate **trade barriers** for products remanufactured to certified international standards.

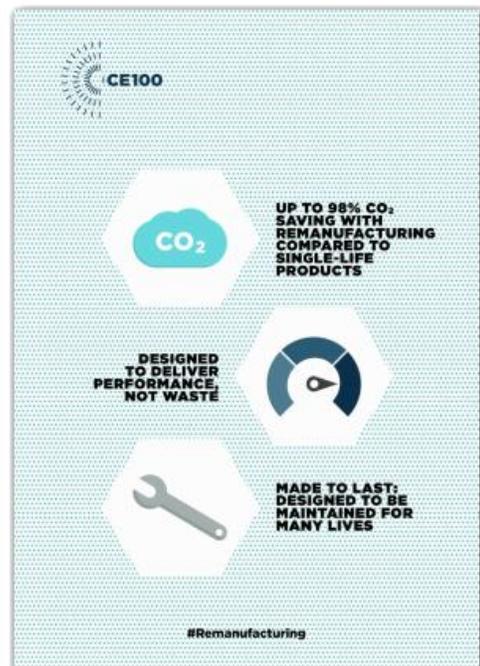


For Business Organisations

1. **Design** future products, where feasible, to enable industrial-scale remanufacturing.
2. Reconfigure supply chains and partnerships to enable the option of **product take-back** with value retention services.
3. Align **staff incentives** to reward value retention and avoid cannibalisation of “new” sales.
4. Consider a transition from product sales models to **rental or performance models** (including subscriptions, leasing, product-as-a-service, etc.) where equipment remains under the ownership of the manufacturer/trader.

For Both Policy-Makers and Business Organisations

1. Direct **R&D funding** - such as Horizon Europe - towards products designed for multiple lives.
2. Cooperate on data protocols to create **new shared metrics and reporting** on the benefits of procuring and designing multi-life products.
3. Encourage demand for remanufactured products through **Green Public Procurement (GPP)** and private sector supply chain procurement. Begin by supporting private/public procurement pacts.
4. Raise **consumers and customers' awareness** about the benefits of remanufactured goods. The infographics below provide accessible, yet compelling information about the remanufacturing industry's potential for positive impact on the economy, society and environment.



ANNEX

Method

To supplement interview-based evidence provided by the participating member companies, we reviewed the policy recommendations in two recent major studies:

1. "The European Remanufacturing Network (ERN) - Market Study" (2016)²
2. "Re-Defining Value - The Manufacturing Revolution" UN IRP (2018)³

The ERN study includes questionnaires to 200 European industrial partners and deeper

analysis from six industrial workshops to generate an extensive list of structured recommendations. The IRP study was based on three product categories from four countries: Brazil, China, Germany and USA. It provides separate higher-level recommendations directed at business leaders and policy-makers.

All participating member companies were invited to comment on the recommendations before approval of the final document during the CE100 meeting in Catalonia held in May 2019.



² www.remanufacturing.eu

³ www.resourcepanel.org/reports/re-defining-value-manufacturing-revolution



About the Ellen MacArthur Foundation

The Ellen MacArthur Foundation was launched in 2010 with the aim of accelerating the transition to the circular economy. Since its creation, the charity has emerged as a global thought leader, putting the circular economy on the agenda of decision-makers around the world. The charity's work focuses on seven key areas: insight and analysis; business; institutions, governments, and cities; systemic initiatives; circular design; learning; and communications.

Further information: ellenmacarthurfoundation.org • [@circulareconomy](https://twitter.com/circulareconomy)

About the CE100

The Circular Economy 100 is a pre-competitive innovation network of the Ellen MacArthur Foundation, established to enable organisations to develop new opportunities and realise their circular economy ambitions faster. It brings together corporates, governments and cities, academic institutions, emerging innovators and affiliates in a unique multi-stakeholder platform. Specially developed elements help members learn, build capacity, network and collaborate with key organisations around the circular economy.

Apply to become a [member of the CE100](#).

About collaborative projects (co.projects)

Co.projects are opportunities for formal precompetitive collaboration between CE100 members. They are driven by members, for members and their focus can range from research initiatives to pilots and toolkits. co.projects leverage the CE100 network with the aim of exploring opportunities and overcoming challenges which are commonly and collectively faced by organisations making the transition to a circular economy, and which organisations may not be able to address in isolation. making the transition to a circular economy, and which organisations may not be able to address in isolation.