

# REMANUFACTURING UPDATE MARCH 2012

## RESEARCH & DEVELOPMENT NEWS FROM BAYREUTH



### Editorial

Dear Readers,

publishing our fourth quarterly edition today gives me the pleasure to state, that our Newsletter already completes its first year of communicating good R&D News for you.

It has been a good year for the remanufacturing industry – and there are more to come: our most recent survey has found out, that 97% of car workshops in Germany and 75% of car owners would like to use many more remanufactured car parts and new applications as well!

More details about this promising future you can find in the current new edition of the ReMaTecNews on page 23.

Enjoy reading!

*Rolf Steinhilper*



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**BAYREUTH UNIVERSITY**  
**UP** **Chair Manufacturing and Remanufacturing Technology**

### 2012 WORLD REMANUFACTURING SUMMIT

Do you remember? Already in our last newsletter, Professor Steinhilper's Editorial had announced plans for one of 2012's major events for Remanufacturing decision makers in autumn this year.

Now you can mark your calendar:

The „2012 World Remanufacturing Summit“ will take place at our University of Bayreuth, Germany, on 3th and 4th September 2012. This event has both a global vision as well as a down-to-earth business mission: «Partnering Industry & Science».



Bayreuth, Germany, 3rd - 4th September 2012

The summit will be the first global conference this scale and scope, dedicated exclusively to remanufacturing. It will bring together experts from the world's major remanufacturing regions and establish a milestone in the relationship between remanufacturers and researchers across the world.

The summit will provide attendees with a global overview of the remanufacturing industry's future direction. The stimulation of new collaboration opportunities and the identification of potential partnerships are an important focus of the event. Thereby, the summit will not at all represent an academic exercise, but should rather inspire

businesses to benefit from scientific know-how and expand their market position.

Both plenary and parallel session presentations as well as an accompanying exhibition will offer comprehensive opportunities for networking with speakers and partners from across the global remanufacturing community. Highlights are top-class presentations of leading representatives of the reman industry, in and outside the car industry and all market players involved - plus outstanding academic representatives like Professor Nabil Nasr (Rochester Institute of Technology in New York), Professor Zhu Sheng (Beijing's National Key Laboratory) and Professor Rolf Steinhilper (University of Bayreuth).

Also the side programme looks promising: Simultaneous translation, Remanufacturer of the year award, ladies programme, gala dinner etc.

Come to Bayreuth and discuss issues of crucial importance to the future development of the global remanufacturing business!

We are looking forward to welcome you in September!

→ **Sandra Seifert**

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### Save the Date

**23 - 25/04/2012**

APRA's European Symposium and Expo in Krakow, Poland

**03 - 04/09/2012**

2012 World Remanufacturing Summit in Bayreuth, Germany



## Working for BU Drive – One Example of Partnering Industry and Science

In 2009 Bayreuth University started a fruitful collaboration with BU Drive, a leading player on the European remanufacturing market. The product range of German BU Drive covers engines, engine components, turbochargers and transmissions both for automotive and heavy duty applications.

During the first three years of our cooperation several subjects have been addressed ranging from developing production strategies via layout designs for shop floors and warehousing up to developments of cleaning technologies and: carbon footprint assessments for everything.

Based on two selected project partnerships here you can take an insight into how science and industry can work together successfully and benefit from each other's knowhow.

The first project involved the task to develop an optimized material flow layout for a machining area in BU Drives' plant in Cologne. For this one has of course to be familiar with the processes going on there. Thus, the first step in the project was to analyze the subsequent remanufacturing processes in detail and detect possible optimization potentials as well as process bottlenecks. Accordingly, a so called value stream analysis was used. Here main optimization potentials like the complex material flow or unnecessary waiting times of workers were quantified. In most cases these problems arise from structures grown over many years in the

companies.

Based on the process analyses and its outcomes machines and work stations of the machining area have been reordered. During this, strategic developments and growth have also been taken into account. The result of the project was a future-oriented layout which enables BU Drive to raise its productivity. Stocks could be sized down significantly by minus 40%. The process transparency could be enhanced and thereby a high level of flexibility was reached. In summer 2011 BU Drive kicked off the implementation of the new layout and started the reorganization of machines and work stations.

The second project covered the design and optimization of the machining and reassembly area for a small series manufacturing of turbochargers in Lingen (Germany). Because of steadily increasing unit numbers and the fast growth of the company in general, BU Drive had to expand the output capacity.



Recording the workflow by video studies

Here as well a detailed value stream analysis was executed first. Next step was the recording of the workflow using multi-snapshots (video studies) in order to analyze in detail each single step with methods of time and process data determination. Based on the results, an intelligent U-shaped layout was developed, ergonomic workstations and optimized work tools were selected and a holistic concept for material supply and storage containers evolved. Together with a tailored visualization concept, a new assembly sequence and the implementation of multi-machine operation, shorter changeover times, lower grab and walking distances for workers and much shorter lead times could be achieved. Thereby, productivity was increased by amazing 300%.

The implementation of the developed concept has already been completed. Maybe some of you watched the image movie BU Drive created on the basis of the improved machining and reassembly area.

The collaboration with BU Drive was initially planned for three years from 2009 until 2011. But BU Drive has already defined more challenges for our attention from 2012 until 2014. The first exciting projects have already started – we will keep you informed!



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## Meet one of our Experts - Today: Dr.-Ing. Michael Haumann

Today we would like to introduce Dr.-Ing. Michael Haumann to you. He is the manager of the team Remanufacturing and Production Technology at the chair of Professor Steinhilper at Bayreuth University.

### Michael Haumann

Age: 32

Nationality: German



**Career:** 2007 Degree in environmental engineering, 2007-2008 Research Assistant, since 2008 Manager Team Remanufacturing and Production Technology, 2011 PhD

### What are your activities in remanufacturing research?

My personal research interest is on variety and complexity management. Together

with our team, however, we have the complete remanufacturing process in focus ranging from technology (e.g. cleaning) to strategy development (e.g. production program).

### How did you come to remanufacturing?

When I heard the first lectures by Prof. Steinhilper during my studies, I already got in touch with this branch of industry. Later, as a student research assistant, I got more and more involved with and excited about remanufacturing developments which finally backed my decision to remain at Prof. Steinhilper's Chair and start a career in academia.

### What do you do in your free time?

I practice different types of mountain

sports and enjoy playing the piano, not yet a grand, though.

### What gives you pleasure?

Seeing that our project results have been implemented successfully and lead to enduring improvements.

### What are your wishes for the reman branch?

I hope that many remanufacturers will take and master the challenges arising from both technological changes and the rapidly growing, new markets.

## Imprint

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