

## DAMRC Newsletter – 4/ 2015

Activity has increased after summer vacations, which is great. We have moved some of our activities to our new technical facilities in the Technology Centre. In this newsletter, you will find information about our newest members and our newest students – and of course about two specific project.

Times goes by quickly and it is hard to understand, when looking back, that five years have already gone by since the founding of the DAMRC. We are looking forward to celebrating our anniversary on Monday 28 September. Hope to see you there.

### New Technical Facilities

In the Technology Centre, we have established new workstations for our specialists. These new workstations enable the specialists to work even closer with our partners, suppliers and members. We will show you our new facilities any time.

### New Results

Working on the research project, EcoJet, we recently had a break-through regarding milling parts coated with zirkoniumoxid (simulated diamond). The DAMRC is a partner in the project and collaborate with a number of national and international companies and knowledge-based institutions.

R&D+i Director Ricardo Alexandre, TEandM, is one of the partners in the project, and he gives the following summary of the break-through:

*"TEandM – Tecnologia e Engenharia de Materiais, SA, has been collaborating with DAMRC in developing an innovative machining method of Zirconium Oxide Ceramic Composite coatings deposited by Atmospheric Plasma Spray mainly used as thermal barrier in jet engines.*

*The actual state of the art machining process of these coatings involve grinding technology (due to the fragile nature of this coating no chip formation machining process as ever been successful in fulfilling aeronautic standards of crack formation or tension induction restrictions). DAMRC however, developed and demonstrated an innovative end milling process not just compliant to aeronautic coating specification (according to the executed preliminary tests), but also faster and more flexible and consequently less expensive then grinding state of the art process.*

*This is not just an extraordinary unexpected achievement by itself, but also an out most promising research vector to be explored in the near future and extrapolated to other ceramics and materials such as Metal Matrix Composites, also used in aeronautics and other industrial sectors also just using grinding machining technology.*



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## Process Optimization at Niebuhr Gears

Working on a specific task for a customer, Niebuhr Gears needed some advice on optimizing a particular machining process. Rasmus Niebuhr, CEO Niebuhr Gears states:

*Niebuhr manufacture complex parts on a highly advanced CNC gear-machine. The machine is supposed to manufacture at highly specialized part for a German customer. It turns out that the surface does not satisfy the demands of the customer because of vibrations in the machine. The deviation was only a few my (1/1000 mm). The machine was setup as described and prescribed by both machine supplier and tool supplier and our own experts operated the machine. Despite of these facts we still saw deviations.*

*We entered into dialog with the DAMRC and they visited us with their advanced measuring equipment. They measured vibrations in the machine and gave suggestions on how to minimize these vibrations. We optimized the parameters of the machine according to the recommendations from the DAMRC. The outcome was a surface to the satisfaction of the customer and an additional reduction of processing time of 10 %.*

We thank Niebuhr Gears for the cooperation and the fine words. This is a fine example of one of the many possible gains a cooperation with the DAMRC could bring to your company.

## New courses

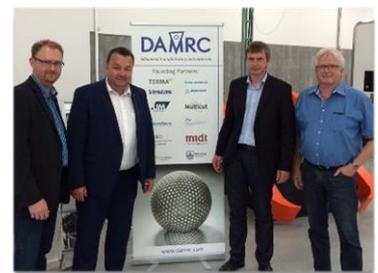
New in our training schedule is the course **Machining of difficult materials – Titanium and Nickel based alloys** on November 17th-18th. We will provide knowledge on how to manufacture titanium and nickel alloys, which will enable you to make decisions on cutting parameters, tools and machining strategies leading to optimized machining processes. The course is for technicians and operators, and takes place in a mix of theoretical and practical work.

On LinkedIn and damrc.com, you are welcome to following DAMRC and obtain further information on our seminars.

## Visit from the Danish Metalworkers Union

On September 3, a delegation representing The Danish Metalworkers Union visited the DAMRC. It was the Union President, Claus Jensen and the local president, Egon Nykjær who visited us to discuss technological development and the creation of jobs in the Danish industry and industrial related educations.

We are always excited when organizations and business partners express their interest in our business and industry. We thank you for the interest and the visit.



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## New students

In August, our new students from VIA University College, Horsens initiated the studies for their bachelor assignment to become B.Sc.ME (Mechanical Engineer). They are collaborating with the DAMRC on a project titled *PreRoughing Machining with Robots*. We will provide you with further information about the project in the upcoming newsletter. We welcome:

**Anders Gregersen** age 26. Anders is educated as blacksmith at Fornax. Besides his education and experience as blacksmith, Anders is an educated Production Technologist.

**Morten Hansen** age 24. Morten is educated as machinist at Vola, and he has worked there concurrently while studying Production Technologist.

**Hans Kjær Blaabjerg** age 27. Hans is educated as machinist at Aleks Steen Maskinfabrik. He qualified for the World Cup Skills in Canada in 2009 and ended up as an honorable number 13. In 2011, he was appointed as The Apprentice of the Year. Hans is Production Technologist as well.



Anders



Morten



Hans

We offer all three of them a warm welcome.

## New Members

### NiCool

We are happy to welcome NiCool as a member. NiCool will provide their products in the Technology Center. NiCool has a wide product range within coolants, cutting oils and lubricants and they have recognized an opportunity to spread their competency via a membership. We are looking forward to collaborate with NiCool.



### Kasto

Furthermore, we welcome Kasto as a new member of the DAMRC. Kasto provides their fully-automated bandsaw, Kastowin A4.6, for use in our Technology Centre. We are looking forward to get the bandsaw installed immediately after the HI Exhibition and we are looking forward to cooperating with Kasto.



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## Polund

Finally, as the newest member we welcome Maskinfabrikken Polund. Polund specializes in fixtures and clamps for turning machines and manufacturing centers. The DAMRC is collaborating with Polund on the project *PreRoughing Machining with Robots*, where Polund is offering their expertise on fixtures and clamps.



We are happy for the support and we are looking forward to cooperating with NiCool, Kasto and Polund.

## DAMRC courses and seminars

17-18 November    Machining of difficult materials – Titanium and Nickel based alloys

Kind regards,  
Klaus Bonde Ørskov  
CEO

*Should you want to learn more about project collaboration with the DAMRC and what the DAMRC can do for you and your business you are most welcome to contact Klaus Bonde Ørskov – [kbo@damrc.com](mailto:kbo@damrc.com)*

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