

UK COMPANIES ARE WINNING RESEARCH PROJECTS IN SUPPORT OF ITER PROGRAMME

Dunlop Aerospace Braking Systems and leading private sector, nuclear specialists AMEC NNC have been awarded Research Contracts in support of the ITER Programme from the European Fusion Development Agreement (EFDA).

Dunlop Aerospace

Dunlop Aerospace Braking Systems, part of Meggitt plc based in Coventry, has won a contract to develop and supply Carbon-Carbon (C-C) composite tiles for trials of an ITER divertor design to be piloted in the JET experiment. The divertor at the base of the tokamak vessel is exposed to the highest heat fluxes during fusion.

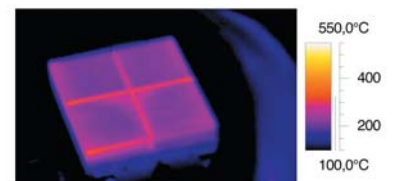
"ITER is an exciting project that is at the forefront of materials development, and a key strategic business project for us. Our experience of working on fusion projects has been very positive. Over the years it has led to changes in production engineering practice resulting in increased efficiency and reduced costs that have been transferred across to core business products," said Ben van Sleeuwen, Head of Aftermarket & Advanced Material Programmes, Dunlop Aerospace Braking Systems. **For further information please visit www.dunlop-aerospace.com**

AMEC NNC

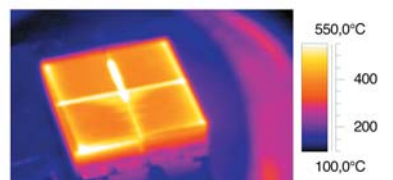
Knutsford based AMEC NNC is the largest UK private sector supplier of programme management and engineering services to the nuclear sector. Over the last 10 years, the company has been a pioneer in the development of fusion technology. Working with EFDA and UKAEA Culham, as well as being a founding member of EFET (the European Fusion Engineering Technology consortium), AMEC NNC has undertaken projects on JET, design and safety activities for ITER and DEMO and studies for fusion power plants. In addition AMEC NNC continues to provide R&D support and prototype manufacture & development of mock-ups of key ITER components.

Current ITER-related projects being undertaken by AMEC NNC include development and manufacture of First Wall thermal fatigue mock-ups, involving the company working with five UK sub-contractors, and development of divertor multi-link attachments and Reduced Pressure Electron Beam welding of cryostat joints.

For the EU's ITER procurement, AMEC NNC is looking for manufacturing partners. "In addition to our knowledge of meeting the quality and technical aspects of fusion engineering, we can help companies reduce project risk when assessing their ability to manufacture ITER components," commented Allister Cheyne, Team Leader, International & Reactor Development at AMEC NNC. **For further information contact Allister Cheyne at allister.cheyne@amecnnc.com or visit www.amecnnc.com**



Cycle 1 at 1.5 MW/m²



Cycle 50 at 2.5 MW/m²

First wall mock-up materials under test

Are You Receiving Details of EFDA Calls for Tender?

Readers wishing to receive details of EFDA calls for tender should register with the UKAEA's ITER Suppliers Database. For more information visit www.fusion.org.uk/industry

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Swagelok London FST Commits to ITER Project

Swagelok London FST has been a key supplier to the JET research facility since its inception. Their valves, fittings and other fluid system components have become site standard. As a company with an excellent record in this area, Swagelok London FST quickly realised that the new International Tokamak Experimental Reactor (ITER) represents a tremendous business opportunity for their organisation. Due to the global nature of the project there is a challenge to continue to provide the traditional high levels of technical service.

In order to harness these capabilities, Swagelok London FST has recruited a specialist Project Sales Manager to coordinate their activities for the ITER project. Nigel Benn has joined with over twenty years of Swagelok experience, having worked with many high-tech companies and multi-disciplinary project teams. Upon reviewing the project, Nigel realised that they needed to secure global coordination and, to that end, has involved one of Swagelok's Project Coordination specialists, Frank Danson. Frank has already begun work with other Swagelok distributors who are located close to the functional sites around Europe.

Nigel says, "The excellent performance of Swagelok products is well understood and now, due to the strength of our distribution network, we can deliver a high level of specialist support in the UK to the main ITER contractors, and also their sub-vendors, thereby continuing the service which we have traditionally provided to JET in Oxfordshire."

For more information please e-mail: nigel.benn@london.swagelok.com

UK Industry is Ready to Help Build ITER

UK Government and UK Industry is ready to help build ITER was the message given at the "ITER - Opportunities for European Industry" workshop held in Barcelona in December. Over 75 individuals, representing 26 UK companies, Regional Development Agencies (RDAs) and Devolved Assemblies (DAs), UK Trade and Investment (UKTI) and UKAEA Fusion and Industry attending

"UK Industry wants to play a pivotal role in the construction of ITER. We have the skills, and expertise to help make ITER a reality and the willingness to form National, European or International Consortia."

Dan Mistry, UKAEA Fusion & Industry Manager.



(L to R) Dan Mistry, UKAEA, Ettore Salpietro, EFDA Garching and Nick Stuart, UKTI

the event signalled their united commitment to playing a pivotal role in the construction of the 5 billion Euro International Tokamak Experimental Reactor (ITER) to be built in Cadarache, France.

Over 600 representatives from European industry and fusion research institutes attended the workshop. Dan Mistry, UKAEA Fusion and Industry Manager told Fusion Business that it was the first time UK Government and UK Industry had joined forces to give the message loud and clear that 'UK industry is your ITER partner - ready to help build ITER in partnership with other industries'.

Pivotal Role for UK Industry in ITER

Organised by the European

Committee for Fusion Industry, and hosted by the Spanish fusion programme which is managed by CIEMAT, the goal of the workshop was to inform European companies about ITER and present opportunities for their involvement in its construction. The experience of working on the Joint European Torus (JET), the world's largest fusion experiment based at the Culham Science Centre in Oxfordshire, has given UK companies invaluable experience of meeting the

engineering demands of large scale fusion projects. "We have the skills, and expertise to help make ITER a reality and the willingness to form National, European or International Consortia," said Dan Mistry.

Fusion Exhibits at the Barcelona Workshop

In addition to encouraging dialogue between representatives from industrial companies and fusion experts from ITER and the European Fusion



The joint UKAEA/UKTI exhibition stand

Development Agreement (EFDA), the workshop included a fusion industry

exhibition. The UK's presence was sponsored by UKTI. The exhibition stand featured information on UK technology expertise as well as representatives from RDAs who were able to promote the capabilities of their local companies. "The presence of UK RDAs and DAs representatives was important in communicating that we are ready to identify best organisations for ITER, their message was we are ready to search our region, just tell us what you require," added Dan Mistry.



UKAEA's Culham Operations Director Frank Briscoe with Christina Easom, Deputy Head, Science and Technology Unit, UKTI.

UKAEA and Research Councils Unite in Instrumentation Partnership

The Particle Physics & Astronomy Research Council, the Biotechnology & Biological Sciences Research Council, the Council for the Central Laboratory of the Research Councils and UKAEA have become major sponsors and partners of the Sensors Knowledge Transfer Network (KTN) with DTI.

This recognises and cements the strategic importance of instrumentation to the UK economy, and to major research facilities in particular. Advanced instrumentation is required by large European and international fusion facilities like ITER, and also by other big research facilities like the UK's new synchrotron (the Diamond Light Source) and CERN. More resources will now be available for the development and use of advanced instrumentation, an integral part of the sensors supply chain.

The network will also increase co-ordination between the partners' own programmes to enhance the involvement of UK industry in their particular "big science", not just in instrumentation but across the many common technologies. One of its first activities will be the creation of a single database of suppliers to research facilities in a range of "hi-tech" fields.

Martin O'Brien, UKAEA Fusion Programme Manager, said, "A wide range of advanced instruments with exacting requirements are essential for fusion research facilities such as JET and MAST in the UK and ITER to be built in France. This new network will help to ensure a joined-up approach across science to increasing UK industrial involvement in big research facilities not just in instrumentation but also in other hi-tech fields."

The technology commercialisation specialist firm Qi3 is managing this extension of the Sensors Knowledge Transfer Network. Companies and researchers are welcome to contact Qi3 to add their names and interests to the suppliers and industry database. Further information is available at www.qi3.co.uk/partners/public.asp or by calling the Qi3 team on 01223 422404.

ITER Procurement

Part of the Barcelona workshop was devoted to outlining the intended ITER procurement procedures which will be conducted through the ITER partners respective Domestic Agencies (DA's). The sharing ratio of in-kind procurements by the seven ITER Parties: European Union, Japan, China, India, Korea, Russian Federation and United States is about 4:2:1:1:1:1:1 respectively.

Typically in-kind procurement is where the DA selects the supplier and conducts the procurement (including the technical overview and control of the work). The central ITER Organisation will participate in the DA's process of determining potential suppliers, evaluating technical proposals and selecting the supplier, and monitor technical and schedule progress on the procurement.

The EU DA in Barcelona will be responsible for procurement in

Europe. The detail of how the EU DA will undertake ITER procurement has yet to be finalised. Early indications suggest that the EU share of the ITER procurement will be subdivided into a limited number of relatively large, self-consistent contracts, totalling around 1550 Million Euros (at current value), ensuring that the EU retains a strong presence in all fusion relevant technologies.

The full scope of the EU contribution, is expected to be covered by about 220 contracts, - about 130 contracts for fabrication/supply related to the EU 'in-kind' contributions and 90 service contracts for engineering support to the ITER Organisation during construction.

The value of the fabrication/supply contracts might range between a minimum of 2 Million Euros and a maximum of 60 Million Euros. The value of service contracts may be about 2 Million Euros on average. Each of these large projects will require many sub-contractors able to provide specialist technology and engineering skills and products.

For further information on how UK companies can participate in the ITER project visit the UKAEA Fusion and Industry web site www.fusion.org.uk/industry or contact Dan Mistry, UKAEA Fusion and Industry Manager, on 01235 466607, e-mail: dan.mistry@ukaea.org.uk.

Further information on the ITER project can be found at www.iter.org. Copies of the "ITER - Opportunities for European Industry" workshop presentations are available from the European Fusion Development Agreement web site www.efda.org.



Culham Innovation Centre

For more information about Culham Innovation Centre and its companies please telephone 01865 408300. The CIC is run by Oxford Innovation at Culham Science Centre, Abingdon, Oxfordshire OX14 3DB.

New CIC Manager Appointed

Dean Worthington has been appointed by Oxford Marketing and Innovation Ltd as the new Culham Innovation Centre Marketing and Development Manager. "The Culham Innovation Centre is unique within Oxford Innovation in having a technical support package for suitably qualified companies. I'm looking forward to making the most of this incentive for companies to move into the Innovation Centre," said Dean. Dean will also be responsible for co-ordinating marketing for all Oxford Innovation's Centres in the Oxfordshire area.



VisionXS - Serious about Theme Parks, Zoos, Museums...

CIC's newest company is Vision XS a specialist in the provision of consultancy services to visitor attractions including theme parks, science centres,

museums and art galleries. VisionXS moved from nearby Milton Park to their new office in the Culham Innovation Centre. "We were attracted by the location and Oxford Innovation's range of support services for growing businesses," commented Tony Sefton, founder and VisionXS Managing Director.

Bristol Zoo, Natural History Museum, Imperial War Museum, Duxford, Detroit Zoo and Paradise Wildlife Park.

Attracting visitors is more science than art believes Tony Sefton. He should know. Tony has dedicated the past 8 years to the research, development and marketing of the X-Mod program, following a successful career in the Theme Park Industry. "In effect we analyse the visitor's experience and assess whether their psychological needs are being met, and if not how to meet them," said Tony.

VisionXS works with attraction business managers to assess and validate how well their venue attracts and connects with the needs of visitors. Their customers include



Farewell to Miriam

Fusion and Industry Technology Transfer Manager, Miriam Mason (pictured), left the Fusion and Industry team at the end of January to take up her new appointment as Head of the full-time MBA Programme at Warwick University Business School. Miriam, who was herself awarded an MBA with distinction in September 2002, was keen to acknowledge UKAEA's significant contribution to her career development during her ten years at Culham. "Working with the business community, academics and entrepreneurs has provided experience which will be valuable in my role at Warwick", said Miriam.



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