

# DAMRC Newsletter – 3 / 2013

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*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)*

## Content

*In this newsletter you may read about a new employee and a new member of the DAMRC. Furthermore it is described, how the participation of the DAMRC in various projects may be of benefit to the DAMRC members as well as other small or medium sized manufacturing companies. The DAMRC is continuously extending technological collaborations with international knowledge institutions – in this newsletter new collaborations with universities in Slovenia, Germany and Belgium are mentioned.*

## New face at DAMRC

The DAMRC is happy to welcome Erik Kristensen (51). With a background as mechanical engineer and with more than 20 years of experience from the manufacturing industry Erik will add a good portion of experience and professional competence. As Senior Consultant Erik will among others be engaged in project management on the large DAMRC technological projects and development of new technological projects for and in collaboration with the industry.



You may contact Erik at: [ekr@damrc.com](mailto:ekr@damrc.com) / +45 2028 3452.

The growth and development of the DAMRC means that we are still looking for new colleagues. We are specially looking for engineers with flair for machining.

Should you be interested in hearing more about your possibilities in contributing to the growth of the DAMRC you are more than welcome to contact General Manager, CEO Klaus Bonde Ørskov, [kbo@damrc.com](mailto:kbo@damrc.com) / +45 3051 6085.



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## **New member at DAMRC**

### **- Erhvervscentret in Ringkøbing- Skjern municipality**

With a high concentration of manufacturing industry in Ringkøbing-Skjern municipality the Business Center in Ringkøbing-Skjern have now initiated an active strategy in order to create jobs through growth within the local machining companies. The key to this is among other things that the machining industry is increasing the use of new advanced manufacturing technology and that the employees are receiving the proper education and training. As a vital part of the growth strategy the Business Center has chosen to join as member at the DAMRC.



We at the DAMRC are very pleased with the collaboration and are looking forward to initiating new collaborations with the local manufacturing companies in order to implement new technology with focus on improving the competitiveness of the companies.

With the membership from the Business Center the necessary local support is secured – which at the other 7 member municipalities has resulted in, that the DAMRC quickly and effectively reaches the relevant manufacturing companies – to the benefit of the competitiveness and growth of the industry.

The DAMRC welcomes the Business Center as a member.

### **Growth boost to manufacturing companies**

The Central Denmark Region has just approved a regional funded project with focus on the industry of the future.

The DAMRC is a part of this project together with 4 partners from Randers, Viborg, Århus and Hedensted. The goal of the project is to generate a basis for a future focused effort in order to develop and preserve a competitive, technological developed and global production in Denmark and hereby give a growth boost to small and medium sized manufacturing companies.



The DAMRC mission is exactly to increase the global competitiveness of the Danish manufacturing industry and in the project DAMRC contributes with its knowledge from industrial technology projects. Hereby the possibilities of the Danish manufacturing companies to implement new relevant technology are significantly improved. The position of the DAMRC as platform, where new knowledge and technology melts together with manufacturing to the benefit of the industry, is hereby strengthened further.



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## Knowledge collaboration pays off

Through some time DAMRC has collaborated with Randers-based Radijet contributing to the development of the company's concept. Amongst others DAMRC has helped Radijet to increase to possible operation temperature of Radijet's gas turbine with a couple of hundred °C.

With a wish to boost the development of the Radijet concept further Radijet has now in collaboration with DAMRC and 7 other partners applied for an EU FP7 grant. In the project the DAMRC holds the technical management and is responsible for the successful completion of the technical aspect of the project. The technical contributions in the project are delivered by amongst others: Université Libre de Bruxelles (ULB), Stichting Nationaal Lucht EN Ruimtevaartlaboratorium (NLR) and Castings Technology International(CTI). Since the DAMRC has been rewarded with the status as RTD partner from the EU (Research and Technological Development), DAMRC will also contribute to the project with knowledge within machining of Heat Resistant Super Alloys. The total budget of the projects is approx. € 1,7 Mio. The project starts autumn 2013 with duration of 2 years.

## Robot machining of large scale wind turbine components

The DAMRC has succeeded in gathering a strong consortium with common interest in exploring the possibilities in order to optimize the process of machining large parts (wind turbine components) through increased automation. With 5 strong industrial partners as well as 3 strong university partners the DAMRC is leading the consortium. During the autumn 2013 the consortium will explore the solution possibilities and identify the potential to develop and implement the relevant new technology. An actual research- and development project is expected to be started mid-2014. The extent and intensity of the activities of the consortium in the start-up phase depends among other things of the ability to attract funds. The consortium has at present submitted an express of interest to the Danish National Advanced Technology Foundation (Højteknologifonden) with a request for a financial contribution from the Foundation of approx. DKR 17 Mio. for a period of 4 years.



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## Changes at the DAMRC

After more than 3½ years within the DAMRC Christian Göte has chosen to resign from the DAMRC as per 30th September for a newly created job as international project coordinator at the DAMRC-member Kyocera Unimerco. In this new job Christian will among others be dealing with projects within the international automotive industry. With Christian's general interests for cars and with the last 3½ years of experience from international projects within the DAMRC, we are sure that Christian and the new job is a good match. From the DAMRC we thank Christian for the huge effort through the latest years and wishes Christian good luck with the new challenges.

## New Technology – CryoMach

The DAMRC has through a longer period conducted studies of technologies for optimizing of machining processes, including advanced cooling- and lubrications technologies. One of these technologies "Nitrogen-cooling" can replace as well as compliment conventional emulsions. The activities of the DAMRC have led to the DAMRC starting collaborations with the leading researcher within nitrogen cooling in machining processes - Assist. Prof. Franci Pusavec from the University of Ljubljana. Assist. Prof. Franci Pusavec visited the DAMRC in August 2013 regarding this technology. At the visit the future possibilities for collaboration between the DAMRC and the University of Ljubljana were discussed. The collaboration is expected to include the implementation of a series of tests in order to identify the potential of the technology when machining selected types of materials targeting the Danish manufacturing industry.

Besides the financial gains when using nitrogen cooling it is expected that the technology also will have a huge positive effect on the working environment in respects of emulsions. In order to map and illustrate the potential for improvement of the working environment within the metal industry, the "Industriens Branchearbejdsmiljøråd (I-BAR)" ("The industry council for working environment") has chosen to co-finance a series of project activities, as a part of a larger DAMRC project with focus on optimization using nitrogen cooling.

## Cooperation with German machining experts

As mentioned in previous newsletters DAMRC is collaborating with the company Vagn Pedersen Maskinfabrik (VPM) in Hatting, Denmark. The focus of the project is a technology project aiming to improve the competitiveness with machining at VPM.



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DAMRC has now succeeded in involving German machining experts from Fraunhofer IPT (Institute for Production technology) in the project. The German machining experts are contributing to the project with knowledge on advanced machining technologies for optimization purposes.



In July the project group paid Fraunhofer IPT in Aachen, Germany a visit. During the visit interesting and relevant technologies were demonstrated and the overall plan for the project was laid out. The project group also paid the Laboratory for Machine Tools and Production Engineering at the RWTH University Aachen a visit. Also at the university several interesting and advanced manufacturing technologies with potential usage in VPM production were presented.



In August Fraunhofer IPT visited VPM's production facilities in Hatting, Denmark, to contribute with an extensive analysis of the manufacturing set up at VPM. The next meeting in the project group is scheduled to take place this September at Fraunhofer IPT in Aachen, Germany. Here a series of live tests are to be conducted to demonstrate selected methods and techniques for optimization. The project will be concluded with a 3-days session at VPM where DAMRC in collaboration with Fraunhofer IPT will help VPM implement the new advanced technologies and methodology.



Besides the above mentioned partners AU Herning is also contributing to the project. As such a researcher from the University specializing in organizational learning and knowledge transfer will secure that VPM also in a long term perspective will benefit the new knowledge gained in the project.



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*Kind regards*

*Klaus Bonde Ørskov  
General Manager, CEO DAMRC*



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