

# **Request for Expressions of Interest – Provision of CNC (computer numerically controlled) technology training for the engineering and manufacturing sectors**

## **Executive Summary**

Expressions of Interest (EOI) are sought from those capable of providing all or part of a world class CNC technology training solution and with the desire to be a strategic partner of a CNC Centre of Excellence.

This initiative is industry led. Initial research has indicated a significant opportunity for those capable of delivering world class CNC technology training. Current training needs are predominantly being met through equipment suppliers and in-house training. However, this training is often delivered due to a lack of a suitable external alternative. In addition, there is strong evidence to suggest that there are significant unmet training needs, needs which are driven by the desire to gain competitive advantage from the utilisation of cutting edge technologies.

A tender process will follow this EOI. Among other requirements outlined in this document, successful parties must have strong ties to industry and demonstrate an understanding of the industry needs in their region. A collaborative approach is expected. Innovative ideas on delivery are encouraged to meet the needs of industry.

## **Introduction**

This EOI represents an exciting opportunity for those with the capability to deliver part or all of a world class CNC technology training solution.

The document is laid out in the following way:

- Section one provides the background to the Centre of Excellence (CoE) concept, outlines the research that supports the opportunity and provides some detail on early thinking
- Section two establishes the criteria that the review panel will be considering in assessing EOIs
- Section three outlines the type of information that we need from you and format that your EOI should take
- Section four outlines the process and the deadlines for the process
- Section five outlines who to contact regarding any aspect of this EOI and submission details

## 1. Background

On 3 December 2007, a scoping study was completed to explore the potential for a New Zealand CNC Centre of Excellence and to outline a way forward. The CoE founding principles were outlined in a charter prepared by the Competenz<sup>1</sup> Precision Engineering Strategic Advisory Group:

“The Centre is to be:

- Owned and driven by industry – in partnership with the tertiary sector (public and private)
- Managed as a business with a strong communication function
- Cross industry focus
- A national resource
- A collaborative model of provision with national and international providers including public and private sector organisations
- Aspiring towards leading edge, international standard of training/technology
- Connections to training and education at all levels from certificate to postgraduate and executive training
- Open access to training and applied research outputs
- A forum for exposing to new ideas, technologies and market information”

Following the recommendations of the 2007 scoping study the CNC Centre of Excellence Working Party<sup>2</sup> (the working party) was established to progress the CoE. Initial thoughts were that the CoE needed (as a starting list only):

- A strong and appropriate governance structure
- International linkages
- Key New Zealand delivery locations
- A broad range of training including CAD/CAM software, controls, cutting techniques etc.

Additional research was undertaken in early 2009, supported by the New Zealand Manufacturers and Exporters Association (MEA), to ascertain the extent of demand for a CoE. This involved an electronic survey to employers and a telephone survey with machinery suppliers. The survey focussed on users of CNC Mills, Lathes and multi-task machines and aimed to discover how much training was being delivered to operators and the sources of this training, with a view to using this information to determine demand among this group for a CNC CoE in New Zealand.

The survey highlights the large amount of training given to CNC operators directly by the private sector i.e. an average of 27 hours training being delivered to each operator per year. By combining the numbers from the employers survey and the suppliers survey this represents a potential training market size of approximately 170,000 hours per annum across all CNC machine operators in this group (refer appendix). We anticipate that 10% of this a reasonable target for the CoE i.e. 17,000 training hours.

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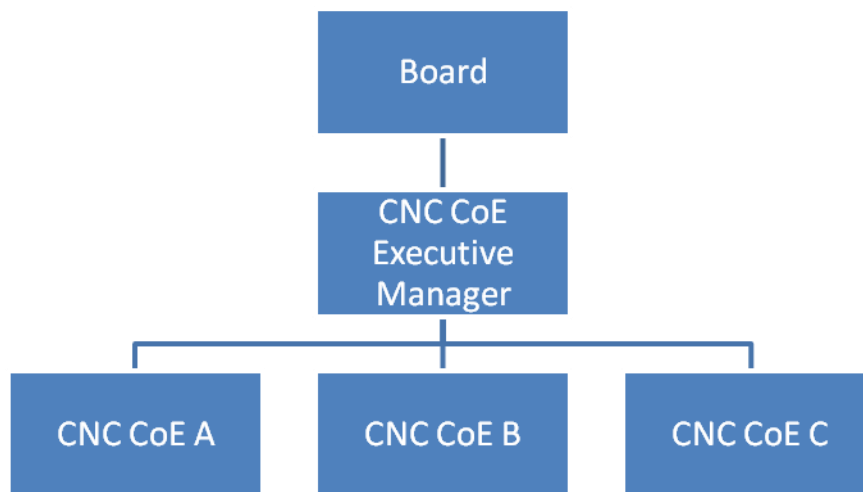
<sup>1</sup> Competenz is the New Zealand Engineering, Food and Manufacturing Industry Training Organisation (ITO). Competenz arranges, assesses and moderates training, and provides access to government training subsidies in the CNC industry among others. Competenz also develops industry qualifications.

<sup>2</sup> The working party includes representatives from Competenz, MEA, HERA and Industry Practitioners.

The over riding view from those interviewed is that training onsite ties up valuable resources and has a negative impact on productivity. The quality of the training is also constrained by what any one firm knows and understands. However, employers continue to train onsite due to the lack of a suitable alternative.

There is a trend in the marketplace for users of CNC machines to increase the complexity of the machinery they use in order to remain competitive, this trend causes a problem in recruiting competent operators, with most companies needing to train new recruits before they can operate high end machines. In short a greater pool of highly skilled operators is a desirable outcome.

Current thinking around the structure of a CoE is depicted below however other thoughts on structure are encouraged. One possibility is that training providers could be linked through to a central office with activity coordinated and knowledge shared across the network:



In addition to the opportunity presented by an alternative to on-site training there are further opportunities to connect in some way with other stakeholders that have strong interests in CNC. For example, 241 graduates from the engineering schools of Auckland, Massey and Canterbury universities are expected to graduate from related disciplines this year. Approximately 50 people complete a precision engineering trade certificate each year. A significant number of senior managers have also expressed an interest in accessing a CNC training centre, particularly in the area of software advancements. Some respondents also indicated a desire to have an R & D element to the centre.

## **2. Assessment Criteria**

The company survey indicated for a CNC CoE to be successful it is important that it meets the needs of industry. Courses must be relevant to their particular needs i.e. fill training gaps with up-to-date equipment, software and techniques and must deliver improved performance and productivity. It is also noted that companies might require some company specific training that takes into account the specific nature of their work.

With this in mind, some of the criteria the working party will be assessing the EOI against are:

- Demonstration that industry needs are understood
- Establishment of an ongoing consultation mechanism
- Proof of business acumen, commercial awareness and sustainability
- Demonstration of breadth in training capability i.e. machinery, software, operations, etc.
- Strong linkages with tertiary sector
- Willingness to collaborate and be part of a centrally coordinated organisation
- Ability to manage the commercial sensitivities of public/private partnerships (if applicable)
- Solid existing knowledge base
- Access to international standard of training expertise (recognised by industry)
- Ability to inform the industry on state-of-the-art and/or emerging CNC technologies
- Ability to engage international experts
- Access to leading machinery and tooling technologies and software
- A cost-effective and flexible delivery process
- A training location(s)
- Quality of key people involved

This is not a complete list. The working party may use any other criteria, and place any weight on the criteria during its EOI evaluation process. It should also be stressed that at this stage the working party would like the applicant to include in their EOI any other information about their current capability or future capability that they believe will be required to best meet the needs of industry.

Given the above, the applicant should identify any gaps in their capability and outline how they propose filling in the gaps.

The working party is under no obligation to any party, and reserves the right to invite none, or any, of those interested to tender. The working party is under no obligation to discuss the merits of any proposal or why any proposal is accepted or rejected.

## **3. Format and content of your EOI**

Your EOI document needs to be brief but must ensure there is enough detail for the working party to understand;

- the types of courses being offered
- the proposed frequency and duration of courses
- what auxiliary services could be provided
- all parties involved in the proposal, and their relationships within this arrangement

The EOI is likely to be no longer than 8 pages laid out in the following way:

1. Executive Summary
2. Contact details
3. Capability Statement
4. Services provided
5. Partners
6. Disclosure of conflicts
7. Other relevant factors

#### **4. Process and Timeline**

The following timetable will be adhered to:

Request for EOI advertised and sent out	20 May 2009
Deadline for EOI submission – 1pm	10 July 2009
Feedback to all parties	24 July 2009
Invitations to tender sent out	7 Aug 2009
Required feedback to tenderers	21 Aug 2009
Deadline for tenders – 1pm	4 Sept 2009
Additional discussions with tenderers	18 Sept 2009
Winning tenderers contacted	2 Oct 2009

#### **5. Contact Details**

C/o The Chairperson  
CNC Centre of Excellence Working Group  
Competenz  
P O Box 9005,  
Newmarket 1149  
Auckland  
New Zealand  
Email: p.herbert@competenz.co.nz

Please send Expressions of Interest in electronic AND written form no later than 1pm, 10 July, 2009 to the above.

## Appendix

### ***SURVEY RESULTS***

#### **MACHINES & OPERATORS**

	2 Axis	3 Axis	4 Axis	5 Axis
Number of machines	56	100	43	25
Staff who can operate	236	208	94	43

#### **CURRENT TRAINING SOURCES<sup>3</sup>**

Source	Hours
Machine tool vendors	608
Polytechnic	952
In-House	14170
<b>Total</b>	<b>15730</b>

### ***EXTRAPOLATION***

#### **HOURS TRAINING IN-HOUSE BY NZQA LEVELS<sup>4</sup>**

	Survey Data- 224 machines			Total Market – 2750 machines	
	Proportion	People	Hours	People	Hours
Total		581	14170	7133	173962
NZQA Level 2	27%	155	3785	1905	46473
NZQA Level 3	18%	104	2538	1278	31160
NZQA Level 4	27%	155	3771	1898	46295
NZQA Level 5	14%	78	1914	964	23504
NZQA Level 5+	15%	89	2161	1088	26531

Number of Machines in total market = 2750, number in survey 224, therefore multiplier of 12.3 used to extrapolate market training hours

<sup>3</sup> Survey respondents identified that they expect this total to increase by 10% over the next 5 years.

<sup>4</sup> See <http://www.nzqa.govt.nz/framework/levels.html> for definition of level descriptors.