



INTERNATIONAL ASSOCIATION OF ENGINE REMANUFACTURERS
FEDERATION INTERNATIONALE DES RECONSTRUCTEURS DE MOTEURS

e-newsletter

May/June 2020

1. **FIRM General Assembly 2020**
2. **New Roland Berger Study “Computer on Wheels”**
3. **WERC Virtual eMeeting on 7.7.2020**
4. **Weekly performance barometer of German independent garages**
5. **Online Symposium on Innovation and Automation in Remanufacturing, 7.7.2020**
6. **Aftermarket Forum Online Global impact of COVID 19**
7. **Hybrid marine propulsion systems**
8. **DAF and hybrid, Paccar MX-11 for DAF CF Hybrid**
9. **Perkins for predictive maintenance**
10. **The Automotive Aftermarket in Focus of progressive digitalization**
11. **AERA Technical Bulletins**

Annex: Forthcoming Events

1. **FIRM’s General Assembly 2020**

Due to postponing the Automechanika exhibition to the year 2021 the FIRM’s general assembly will not take place in Frankfurt. We will invite you for a Web-Conference on 8th of September 2020 from 15:00hrs to 17:00hrs.

2. New Roland Berger Study “Computer on Wheels”

For more than 120 years, the car was a mechanical means of getting from A to B, an isolated system whose standout feature was the engine. That's not the case anymore. Today, as with other products, most automotive innovations are electronic or software based. Cars have become "connected": Customers expect to be "always online", traffic updates are automatically transmitted into their cars, and electric vehicles communicate with the charging infrastructure. At the same time, features such as "parking by app" or "adaptive cruise control" are becoming increasingly common. In fact, the car is turning into a system within a system of systems. Soon, nearly all cars will be connected and part of the Internet of Things (IoT), requiring secure connections for updates and upgrades over the lifecycle of the car. However, there is a downside to this progress. The complexity of electronics and distributed software features has reached an unprecedented level that is proving difficult to handle. New hardware and software technologies have emerged to help address this complexity, but they are not without challenges. For example, the automotive industry is leveraging advances in computing power to consolidate electronic control units (ECUs) into centralized computing platforms connected by the automotive ethernet. This greatly reduces complexity on the network level. Hardware costs decrease, but software complexity increases massively within the processors. In addition, end-to-end software platforms promise to reduce software complexity by allowing "plug-and-play" of new functions and lowering hardware requirements. But not even basic software is completely independent from the chipset. Processor performance and possible parallelization of tasks must be considered when designing software platforms and applications, as well as in the electrical/electronic (E/E) architecture. The E/E architecture and the geometric architecture of the vehicle affect each other and cannot be designed independently. These factors suggest that a paradigm shift is required to fully address the complexity. Ultimately, future vehicle E/E architectures, software platforms and applications need to be designed around next-generation processors – just as vehicles have always been designed with powertrain performance in mind. In short, electronics hardware and application software will become the major battlefield for differentiation and control of value creation. This study is the second in a series on "Computers on wheels" by Roland Berger's Advanced Technology Center. Each study aims to address a different aspect of the transformational challenge facing the automotive industry and creates line-of-sight for our clients and other interested parties. *Roland Berger June 2020, The complete study is available on request, president@firm-org.eu*

3. WERC Virtual eMeeting on 7.7.2020

On 7th of July between 17:00hrs and 19:00hrs South African Time, World Engine Remanufacturer's Council will hold a virtual eMeeting. FIRM's President as Committee Member will take part. The topics are:

- WERC accreditation application (criteria) for Membership
- WERC registration as legal entity
- Membership options
- WERC Guidelines
- Interviews with people in the reman sector
- WERC Committee representatives to provide feedback on current state affair in their respective countries on Industry specific matters.
- General

Contributions are welcome! Please contact president@firm-org.eu

4. Weekly performance barometer of German independent garages

FIRM is getting the weekly performance barometer of German independent garages from Wolk Aftersales:

Revenue of June YTD decreased (-11,4%) due to a decrease of the number of invoices (-13,5%) and an increase of the revenue per invoice (+2,5%).

The decrease in June is despite the good results of week 25. If we select just week 25 we see an increase (+11,2%)



The report is available on request, please contact president@firm-org.eu
Wolk Aftermarket 19.6.2020

5. Online Symposium on Innovation and Automation in Remanufacturing, 7.7.2020

The Environmental Campus Birkenfeld, in cooperation with FJW Consulting, organizes a series of bimonthly online conferences on the topic of innovation and automation in remanufacturing. The first conference will take place on the 7th of July between 17:00hrs and 19:00hrs CET.

In industrial remanufacturing, particularly in the automotive sector, old products are very successfully collected, dismantled, inspected, cleaned, reprocessed and reassembled. At the first edition of the online conference, two presentations will present best practices and new research findings. In a subsequent panel discussion, participants will be able to raise any questions they may have about remanufacturing.

- 17:00 Welcome
- 17:05 *Remanufacturing Future* – by Thijs Jasink
- 17:25 *Panel 1* - with Michael Hague-Morgan & Daniel Köhler
- 17:45 *Agile Production Control in Dynamic Remanufacturing Systems* – by S. Groß
- 18:05 *Panel 2* - with **Michael Hague-Morgan & Daniel Köhler**
- 18:30 *Wrap Up*

Please see: <https://www.umwelt-campus.de/en/online-symposium-on-remanufacturing>

6. Aftermarket Forum Online Global impact of COVID 19

During the second edition of our Aftermarket Forum Online event we have taken 120 guests on a two-hour trip around the world, checking in on the current status of the automotive industry struggling to continue its operations during the crisis induced by the COVID-19.

Starting in our home country of Germany we visited USA only to venture from there through Latin America and Sub Saharan Africa to India, Malaysia and China.

Wolk Aftermarket, 21.6.2020, see:

https://www.youtube.com/watch?v=A6MH25_6w6Y&feature=youtu.be&utm_source=newsletter_807&utm_medium=email&utm_campaign=english

7. Hybrid marine propulsion systems

“Sailing with zero emissions – Hybrid marine propulsion systems” was the theme of Digitalk organized by AS Labruna, with the participation of FPT Industrial, CMD Marine, Isotta Fraschini. High representatives of Confindustria have been involved (Confindustria is the main association representing manufacturing and service companies in Italy, with a voluntary membership of more than 150,000 companies of all sizes, employing a total of 5,437,488 people). The signal has been strong and clear: de-carbonization at sea is possible and hybrid systems are a key step, an economical and available technology. Just to clarify, a large ship can emit emissions of 70 thousand cars, nitrogen oxides of two million cars and carcinogenic particulates of 2.5 million cars. Recent data on zero-emission shipping speak of a reality that is not only growing but will represent a €20 billion business in the coming years. A very important slice of the market that focuses on the environment, the protection of the sea without forgetting performance

Diesel International 30.6.2020

8. DAF and hybrid, Paccar MX-11 for DAF CF Hybrid

The Dutch transport operator Peter Appel is currently using two DAF CF Hybrid to supply supermarkets in the center of the Netherlands. The DAF CF Hybrid Innovation vehicles supplied to Peter Appel are equipped with a highly efficient 10.8-litre PACCAR MX-11 diesel engine (capable to set 330 kW – or 450 HP in the automotive taxonomy), a ZF electric motor (75 kW/100 HP with a maximum output of 130 kW/175 HP) and a special ZF TraXon transmission for hybrid transmissions. Charging during the running operations or at the charging station the electric motor draws energy from an 85 kWh battery pack, which is recharged while using the ICE. When running on diesel fuel, the electric motor functions as a generator and supplies power to the battery pack. In the future it will also be possible to charge the battery at a (fast) charging station. When the battery is fully charged, the DAF CF Hybrid model, depending on the total weight of the vehicle-trailer combination, has an electric range of 30-50 kilometers, more than enough to drive in and out of urban areas without producing exhaust emissions. Outside the city, the CF Hybrid model is powered by the clean and efficient PACCAR MX-11 diesel engine, which ensures a long range. In addition, the hybrid technology ensures further savings on fuel consumption, thanks to intelligent energy management. This energy, generated by the engine brake at the exhaust and the downhill speed control, is used by the electric motor to support the diesel engine. This provides benefits in terms of fuel consumption and CO2 emissions. Suitability for longer journeys.

Diesel International 9.6.2020

9. Perkins for predictive maintenance

Digitalization is becoming indeed a huge part of the market. It's slowly taking off but now we see this technology is moving quite fast and that's majorly because the cost of installing such devices is coming down dramatically. Also, the cost of managing a big fleet of engines remotely is decreasing. Technology may drastically reduce operating costs for servicing because it's not mandatory to go to the engine and check every time. Perkins is also looking at digital solutions and the advantage we have over standard third-party solution manufacturers is that we make the engines, we know them inside out. It means we are able to go in-depth with the predictive maintenance that users cannot get otherwise. It's a sector-based project right now, so it depends on the idea of digitalization and remote monitoring in the various sectors. In telecoms, for example, the typical customers, so genset manufacturers or service operators, usually manage a fleet. We see that if this fits a customer's business model, it is perceived as a good add-on and is then heavily used in the rental fleets in Europe or the US because the value of the engine itself is higher and justifies all these

additional services. The second market is made of applications like data centres, which are in the other end of the spectrum. Here, we talk about big engines. This market carries on some relevant risks – due to possible malfunctioning – so remote monitoring is convenient and is sometimes built into the infrastructure. As an engine supplier, along the whole supply chain we can help by offering the best value solutions so that the risk is reduced even further, basically. In the middle there are residential, industrial applications or commercial buildings, where there are not fleets to manage. Remote monitoring initiatives are less required, then. If they don't make revenues, they're not worthy.

Diesel International 5.5.202

10. The Automotive Aftermarket in Focus of progressive digitalization

“Headless” and the “Hydra” Actually, transferring data to existent online shop systems or commerce platforms is nothing new. Decoupling the front-end logic (i.e. what the customer sees when shopping in the online shop) from back-end processes and the necessary transactions in the background has been standard for many years now. However, front-end technology for customer contact points, also named touchpoints, is currently exploding. Mobile Devices, voice recording, Point of Sale Terminals (POS), the Internet of Things, Connected Cars, WhatsApp and Chatbots as an interface to the customer require a more flexible front-end commerce platform. Front-end and back-end systems no longer have a one-to-one relationship. The back-end is becoming “headless” and the front-end is developing into a multi-headed “Hydra”. The market demands this variety of touchpoints – there is no way around it, but the future is uncertain. Just like the monster in Greek mythology, as soon as one head is cut off, many more grow in its place. The complexity of the required shop systems is increasing rapidly. This diversity is technologically possible due to powerful interfaces that securely and reliably connect the many “heads” to the “body”. The resulting fundamental technical independence has now led to the idea of organizing Trend topic “Headless Commerce”. When it comes to commerce platform technologies everyone is talking about “headless” solutions Headless-Software and Headless-Integration are currently some of the most trendy options when choosing to build a commerce platform. Server systems were called originally “Headless” because they feature over no screen or any other graphic output devices. They will be operated as a back-end system by front-end applications. To prevent the shopping tour from turning into a horror trip like in the 80s movie classic “It Takes Two”, here are some hints. Not a day goes by without new reports about restructuring or job cuts in the automotive supplier industry. What changes do repair shops need to make? Does online trading in automotive parts and tires have the potential to compensate for the decline in sales elsewhere? Sometimes it goes so far, that online retailers express their desire to develop their own front-end functions with their own web designer or their advertising agency. Many touchpoints, little knowledge? However, the more functional the front-end application is, the deeper the knowledge of back-end modules needs to be. Extensive knowledge is required in order to display an article with an image, description, price and availability in the front-end. For example, which micro services need to be addressed using which API and which parameters should be implemented in order to receive the necessary data for the display? Conclusion: It's a clear “yes” in using headless commerce platforms. There is no way around it, due to the increasing variety of customer touchpoints. But it's a “no” when it comes to the separation of front-end and back-end teams. After all, the front-end teams also need extensive knowledge about which functions the back-end can provide.

*Trend report Speed4Trade May 2020, the complete study is available on request,
president@firm-org.eu*

11. AERA Technical Bulletins

- Cylinder Head Caution on 1917-2020 Cummins ISX Diesel Engines (<http://www.engineprofessional.com/TB/TB060120-1.pdf>)
- Cam Bearing Installation on 1997-2020 Cummins ISX Diesel Engines (<http://www.engineprofessional.com/TB/TB060120-2.pdf>)
- Turbochargers: A common variable (http://www.engineprofessional.com/articles/EPQ218_38-40.pdf)
- Valvetrain Differences on Caterpillar 3116 Diesel Engines (<http://www.engineprofessional.com/TB/TB062620-1.pdf>)
- Engine Improvements on 2011 Isuzu 5.2L, 4HK1 Diesel Engines (<http://www.engineprofessional.com/TB/TB062620-2.pdf>)
- Create Marketing Opportunities Through Sponsorship Requests (http://www.engineprofessional.com/articles/EPQ218_48-50.pdf)

Annex 1: Forthcoming Events

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

Hannover Messe

13-17 July 2020, Hannover Germany
Cancelled

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~~
New date 14-18 September 2021

APEX- Postponed to 2021

8-10 September 2021

FIRM's General Assembly

~~11.09.2020, Frankfurt, Germany~~
Online meeting will be organised soon

INNOTRANS

~~22-25 September 2020~~, Berlin Germany

New date 27-30 April 2021

IAA Commercial Vehicle

~~24-30 September 2020~~, Hannover, Germany

Cancelled

Big R Show

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

Diesel Progress Summit – Virtual Event

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

Postponed February 2021