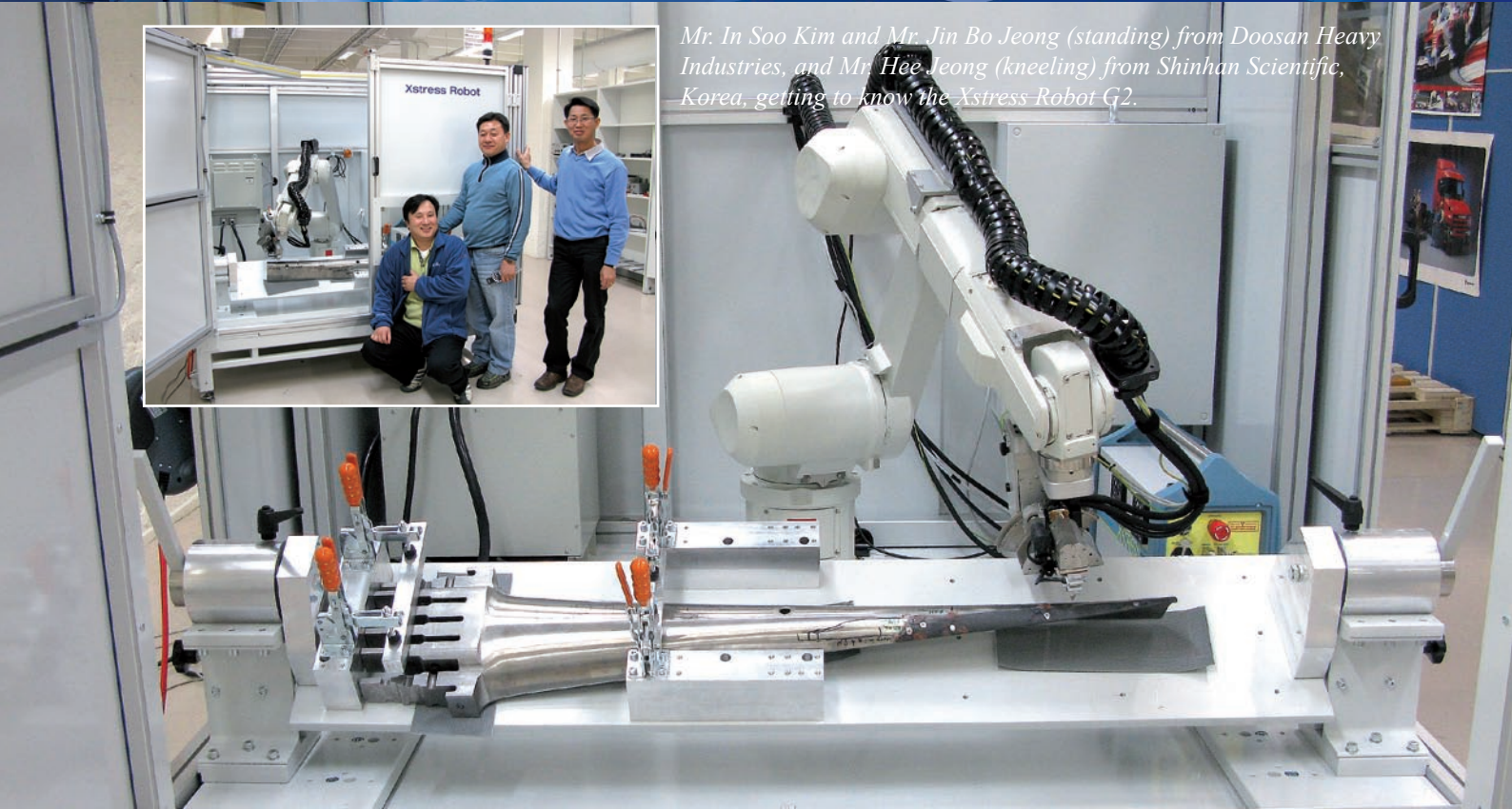


Mr. In Soo Kim and Mr. Jin Bo Jeong (standing) from Doosan Heavy Industries, and Mr. Hee Jeong (kneeling) from Shinhan Scientific, Korea, getting to know the Xstress Robot G2.



## DOOSAN HEAVY INDUSTRIES MEASURES STRESSES WITH XSTRESS ROBOT G2 SYSTEM

Doosan Heavy Industries of South Korea ([www.doosanheavy.com](http://www.doosanheavy.com)) provides thermal, combined cycle and hydro power plants for Korea, USA, India, China and other countries GE being one of its main customers. Doosan is also developing wind power systems, fuel cells and environmentally friendly next-generation energy. To continue to be proud of their quality, Doosan has invested in Xstress Robot G2 system, which makes it easy to measure stresses on series of spots on e.g. turbine blades.

"Thousands of turbine blades are manufactured per year for the power plants", says Mr. Jin Bo Jeong from the Quality Control Department of the Doosan Changwon plant. Xstress Robot G2 System will be used for their R&D and quality control.

Xstress Robot G2 system includes a standard Xstress 3000 stress analyzer, goniometer of which has been attached to the robot arm instead of a standard tripod. With the new XTronic software the goniometer is easy to move from a spot to another and because of the robot arm, of which degree of freedom is four, the spots even on curved surfaces are easy to measure without moving the sample. Traditionally troublesome measurements on large and complicated parts are now easy to make automatically with the robot by mapping the measurement spots to the program.



Text Tuula Suortti-Suominen  
Stresstech Oy

### More stories

- Doosan Heavy Industries measures stresses with Xstress Robot G2 system
- Editorial
- Stresstech Group representation changed in India, Sweden and Netherlands
- Small X-ray tube for Xstress 3000 G3
- ISO 9001:2008 Certificate for Stresstech Oy
- ICBM8 at IGCAR, Kalpakkam, India during February 11-12, 2010
- Order your copy

## EDITORIAL



### Standardization for BNA application on gear wheels

Barkhausen Noise technology has been used for about 15 years now in the large gear wheel industry to analyze the phenomena of grinding burn, generally known as thermal damage. Nevertheless, no common standard exists for its application. In 2008, German research circle for drive technology FVA started its project #594 by establishing a workgroup "Barkhausen".

Usually the results of FVA joined research work are limited to its members, but in this case it was agreed from the beginning that an exception will be made. This will allow gear manufacturers worldwide to accept and work after this FVA-created standard.

Soon it became clear that this standardization not only requires a procedure description, but evenly important is a definition for the inspector's education. The workgroup has followed in both issues mostly the well known general rules of other classical, non-destructive testing methods, such as ultrasonic and eddy current.

Stresstech actively contributes in this project, and very well progress has been done. It is expected that by fall of 2010 the first trial training session for Barkhausen inspectors will have been completed, and following that, FVA accepts the "Barkhausen Procedure Description".

Dominik Dapprich, President, Stresstech GmbH

## STRESSTECH GROUP REPRESENTATION CHANGED IN INDIA, SWEDEN AND NETHERLANDS

New daughter company in India and branch office in Sweden serve now Stresstech's customers. New representative has started in the Netherlands and Belgium.

### Stresstech Bharat Pvt. Ltd has started its operation in India

Stresstech has already been in Indian markets for two decades. Until now our company has been represented by Mr A.K. Dasgupta, CEO and owner of Adtech Agencies and Services. Over the past twenty years he has done outstanding work in India, and created wide and loyal customer base, as well expanded sales activities to Indian private industry.

India is more than a country, it is a subcontinent with huge population and production industry, but also with long geographical distances and logistical challenges. Once customer base is already good, and Indian markets are emerging, there was, and is, need for more sales, aftersales and service power.

With mutual understanding between Mr Dasgupta and Stresstech Oy, an Indian subsidiary was established. **Stresstech Bharat Pvt. Ltd.**, wholly owned by Stresstech Oy, was incorporated and it started its operation on the 1st of April, 2010, in the city of Mumbai. As its sister companies Stresstech GmbH and American Stress Technologies, Stresstech Bharat Pvt. Ltd. has the same operational concept providing sales, measurement services and consultation for valued customers, both existing and new ones.

Experienced personnel of Adtech including Mr. Amaresh Dandapat, continue to work for the new company, and more staff will be presently recruited. Senior Sales Manager, Mr. Swapnil Apte, has started as the head of the office on the first of June. He reports directly to Stresstech Oy.

The website of the new daughter company is [www.stresstechbharat.in](http://www.stresstechbharat.in).

### Stresstech Oy opened branch office in Sweden

On the first of April, 2010, changed the Stresstech operation in Sweden also. Stresstech's former representative since 1988 Inomec AB has decided to concentrate on other business areas leaving the market without a responsible representative. This market area including Sweden, Norway and Denmark has now been taken over by Per Lundin, previously employed by Inomec AB, and having already wide material testing experience, also with Stresstech products. Per Lundin is now the Area Sales Manager of Stresstech Oy, and reports directly to Stresstech Oy.

### Innogrind is our new representative in the Netherlands and Belgium

Innogrind ([www.innogrind.nl](http://www.innogrind.nl)), a business founded in 2009 for grinding and related consultation, has joined Stresstech Group representatives. The company is located in the south of the Netherlands (Helmond). It offers grinding services on location in round, centreless and flat grinding, and grinding consultancy from setting up and guiding the grinding process up to delivering the "Turn Key" processes.

In charge of Stresstech representation is Mr. Jos van Lanh, experienced in every aspect of the grinding business.

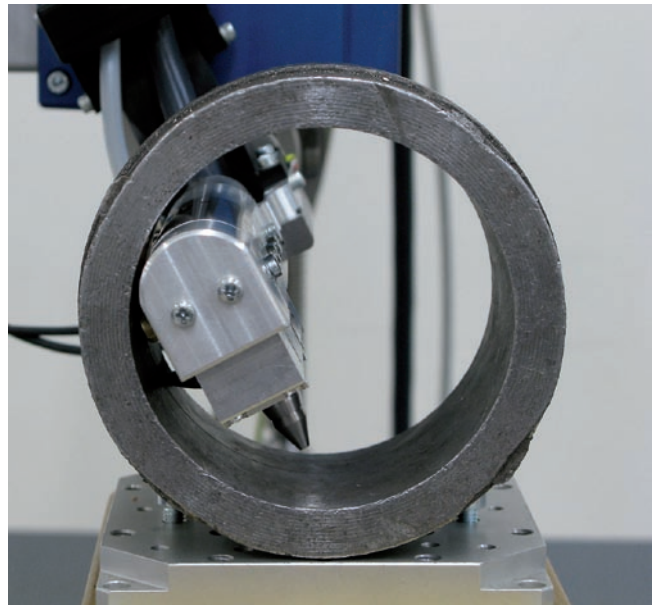
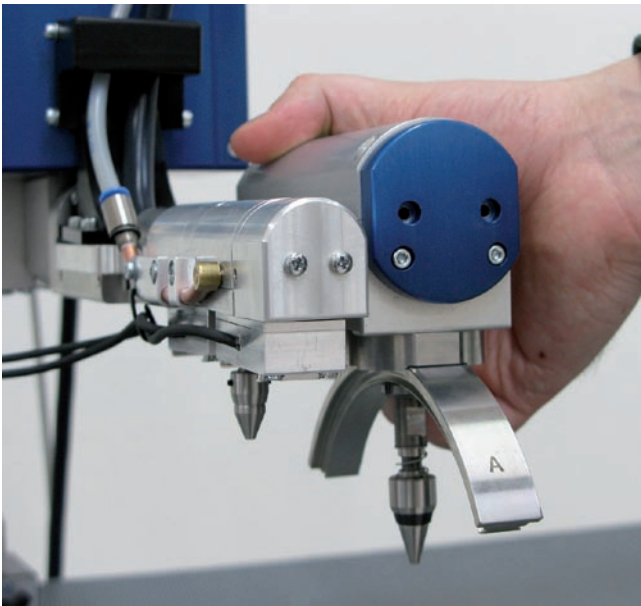
## SMALL X-RAY TUBE FOR XSTRESS 3000 G3

Xstress residual stress and retained austenite measurements can now be made inside smaller rings or pipes than until now. This is possible with a new small X-ray tube construction.

*Text Lasse Suominen  
Stresstech Oy*

**A**ccessibility is a frequent challenge in X-ray stress measurements, which demand direct access to measurement point. This means that measurements on inner surfaces of rings and pipes are restricted by the size of the goniometer and free space inside the ring (ID). Typical goniometer radius varies from 200 mm to 50 mm. With the smallest distance (50 mm) the smallest accessible ring ID is about 150 mm.

Stresstech is now offering a new, extremely small X-ray tube construction, by which stress measurements even in as small tubes as 80 mm of ID can be made. The small X-ray tube head with detectors can easily be changed into the place of standard tube construction as it needs no additional hardware or software. New small tube is pneumatic air cooled to minimize the size. This configuration is available to G3 goniometers, also to already delivered ones.



## ISO 9001:2008 CERTIFICATE FOR STRESSTECH OY

Stresstech Oy has been regranted the ISO 9001:2008 Quality Management System Certificate by Det Norske Veritas after the reaudition in March. The Certificate is valid for "Manufacturing of NDT equipment and NDT measurement services".

*Text Tiina Harjuhahto  
Stresstech Oy*

**N**ow granted Certificate continues the unbreaking validity of the Certificate from 2001 up to 2013. Annual auditions since the beginning have verified that we have taken actions to keep up and to improve our functional quality to provide our customers good quality products as efficiently as possible.

Our quality management system follows now the renewed

ISO 9001:2008 standard. Due to this in the audition in March special attention was paid to how we take into account customer needs, how we take corrective actions and how we meet customer as well as statutory and regulatory requirements. Our functions were verified to meet the demands given in the standard.

## ICBM8 AT IGCAR, KALPAKKAM, INDIA DURING FEBRUARY 11-12, 2010

8<sup>th</sup> International Conference on Barkhausen Noise and Micromagnetic Testing (ICBM8) was held on 11-12 February 2010 in Kalpakkam, India. The conference was jointly organized by Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam, Board of Research in Nuclear Sciences (BRNS), Mumbai, and Atomic Energy Regulatory Board (AERB), Mumbai.



*Text Dr. T. Jayakumar  
IGCAR*

During the inaugural function held on February 11, 2010, Dr. T. Jayakumar, Chairman, ICBM8, and Director, Metallurgy and Materials Group, IGCAR, gave the welcome address and Mr. Lasse Suominen, Chairman, ICBM Organisation and President, Stresstech Oy, Finland spoke about ICBM serial conference. Dr. Baldev Raj, Distinguished Scientist and Director, IGCAR, inaugurated the conference and gave the inaugural address, during which he stressed increased use of Barkhausen noise and micromagnetic techniques by the industry for materials evaluation and stress measurement applications. Dr. B.P.C. Rao, Co-Chairman, ICBM8 and Head, EMSI Section, IGCAR explained about the conference and Dr. C.K. Mukhopadhyay, Convener, ICBM8, Programme Leader, NDE Division, IGCAR proposed the vote of thanks.

The conference was attended by 50 scientists, engineers and scholars from different countries including Argentina, Czech Republic, Finland, Germany, Hungary, India, Japan and United Kingdom. In the conference, 6 eminent international experts including Dr. G. Dobman, Fraunhofer Institute for NDT (IZFP), Germany, Dr. B.A. Shaw, Newcastle University, UK, and Dr. Evan Thomas, Institute of Physics, Czech Republic delivered invited lectures covering various aspects of Barkhausen noise and micromagnetic testing. A total of 22 contributory papers covering microstructural characterization; residual stress measurements; damage assessment and industrial applications were presented in 6 technical sessions. A technical visit to Fast Breeder Test Reactor and Non Destructive Evaluation Division of IGCAR was organized. The concluding session was held on February 12, 2010. A panel consisting of Dr. T. Jayakumar, Dr. G. Dobmann, Dr. S. Sitaramu, Dr. B.A. Shaw and Mr. Lasse Suominen summed up the deliberations in ICBM8 and highlighted the need for round robin tests; separation of stress and microstructure effects on MBE signal; consideration of material properties for better understanding of MBE signals; increased use of multi-parameter approaches and neural networks. Mr. Lasse Suominen announced that ICBM9 will be held in Czech Republic in 2011. Mr. Jiri Malec, from Czech Republic, heartily invited the delegates to participate in ICBM9 in Czech Republic in 2011.

The organizers acknowledge the support received from various organizations including M/s. Stresstech, Finland and M/s Adtech, Mumbai, India for successful organization of ICBM8.



*Dr. Baldev Raj, Distinguished Scientist and Director, IGCAR, inaugurating the ICBM8 on February 11, 2010.*

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