REMANUFACTURING UPDATE DECEMBER 2013

RESEARCH & DEVELOPMENT NEWS FROM BAYREUTH

Editorial

Dear Readers,

Remanufacturing is a green industry.

Is it also a clean industry? It depends: from the knowhow and quality level of various cleaning technologies applied to let remanufactured products shine and function "like new" again.

We have recently strengthened and expanded the R&D and consulting activities of our cleaning technologies expert engineers working for your industry here in Bayreuth. You will read more about the progress in this field next year.

For now, however, thanks for staying with us in 2012 and 2013.

Enjoy reading!

Rolf Steinhilper

→ ***Rolf Steinhilper***
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BAYREUTH UNIVERSITY
UP **Chair Manufacturing and Remanufacturing Technology**

Thanks to an Archetype of Commitment to Reman

"Thank you, Mr. President!" – this has been the more formal first statement of my three-minute-speech to an audience headed by William C. Gager, President of the Automotive Parts Rebuilders Association apra, when I had the honor and pleasure to step into the impressive sequence of speakers who had arrived from all around the globe to say thanks and farewell to "Bill" during the recent Big R Show on Nov. 4 in Las Vegas, because apra had announced that he will retire at the end of 2013 after 35 years of service. President? Yes. Friend? Yes, indeed!

Bill has made me feel friends right from the beginning when I had the luck to meet him for the first time 31 years ago, when 29-year-young engineer Rolf Steinhilper had a unique opportunity to be invited as the only European speaker to a remarkable conference at the famous Massachusetts Institute of Technology MIT in December 1982, entitled REMANUFACTURING – REMAKING THE FUTURE. Bill has then shown me around in the US-Reman-Industry and has shaped my future to become the first academic spokesman back home in Europe for this good cause called Remanufacturing. I could report to the German Scientific Community that this is an authentic and sincere industry, (not a backyard business), and deserves commitment also here. I was also granted access to the Board of Directors of the apra European division founded five years later in 1987 and things went on since then. Today I enjoy a pleasant outlook towards 2015, when we will open our new 8 million Euro building already under construction next to the Bayreuth University Campus: the future home of our European Remanufacturing Technology Center.

...all the best for the future!

"Thank you, Bill" – and stay onboard in one or the other way!
Rolf

Save the Date

02 - 04/12/2013
2013 World Remanufacturing Summit
Shanghai Galaxy Hotel, China

11 - 12/12/2013
APRA´s International Remanufacturing Forum, Shanghai, China

Radio Frequency Communication RFCo: A New Wireless Interface For Car ECUs

Stricter emission regulations as well as raised security and comfort requirements result in an increased number of ECUs in passenger cars. For example, in modern premium class vehicles there are up to 80 ECUs. Therefore, suitable remanufacturing technologies have to be developed in order to cut down costs as well as resource consumption by maintaining the product's added value.

Remanufacturing of ECUs is divided in six process steps. Currently, the first process step, the initial diagnosis, is the biggest challenge. Existing processes neither allow for testing ECUs in the field nor provide information about the status of the installed electronics. It is necessary to explore convenient testing and diagnostic procedures to enable a profitable remanufacturing of ECUs. Therefore, the Fraunhofer Project Group Process Innovation and UG Systems are going to develop a wireless interface called RFCo (Radio Frequency Communication). RFCo shall be applied in future ECUs (see figure 1). The new wireless interface will allow to read out the specific production and operating data of the ECU remotely. This again enables remanufacturing companies to get a quick and easily gained overview on the status of the electronics installed. After finishing the remaining remanufacturing process steps, the ECUs are prepared for at least a second product life cycle.

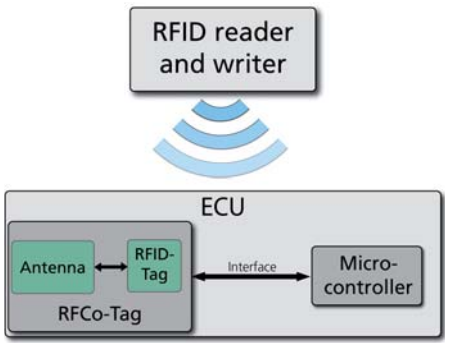

Figure 1: New wireless interface for ECUs

The faster and easier diagnosis and optimized testing procedure will enable companies to profitably remanufacture ECUs. Thereby, the companies will be able to extend their product portfolios by a large number. In summary, the developed interface RFCo allows new applications in ECU remanufacturing – not limited to the automotive industry.

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WikiCAN: Interactive Exchange of CAN-IDs

WikiCAN is a new information platform for the exchange of CAN-IDs generated by vehicle ECUs.

Besides a wiki with comprising information on the CAN bus and the CAN-IDs of various cars and ECUs the platform offers a possibility for the exchange of problems related to the CAN bus and software in general as well as for discussions on CAN traces of different vehicles and ECUs.

Users can download and upload different CAN-IDs. This requires the installation of a special software which is freely available on the WikiCAN homepage. The CAN-IDs can be commented to describe their meaning and hex values. All IDs are stored in the CAN-ID database which can also be accessed via the homepage. The groundbreaking innovation of this plattform is the multi-access search mode for looking up specific CAN-IDs which makes it easy to find what you are looking for. Of course the platform lives from the participation of its users and a well balanced „give and take" mentality. Register and try out today:

www.wikican.uni-bayreuth.de

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Meet one of our Experts - Today: M.Eng. Lars Bocklisch

Today we would like to introduce Lars Bocklisch to you. He works at Prof. Steinhilper´s Chair since 2012 and is an expert in engineering, and development.

Lars Bocklisch

Age: 26

Nationality: German

Career: 2008 Bachelor degree in precision engineering, **2011** Master degree in laser and opto technology, **2010 - 2012** development engineer in optomechanical system design, since **2012** Research Assistant at the Chair Manufacturing and Remanufacturing Technology at Bayreuth University, Team Remanufacturing

What are your activities in remanufacturing research?
My personal research interest is on reverse engineering and product development of mechatronic systems. Hence, I spend a lot of time using development tools like CAD.

How did you come to remanufacturing?
My first contact with the reman branch was when I started working at the Chair of Professor Steinhilper. I am involved in the research project Car Service Engineering 2020 which deals with finding new service processes for passenger cars. My task is to develop processes and test equipment for remanufacturing car headlights and ECUs.

What do you do in your free time?
I enjoy fishing, nine pin bowling and watching movies.

What gives you pleasure?
Spending time with my family and playing with my two children.

What are your wishes for the reman branch?
Companies should already think about the requirements of remanufacturing in the development process of their products.

Imprint

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