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Professor Bernard Pailthorpe
CEO
QCIF
c/- School of Physical Sciences
University of Queensland

12 June 2007

Dear Professor Pailthorpe

Please find below a request for support from QCIF for a five month Technology Diffusion Project for \$20 K to support Dr Riyu Wei. This request is brought by Magnetica Limited but supported by ACMC at The University of Queensland. The five month period from the end of June to the end of November is consistent with current ACMC timeframes.

Request for QCIF Technology Diffusion Project Support for Magnetica Limited

Background

Over the past two years, Dr Riyu Wei has been engaged on two QCIF supported Technology Diffusion Projects with Magnetica Limited, a small start-up Company commercializing technologies focused on design of superconducting magnets, primarily for use in human diagnostic imaging.

From Magnetica's perspective, both Projects were extremely successful, resulting in the development of software and algorithms capable of producing high quality detailed analyses of stress for a range of preliminary and detailed designs the Company has developed as part of its product portfolio, demonstrating the validity of our proprietary designs and design approach, and accelerating manufacturability of our designs.

Magnetica has continued to make significant commercial and technical progress over the last year, including strengthening its strategic Alliance with a Japanese manufacturer of superconducting magnets and its parent Company, Kobe Steel, leading negotiations between our Alliance partners and a systems integrator that led to a successful tender and contract signed for supply of a commercial number of new types MRI magnet, partnership in construction of two prototypes in Japan for the new magnet system, further tendering (on invitation) for a second major product, and development of a portfolio of strategically prioritized products for design and development.

The Company has also raised short term working capital over the period and is currently refining its business strategy in order to set long term funding arrangements in place.

Magnetica is seeking to maintain and build on its links with QCIF through this application for this Project (the "Project") to enable us to continue to use advanced computational modeling skills to take our products to the marketplace and generate economic returns to Queensland through commercialisation of public research.

Proposal

This proposal seeks support from QCIF for a Technology Diffusion Project for \$20K for the period 22nd July 2007 to 30th November 2007, in order to support 40% of Dr Wei's salary, allowing him to:

- continue work on finalising the manufacturing design for the Company's first product, through to successful testing of the prototype (scheduled to commence August 2007) in conjunction with our partners;
- enable new work with our partners developing a range of computational analyses to support prototyping and manufacturing work for our second and third products, to enable us to achieve timeframes for supply to clients; and
- completing new analyses for shimming and gradient design for Magnetica's first two products.

The analyses conducted by Dr Wei, using ANSYS Parametric Design Language and the C language, form a vital part of translating Magnetica's designs (which push the boundaries for conventional superconducting magnets) into reality – that is, into products capable of manufacture for large production runs without quench or other problems. The analysis outputs include deformations, stresses and strains as well as strain energies in coils and formers. These analyses are extremely important in allowing cost reductions in final manufacturing design for products.

We recognise that this case may be unusual in that Magnetica has already enjoyed several years of support. However, continuation of this support will assist a Queensland spin-off company's products reach a global market much faster than might otherwise be possible.

Project Key Milestones

	Milestone
Product 1	<ul style="list-style-type: none">➤ Completion of iterative analyses simulating the processes of cooling the final version of the detailed magnet design down from room temperature (300K) to the working temperature (4K) and charging up to the full current, at differing levels of detail, from preliminary/macro to detailed/micro scales. This requires consideration of frictional contacts between coils and coil formers and orthotropic material properties in the coils.➤ Development and modification of current software for modeling cryostat design➤ Completion of thermal and mechanical stress analyses of the detailed design for cryostat➤ Completion of analyses of final detailed design prior to completion of a full-size prototype magnet➤ Development and modification of software for modeling test results for the prototype magnet➤ Completion of detailed thermal and mechanical stress analyses to support mechanical and physical test data generated from testing of the prototype magnet
Product 2	<ul style="list-style-type: none">➤ Modification of software to allow modeling of new whole body magnet design (Product 2)➤ Completion of iterative analyses of thermal and mechanical stress for preliminary designs for Product 2➤ Development and modification of current software for modeling cryostat design➤ Completion of thermal and mechanical stress analyses of the detailed design for cryostat➤ Completion of analyses of final detailed design prior to completion of a full-size prototype magnet
Product 3	<ul style="list-style-type: none">➤ Modification of software to allow modeling of whole body magnet preliminary detailed design (Product 3), using final design of Product 1 as a test to verify basic model for Magnetica designs

Dr Wei will provide an end of project report to QCIF on progress against these milestones.

Magnetica and ACMC Support for the Project

Both the Advanced Computational Modelling Centre at UQ and Magnetica strongly support this proposal, and both are providing in-kind contributions to the Project.

Magnetica intends to provide an in-kind contribution to this QCIF Technology Diffusion Project in excess of A\$70K (including 60% salary, on-costs, equipment, travel and infrastructure).

ACMC also agrees to provide continuation of in-kind infrastructure support (office, access to computers, etc).

Magnetica therefore requests that QCIF agree to continue support for Riyu's Technology Diffusion project. Such support will enable continued input into Magnetica's product development, helping a Queensland spin-off company's products reach a global market. Continued support from QCIF will also provide links between the supercomputing group at UQ/QCIF with Magnetica. We would

welcome the opportunity to further enhance such links, as we believe there are synergies that might well lead to exciting longer term outcomes.

Please let me know if you require any additional information, including updated information on the Company for publicity purposes. I would like to take this opportunity to thank you, and QCIF, for their important support, and add our Company's support to the concept of the QCIF Tech Diffusion Projects.

Nicky Milsom
Deputy CEO
Magnetica Limited
About Magnetica

Professor Kevin Burrage
Professor and Federation Fellow
Director, ACMC, University of Queensland

Magnetica Limited is a Brisbane based company specialised in the design, development and commercialisation of superconducting high performance MRI magnets and associated gradient and RF coils, primarily for human diagnostic imaging. Magnetica's technical competencies and its proprietary intellectual property are based on outcomes from over 15 years of research and development at the University of Queensland.

Magnetica has an exciting alliance with the Japanese firm Jastec, a 100% subsidiary of Kobe steel. In January 2006, Kobe Steel joined as a signatory to this Alliance, renamed the Magnetica-Jastec-Kobe Consortium (the "MJK Consortium"), which aims to become a major player in designing, prototyping and manufacturing superconducting magnets and associated non-superconducting subsystems for use in magnetic resonance imaging (MRI), a US\$4 billion, rapidly growing global industry.

Magnetica's designs are intended to push current boundaries to generate new MRI magnet systems that satisfy market, clinician and user demands, while simultaneously being cost competitive. Optimisation, modeling and stress analysis in our magnet designs have played a key part in this process.