



Dr. Stephen Cassidy,
Dean of Academic Quality Enhancement,
CIT

13-June-2013

Engineering Programmatic Review

Dear Stephen,

Having reviewed the report issued recently by the Engineering Programmatic Review Panel, I believe that it is appropriate to place on record at Academic Council the Faculty's initial response to this report. Please find attached a copy of same. I request that this document be issued for consideration at the meeting of the Academic Council of 14-June-2013.

Regards,

A handwritten signature in blue ink that reads 'Michael Loftus'.

Michael Loftus
Head of Faculty of Engineering & Science

**Feedback re: accuracy of
Phase I Programmatic Review Report for Schools of Engineering, CIT
5-June-2013**

The work of the programmatic review panel is greatly appreciated. The comprehensive report issued by the panel contains many insightful and useful recommendations.

As is the norm, the Faculty has been given the opportunity to check the report for factual accuracy. In this context, feedback from the Faculty is provided below and on following pages. Each comment is related to a referenced section of the report, highlighted in bold and underlined. In each case, the referenced comment is highlighted in bold and italics. Faculty feedback is provided in following paragraphs in blue font.

REF: EXECUTIVE SUMMARY

We perceived an "Institute level" drive to increase student numbers in order to maximise Central Government income. Equally, there were significant efforts being made to reduce costs and improve efficiencies. These are naturally responses we would support. However, increasing the volume of education may represent a risk to the quality of education delivered.

While this observation is partly true, the strategy proposed by the Schools includes the following measures and outcomes, all associated with the aim of attracting non-exchequer funding:

1. **Rapidly deploy online programme delivery (eCIT) in relevant areas of both Schools to achieve the following:**
 - a. Increase uptake of selected level 9 MEng and MSc (and Postgrad Diploma) programmes
 - b.
 - c. Increase uptake of "special purpose award" programmes, designed specifically for online delivery to specific target audiences
 - d.
2. **Re-position craft education based on outcomes of national review of apprentice education**
 - a.
 - b.
 - c. Seek opportunities presented by smart metering, renewable energy, ocean energy and other green technologies
 - d. Offer training and re-training courses for craftpersons, operators and maintenance personnel
3. **Exploit "whole of Institute" capability**
 - a.
 - b. Seek to increase research activity with the Irish Maritime Energy Research Cluster
 - c. Leverage eCIT to develop new programmes and delivery models for Ocean Engineering, Management and similar areas.

The outcomes to be achieved from this strategy will be as follows:

1.
2.
3.
4. 500 FTE online engineering students by 2018;
5.
6. 500 international engineering students by 2018; and
7.

In addition, the Schools of Engineering have had more students enrolled in the past. The current drive is as much about recovering reductions in student numbers as increasing student numbers. In this context, the quality vs quantity argument is not as central as it might seem on first analysis.

REF SECTION 1.1

The Institute is facing very challenging times, through no fault of its own, with the downturn in the Irish economy leading to a dramatic reduction in the need for the Institute's educational activities, especially in the construction related disciplines.

Whilst it is true that the downturn in the construction related disciplines has reduced demand for specific programmes, there remains a need for the Institute's educational activities in this space, albeit at a lower demand level in the near future.

REF SECTION 2.2

- ***Appear to have different inputs regarding abilities of student intake as UCC and universities but trying for same outputs***
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- ***Apparent lack of customer review in planning new courses***
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- CIT delivers programmes within an Outcomes Based Model consistent with National and International Norms; the statement made in relation to abilities of student intake/outputs is not consistent with this model and practice.
- CIT focuses on niche research and producing "industry ready" graduates at the levels required by industry. Its track record in this regard is very strong and, on a number of fronts, its achievements exceed those of the traditional university sector. The reference to UCC in isolation is puzzling.
- Industry review of new courses is a mandatory requirement in CIT

REF SECTION 2.3

- ***Overlaps with UCC in certain courses etc. giving opportunity to CIT to develop / leverage off UCC skill-sets***
- This statement does not fully reflect CIT's significant strengths and does not reflect the on-going work between the two institutions where the diverse and complementary strengths of both institutions are applied to a range of collaborative developments. The two-way relationship that exists between CIT and UCC is considered to be the national exemplar of how an Institute of Technology and traditional university should collaborate. CIT exploits UCC expertise and vice versa. The comment above seems to suggest that the panel considers that more of a one-way relationship should be developed.

REF SECTION 2.4

- ***Student perception that engineering degrees from UCC are better than CIT (E.g. when UCC re-named its food science course as process/chemical CIT students numbers on its chemical engineering course dropped appreciably)***
- ***Not certain how CIT would differentiate its teaching (at graduate and post-graduate level) and research offerings from competitors, especially UCC***
- ***Opportunity for UCC to 'take over' certain courses due to overlap***
- ***E-learning - competition from leading institutions on a world-wide basis; not clear how CIT has thought about differentiating its e-learning offerings***

- **Government ‘not convinced’ technological university aspiration was justified / affordable and instructing CIT to revert to its original service offerings**
- **Risk that if CIT moves ‘upmarket’ it may lose its skills relating to the training of technicians etc. – i.e. may neglect its core market**

The range of “threats” listed above appear to be based very strongly on the traditional university view of Irish higher education. Also, there appears to be a very strong focus on CIT’s relationship with UCC, leading to repetition of a number of points. The observation re: student perception appears to have been generalised based on a single situation. The reality is that UCC’s engineering areas are facing a very similar array of challenges to those faced by engineering in CIT and that our strategic development is as much a threat to them as theirs is to us. Re: differentiation of teaching, CIT’s model of delivery (small class sizes, lecturers with industry experience, mandatory reviews by industry) is very different to that which is operated in UCC. Re: eLearning, CIT’s offerings to date have been differentiated through the adoption of a co-design and co-delivery philosophy with industry and the development of a state-of-the-art virtual laboratory environment. It is planned to continue with this approach. The view that CIT’s core market is the training of technicians no longer applies – in the School of Building & Civil Engineering, for example, over 60% of the student population is currently registered on programmes at Levels 8 and 9. CIT graduates occupy many of the highest management roles in industry in Ireland and many run their own businesses. CIT graduates have been received a much higher level of recognition at European and national engineering awards events than have those from many traditional universities – this fact appears to be under-recognised in the report.

REF SECTION 3.1

The driving factor of CIT is defined as what society and industry needs. However, the prime response of the presented strategic plan is to maximize number of students in order to get more public funding. Increasing the volume of education may put a risk on the quality of education. The Institute should include in the strategic objectives also criteria measuring the quality of CIT education. This should be over and above professional association accreditation criteria.

The point re: targeting public funding only is addressed earlier in this document.

REF SECTION 3.3

There are concerns about declining numbers in Engineering in general, and building related courses in particular, but there is little time or effort expended to promote such programmes in school visits.

The Faculty has invested in the development of a significant range of YouTube videos which have been widely used by students online and during school visit programmes. The Schools of Engineering also run Engineers Week and the Mechanical Engineering Exhibition, participate fully in open days and careers guidance counsellors’ information days, and also support or directly participate in school visits.

It was also clear that neither staff nor students had been engaged or consulted in developing the Schools’ response to CIT’s strategy. The documents are now available for staff to read but the process runs the risk of staff not buying into the eventual Development Plan, possibly alienating staff members (voiced in particular by some Technical and Administration staff who felt marginalised by the process).

The Schools' response to CIT's strategy cannot be developed until such time as the national higher education landscape is clarified. As news of developments in this regard were expected shortly after this review, widespread engagement with staff was not undertaken in order to avoid the requirement to undertake two extensive staff consultation exercises in rapid succession, one before the landscape clarification and one afterwards.

REF SECTION 3.5

The research culture within the Schools reviewed may be described as developing with a small number of registered research postgraduate students in both schools reviewed. Based on a CIT core competencies analysis, the Faculty should prioritise a small number of strategic areas for development and seek to develop critical mass in these areas.

CIT generates research income of approx.. €13M per annum. 95%+ of this income is generated in the Faculty of Engineering & Science, with an equal division of income between engineering and science areas. Research efforts are structured around the Institute's research strategy which identifies embedded systems, energy/environment, photonics and bio-explore as the core areas for cluster and critical mass development. Therefore, it is the view of the Faculty that the above recommendation has already been implemented.

REF SECTION 3.6

On-line delivery purports to offer an educational programme to a world audience, which is not entirely consistent with the stated mission of CIT, which is primarily to support the local industrial community.

From a CIT perspective, online delivery has the potential to reach an international audience but, based on current CIT experience, provides a larger opportunity to access new markets within Ireland and to generate revenues not associated with central Government funding. To date, it has generated fee levels in excess of what CIT can earn from central sources and attracted part-time students, a large proportion of whom work in industry in the local region and beyond. In the longer term, on-line delivery will be very significant as CIT attempts to realise its ambitions "To be the benchmark institute for *career focused education* in Ireland and hopefully in Europe".

REF SECTION 3.11

However, we believe the Institute should also explore the international market for its programmes and training in a coherent and structured way. Building on the expertise and reputation of CIT, along with developing on-line delivery skills, the Institute could well find appropriate markets in countries unaffected by the Eurozone crisis, especially in the Middle East.

The Faculty has led initiatives in India, China, the Middle East and South America. In addition, the Faculty has led the development of CIT's internationalisation strategy and new, non-EU International Office. The goal that underlies the investment of this effort is to achieve what the panel has recommended.

REF SECTION 4.3

It was also clear that neither staff nor students had been engaged or consulted in developing the Schools' response to CIT's strategy.

Commented upon above.