

# NEW ZEALAND MEDICAL TECHNOLOGIES SECTOR

## SUMMARY

### JANUARY 2009

#### Introduction

In 2007/2008 New Zealand Trade and Enterprise (NZTE) and the Foundation for Research, Science and Technology (FRST) funding provided the Medical Technologies Special Interest Group Committee the opportunity to commission an independent assessment of the New Zealand medical technologies sector. The aim was to clearly identify the size, capability and industry dynamics so that the committee and association stakeholders could evolve an industry roadmap to drive this sector forward over the coming five to 10 years.

The result is the New Zealand Medical Technologies, A Sector Overview<sup>1</sup> report, completed in January 2009. This report outlines the size and dynamics of this emerging sector, and provides a more complete understanding of the size and economic contribution of this growing sector, the current capabilities and the obstacles to accelerating growth.

The medical technology sector is a very broad sector, representing all devices and associated technologies related to the delivery of human health outcomes, in particular technologies that require registration for use in human health applications, including technologies used to improve the quality of life in the assistive living sub-sector.

#### Report findings

The medical technologies sector is an emerging and diverse sector. It is estimated that there are about 100 entities in this sector – ranging from one established multi-national (representing 64 percent of the analysis), to 66 other small to mid sized revenue generating entities, to start-ups and research organisations.

- Sector outputs have been assessed at \$554m in 2007/2008, and there are approximately 2834 FTEs employed within this sector<sup>2</sup>. Sector outputs are projected to be \$1,477bn in revenues and 6547 FTEs in three to five years.
- Total exports are about \$487m for the same period, which represents 88 percent of total revenue output.
- Output per employee is closer to the high-tech sector, at an average of \$195,440 per employee, than general manufacturing sectors<sup>3</sup> (Statistics NZ 2008).
- This information is based on the 67 revenue generating companies identified in this sector (it does not include the pre-revenue or research only entities identified of which there are approximately 30 companies).
- Total research expenditure was identified at \$56.6m.
- Total contribution (direct, indirect and induced) to New Zealand from this sector is approximately \$1.1bn currently and projected to \$2.95b in three to five years.

This report has not captured data on companies that are in the supply chain to this sector – suppliers of raw materials or components, niche manufacturers, product designers, prototyping services or other service providers. The report authors considered the numbers produced to be conservative as approx 30 percent of the sector was not reviewed for this analysis.

<sup>1</sup> New Zealand Medical Technologies – A Sector Overview by Flicka and AERU Lincoln University, January 2009. Conducted on behalf of the Medical Technologies Special Interest Group, and funded by NZTE and FRST.

<sup>2</sup> New Zealand Medical Technologies – A Sector Overview.

<sup>3</sup> Statistics New Zealand 2008 via New Zealand Medical Technologies – A Sector Overview

The New Zealand domestic healthcare market place is estimated at \$800m and this represents 0.25 percent<sup>4</sup> of the total global market place for healthcare products. As a result of this, New Zealand manufacturers of medical technologies are required to export to achieve any degree of economies of scale and to achieve real growth, they export 88 percent of what they manufacture and tend to export very early.

There are currently no pre-market regulatory requirements within the New Zealand market place, other than a mandatory requirement to self notify the Medsafe WAND database of the product a manufacturer is selling into New Zealand, and the products appropriate risk class. However, to export product to other markets compliance to global regulatory standards is required. There is however an 'informal' regulatory system practiced through the procurement systems into New Zealand District Health Boards (DHBs) whereby only products with a CE, FDA or TGA approval will be accepted into New Zealand hospitals.

From the New Zealand Medical Technologies – A Sector Overview January 2009 – the following **Key Themes and Policy Recommendations** were tabled by the authors:

- International marketing – improving companies understanding of reimbursement policies and processes, improving support for marketing via knowledge/skills and funding, improving clinical insights and engaging earlier in the product development process to ensure 'market appropriateness'.
- Access to capital – improving companies capability in building appropriate business plans when seeking funding, improve networks to funding sources, improve investors awareness of return timeframes and industry specifics for assessment processes.
- Research and development
  - Improving the focus on the development part of this equation. More funding is needed for later stage product development not just initial research or clinical trial stages, improved understanding of the business/marketing end point and funding in applications to support the development of this.
  - Change incentives in research funding applications to ensure commercial relevance, and apply infrastructure to realise commercial outcomes post research. Seek ways to engage DHB's into applied research through their charter and more active engagement.
- Procurement – change the perception of bias against New Zealand technologies - seek ways to engage with policy makers and management within the health space to encourage technology take-up and collaboration, improve understanding of DHB processes.
- Business advice and mentoring – improve access to good quality support and advice particularly via mentoring from those who have 'done it before'. Improve networks across medical technologies sector, including wider catchments such as clinicians, engineers and other stakeholders.
- Regulations – continue education in this critical area.
- Whole of government approach – engage all influencers to ensure appropriate infrastructure to enhance growth of the medical technology sector, ensure sector has a structured 'voice' to liaise with government, explore how regional centres of excellence could assist sector growth.
- Build an industry cluster – other successful medical technology sectors have been based around a cluster – there is the need to build an appropriately connected and supported cluster.

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<sup>4</sup> Epsicom is a Healthcare Intelligence Database

**Other observations noted on the New Zealand Medical Technology sector are:**

- Geographically the sector is spread across New Zealand (from the initial 89 respondents)<sup>5</sup> –

Auckland	45%
Wellington	3%
Christchurch	22%
Dunedin	7%
Other locations	22%

- Medical technology companies in New Zealand tend to be small to medium in size, with one stand-out multinational organisation with approx. 1750 FTEs. This is in keeping with global indicators for companies in this sector – 80 percent of the global medical device industry comprises small companies of less than 50 employees. These small companies are disproportionately responsible for innovation and the early development of novel technologies<sup>6</sup>

**New Zealand company sizing -**

> 50 FTE's	8%
10 - 49 FTE's	32%
< ten FTE's	60%

- It is difficult to assign a single category to some companies because of cross-sector applications of many technologies. What does become obvious is that no individual segment of the industry has a concentrated number of companies<sup>7</sup>.

Industry segments	
Non-specific	18%
Cancer	1%
Cardiovascular	1%
Dental	6%
Diagnostic, including in-vitro diagnostic and monitoring	13%
Imaging	6%
Orthopaedic	4%
Ophthalmology	4%
Respiratory	4%
Surgical, healthcare supplies and instruments including Sterilization equipment	16%
Self-management	18%
Wound care	2%
All other	6%

<sup>5</sup> Medical Technologies Overview - Chapter 1, Page 31.

<sup>6</sup> Investment New Zealand Medical Technologies report – Deloitte, April 07.

<sup>7</sup> Medical Technologies Overview - Chapter 1, Page 32.

- Imaging and diagnostics are important sub-sectors in which there is significant representation within the research entities within New Zealand.
- Whilst respiratory represented only 4 percent of companies – this sector contains the one multinational, Fisher & Paykel Healthcare.
- New Zealand has eight universities, two medical schools (across four sites) and nine Crown Research Institutions (CRIs). Only one CRI has a dedicated stream of research into medical technologies. There are also three independent research centres with a focus in medical technologies<sup>8</sup>.
- New Zealand is globally recognised as being a home of great science and quality medicine, with a strong educated workforce.
- Several other regions have been identified as having long and successful histories in medical technologies – Massachusetts, California, Sweden and Switzerland<sup>9</sup>. The greatest success factor in all of these countries/regions was the ability to create strong clusters – building strong local networks around medical schools, universities, hospitals and/or clinical research capabilities. Developing local and global networks to enhance this, ensuring collaboration between industry and academia.
- In particular the Focus Steering Group in Sweden<sup>10</sup>, has built a framework that is of great interest to the New Zealand Medical Technologies Special Interest Group Steering Committee. There, a successful sector is based on a support for innovation, strengthening of capital supply and simplifying market access.
- Based on the international models explored, the proposed measures (by the Special Interest Group committee) to improve the New Zealand medical technology industry would be:
  - Improved use of New Zealand healthcare as a showcase for New Zealand medical technology solutions
  - Strengthen competence in international reimbursement processes
  - Create platforms for collaboration between healthcare, research and industry to support innovation and commercialisation.
  - Strengthen management competence and experience in international marketing and sales
  - Secure the availability of seed financing.
- The report authors noted the importance of convergence to creating truly disruptive technologies.
- The authors also recommended that as the New Zealand Medical Technologies Special Interest Group moves forward and develop the roadmap for the sector that it should consider the experiences and initiatives that have been evolved in other emerging medical technology countries and regions – such as Sweden and Israel<sup>11</sup>.

For more information on this report or the New Zealand Medical Technologies sector, please contact Rachael McGuckian at NZTE via [rachael.mcguckian@nzte.govt.nz](mailto:rachael.mcguckian@nzte.govt.nz) or 09 354 9082.

<sup>8</sup> Medical Technologies Overview – Chapter 1, Page 35.

<sup>9</sup> Medical Technologies Overview – Chapter 6, Page 76.

<sup>10</sup> Medical Technologies Overview -Chapter 6, Page 76.

<sup>11</sup> Medical Technology Overview – Chapter 6, Page 81.