Vision—Transform the utility & productivity of clinical MRI by enabling interactive Magnetic Resonance Imaging Guided Intervention (iMR-IGI)

Business Summary: Marvel Medtech’s robotic iMR-IGI accessory platform offers new capabilities that will allow hospitals and clinics to perform MRI guided interventions more efficiently, treat patients more effectively and increase MRI scanner utility while reducing overall healthcare costs. Our technology enables interventional procedures to be done inside the bore of the MRI scanner with real-time imaging guidance and interactive control of interventional tools.

Products/Services: Marvel Medtech’s novel Solada™ iMR-IGI system combines precision MRI-compatible multi-axis robotics, a real-time imaging interface to the MRI scanner, integrated RF coils and a Clinical User Interface (CUI) for intervention planning, monitoring and interactive control. Solada™ is configured as a fully integrated add-on accessory system for popular 1.5T whole-body MRI scanners, so it can be sold to both the installed base of MRI scanners and with new MRI systems.

Customer Problem: MRI is a leading technology for diagnostic imaging but is underutilized for imaging guided interventions. Our robotic Solada™ iMR-IGI accessory system transforms MRI equipment into a clinically practical imaging guided interventional resource, allowing more efficient care for patients and improving the utilization of MRI resources by enabling interventions to be done inside the MRI scanner bore with real-time imaging guidance and interactive monitoring and control. Up to 7.5% of 70M U.S. females between ages 30-70 are candidates for breast MRI per American Cancer Society guidelines, but up to 90% of the potential U.S. demand for breast MRI is not presently being met.

Market: The ‘mega-trend’ of growth in minimally invasive image-guided intervention procedures across the entire healthcare spectrum is expanding the global market for minimally invasive surgical instruments, imaging & visualization systems and medical robotics at a CAGR of 8%, aiming to reach $35.5B by 2016. The value proposition for iMR-IGI spans many clinical applications where MRI offers superior diagnostic imaging performance. As an entry point into the new iMR-IGI market niche, Marvel Medtech’s initial mission is focused on developing and deploying a solution to enable in-bore MRI guided breast biopsies. Breast MRI is presently the fastest growing MRI procedure, estimated at 15% CAGR and projected to reach $5B by 2017, with 55% of MRI facilities now offering breast MRI. However only 5% of MRI sites offer interventional procedures such as MRI-guided biopsy with few new sites adopting interventional capabilities for MRI. This is a very significant unmet need that Marvel Medtech’s technology directly addresses. With only an additional 15% of the 1.5T field strength MRI sites adopting iMR-IGB technology, the Available Global Market is estimated to be $700M in 2017. Market research data estimates a total of 6,150 -1.5T field strength MRI scanners in use in the U.S. and 15,000 globally in 2013. Clinical use of breast MRI in Europe – particularly Germany – is ahead of the US, with more widespread adoption of breast MRI exams as a clinical standard of care.

Management: Marvel Medtech’s team includes business leaders, proven entrepreneurs, engineers and scientists with 150+ years combined experience in building successful companies and developing medical products. We know how to run a small company and how to guide it through growth transitions. We’ve developed products through successful R&D, market introduction and sales growth phases. We know (a) our product, (b) our customers, and how to sell (a) to (b).

Sales/Marketing Strategy: Marvel Medtech will focus early market development efforts on building a Clinical Evaluation Program with leading Breast MRI radiologists in Germany to generate interest and early acceptance of the Solada™ technology in the European market. A parallel Clinical Evaluation Program will be developed in the US. The Company will sell through dealers in Europe and directly and through MRI OEM accessory sales channels in the US.

Financing Strategy: Marvel Medtech has raised a total of $2,250,000 in financing to date, including a $1.5M Phase-II SBIR grant award from the National Cancer Institute/NIH in December 2014. ($100,000 of the financing total is from F&F convertible notes, the remainder is non-diluting.) The Company is presently seeking Series A equity capital of $3M to supplement the Ph-II SBIR grant funding and accelerate the pace of transforming the proven concept technology into a clinically-usuable configuration that will be ready to start clinical evaluations in about 18 months.
Competitors: Marvel Medtech is racing to achieve first mover advantage in the new iMR-IGI niche and to further enhance competitive barriers. Marvel Medtech is leveraging key strategic alliances to reduce the in-house effort, cost and time for developing and integrating the component technologies that comprise Solada™. In our Ph-I SBIR-funded project, we’ve proven that our technology works, thereby removing the last significant technical risk hurdle for developing a commercial product. A valuable IP portfolio is evolving as R&D efforts continue.

Exit Strategy: While the Marvel Medtech business plan is aimed at building a sustainable, growing business in this new market niche, there are well-established precedents for acquisition of imaging accessory technology companies such as Marvel Medtech by existing medical imaging OEM (e.g. GE Healthcare, Philips) or imaging accessory companies (e.g. Hologic, Devicore). Marvel Medtech anticipates becoming a very attractive acquisition target once our initial product is demonstrated as clinically effective and practical, possibly as soon as initial clinical results are reported in year 2 or 3, but more likely as we begin to achieve noteworthy market traction in year 4-6 following Series A financing.

Marvel Medtech’s Leadership and Support Team:
Ray Harter – President: Mr. Harter is an experienced medical technology business leader with demonstrated capability, experience and results. Prior to starting Marvel Medtech, Mr. Harter succeeded in a variety of key leadership roles in medical technology, mass-market consumer hardware and high-performance sporting goods manufacturing companies. Mr. Harter holds B.S. and M.S. degrees in engineering from the University of Wisconsin-Madison.

Dennis Barnum – Business Advisor – Operations: Mr. Barnum, presently serving as Director of Strategic Partnerships and Business Development at new startup Thalchemy, has deep and broad-based expertise in many facets of business operations in both large and small / start-up technology company environments. Mr. Barnum has served as interim CEO, developed and executed business formation and growth strategies, strategic planning and exit strategies.

Frank J. Fronczak, Emeritus Professor University of WI-Madison – IP Advisor, Engineering Design Consultant, has over three decades experience in research, development and design of mechanical and biomedical devices and systems. As Professor of Mechanical and Biomedical Engineering, consultant and patent litigation expert witness, he has provided leadership and technical expertise on scores of successful designs.

Mark A. Gehring – Technology and Business Strategy Advisor: Mr. Gehring is a proven successful medtech serial entrepreneur and accomplished software engineering leader. Mr. Gehring is presently Chief Strategy Officer for Healthmyne, a new medical imaging startup enterprise, and a co-founder and executive leader of Propeller, an early stage venture using GPS technology to track asthma medication use. Mr. Gehring previously co-founded and served as CEO of Geometrics (now part of Philips healthcare) and UltraVisual (acquired by Emageon), both medical imaging software technology companies.

(Confidential), CPA – Business Advisor – Acting CFO: (Confidential) is a finance planning and management executive with extensive experience in entrepreneurial environments. (Confidential) has managed finance, treasury, purchasing, HR and IT, as well as having responsibilities for FDA-regulated activities.

Richard J. Stevens – Business Advisor – Marketing: Mr. Stevens is founder and President of Molecular Specialties Inc., a company specializing in resonance technologies for MRI, NMR and ESR/EPR. Prior to founding MSI, Mr. Stevens co-founded and served as President of Medical Advances Inc. until MAI’s acquisition in 1997. MAI developed, manufactured and marketed accessory RF coils for clinical MRI applications. Mr. Stevens’ formative years include 17 years in marketing and other roles with GE Medical.

Bryan Van Meter – Business Advisor – Business Development: Mr. Van Meter has a deep background in marketing strategy, product management and business development for medical technologies within diagnostic imaging and therapeutic oncology. He is currently leading global product marketing for advanced visualization and decision support software for GE Healthcare. His previous roles have been in diagnostic imaging, image-guided therapy and radiation oncology with GE Healthcare, Siemens Healthcare, ProNova Solutions and Tyco Healthcare.