

<b>ATHLONE INSTITUTE OF TECHNOLOGY</b>	
<b>Report of Panel of Assessors undertaking the Programmatic Review</b>	
<b>Provider</b>	<b>ATHLONE INSTITUTE OF TECHNOLOGY</b>
<b>School</b>	Engineering
<b>Date</b>	Thursday, 07 May, Friday, 08 May 2015
<b>Venue</b>	Boardroom, Athlone Institute of Technology
<b>Report version</b>	<i>Final report 01 September 2015</i>
<b>PANEL MEMBERS</b>	
Professor Michael P. Ryan, Professor Emeritus of Pharmacology UCD, UCD Conway Institute of Biomolecular and Biomedical Research, University College Dublin.	
Mr Terry Twomey, Vice-President for Academic Affairs and Registrar, Limerick Institute of Technology	
Professor S.J. Culley, Head of Design & Manufacturing Group, Department of Mechanical Engineering Faculty of Engineering and Design, University of Bath, U.K.	
Dr Ronan Farrell, Senior Lecturer, Electronic Engineering, National University of Ireland, Maynooth, Co. Kildare	
Ms Fiona Cranley, Head of School of Mechanical Engineering, Institute of Technology Tallaght, Dublin 24.	
Mr John Madden, former Student Union President, Athlone Institute of Technology	
Dr Joseph Ryan (Secretary), Academic Registrar, Athlone Institute of Technology	
<b>Meeting Record</b>	
<b>INTRODUCTION</b>	
The chair and panel met initially on the eve of the review for a preliminary discussion. Documentation had been supplied in advance to the members.	
<b>DAY 1 Thursday, 07 May 2015</b>	
<b>9.00 - 9.30</b>	<b>Private Meeting of Panel</b>
<p>The chair and panel convened in the boardroom of the institute at 09.00hrs on Thursday, 07 May 2015. Prof Michael Ryan invited introductions from the panel.</p> <p>The chair asks about the focus of the process including the themes for the review. The role of Trades and the ambition to be a Technological University were added as considerations. The shift toward unit costing was also mentioned as was the value of engineering to the institution. The panel was also mindful of professional accreditation and servicing the requirements of Engineers Ireland.</p> <p>While the panel welcomed the documentation provided, an initial reaction was the sense that it had identified the problems but was weaker on providing proposals to address these.</p> <p>The chair referred to the main themes that had been identified by the school in its self-evaluation documentation:</p>	

\* Retention

\* Assessment

\* Student engagement

\* Failure/non progression rates

It was noted that progression in the school was challenged. The panel also considered the scale and role of Trades within the school. The panel was struck by the proportion of staff within the school that are devoted to a dwindling Trades area. The panel also explored in this initial discussion the strategic value the engineering school contributes to the institute and what are the distinctive features of engineering in AIT.

**9.30 - 10.45**

**Meeting with management team of School to include brief presentation on strategy, context, landscape, and outcomes from previous reviews including Programmatic Review 2010 and Institutional Review 2011**

*In attendance:*

Prof Ciaran O’Cathain, Dr Austin Hanley, Mr Joe Lawless, Dr Marcus Rahilly, Mr Alan Duffy

The chair welcomes the president of the institute and the head of school (HoS) and the management of the school of engineering. Following introductions the chair referred to the remit of the evaluation panel and invited the president to address the meeting. Prof O Catháin provided a brief introduction to the recent launch of the strategic plan. His major concerns were how we maintain quality given the financial pressures. He referenced the unsustainable model imposed by the current contractual arrangements visited upon staff. He praised the resilience of staff in their response to the strictures of the FEMPI legislation (Financial Emergency Measures in the Public Interest Act 2009). The president also cited the monies expended on putting in place a state-of-the-art engineering building.

The chair asked about the role of the Engineering School (ES) in support of the institute strategy. The president replied that the international focus and the research agenda which brings in additional finances are important contributions and make the school as critical element of the institute. The chair asked about the new engineering building and the new funding model. The response from the president referenced the changing HEA funding model approach and the weighting afforded engineering students. He referred additionally to the current Cassells Expert Group review of funding and indications of where this is moving and the effect upon HE sustainability.

The discussion moved to the role of alumni, to the incentives that are offered the school for initiatives taken, and to programmes that might prove more attractive to female students.

Following the departure of the president, the academic registrar, Dr Ryan, provided the panel with a contextual presentation.

The head of school (HoS), Dr Hanley, followed on with an introduction to the profile of the engineering school. This included an account of the student and staff numbers in the school, currently 1,176 and 95 respectively. The Springboard labour activation now constitutes about 50% of the Civil intake. Mr Twomey asks about the very low proportion of female students (< 10%) in the school. The sentiment of students is seen to be volatile, according to the HoS. He also states that this is not untypical of the ratio in other engineering schools.

The presentation referred the recommendations and the responses from the school to the 2010 PR. Reference was made to programmes delivered through blended learning with an element of online delivery. The main developments since 2010 featured the programmes created and some that were ceased in the period. 11 programmes are accredited at some level by Engineers Ireland. The quality process leading into this programmatic review was proposed by the HoS as thorough and it provided significant benefit to the school. The HoS then set out the manner in which the themes that informed the school's approach to PR were linked to the institute strategic plan.

The final two slides of the presentation from the HoS focused on the proposals for the coming years including support to contribute to meeting the TU criteria.

The HoS referred to the recommendations from the last programmatic review in 2010. Only one recommendation was not implemented and that was a conscious decision of the school.

The chair asks for the school of engineering strategy; the chair had not seen this in the documentation.

The panel then turned to programme development. A suite of 481 modules seems a lot as does hosting 43 distinct programmes. What is the process for the creation of a new programme, asks the chair, and how might that employ existing modules. In reply, it was stated that many programmes are special purpose awards (SPAs) with limited modules. The portfolio appears bigger than it is in practice, says the HoS.

The panel queries the percentage of modules delivered online and can school cope with a possible unwinding of the additional hours delivered under Haddington Road. The HoS states that the flexible delivery is wider than might appear in the documentation and this offers some protection in the event of changing circumstances.

The discussion turned towards the project-based approach and how this was informed by the Albourg model (Principles of Problem and Project Based Learning) was referenced by the HoS. The chair asked if this was factored into the design of the building; the response was that building design predated the arrival of most of the current management team and the engagement with PBL. However, they can adapt the space for those elements that embrace this approach. Small group learning was proposed by the chair as having advantage in support of retention.

The session concluded at 11.00 hrs.

<b>11.30 - 13.00</b>	<b>Meeting with representative staff from the School to be supported by Research, Support Services, Learning &amp; Teaching, and Library</b>
<i>In attendance:</i>	Austin Hanley, Joe Lawless, Marcus Rahilly, Alan Duffy, Lorna Walsh, Paul Killeen, John (Phd Research), Sarah La Cumbre, Bernie Langtry, James Kennedy, Geraldine McDermott, Nuala Harding, Anthony Cunningham, Michael Nugent, Robert Stewart, Paul Archbold, Enda Fallon, Tony Commins, Ken Corless, Dennis McCarthy, Ronan Dunbar, Cyril Morris
<p>The chair introduced the panel and invited the attendees to reciprocate and to set out briefly the role of the contributors including the various units in working with and supporting the work of the ES.</p> <p>The criteria for time release for research was explored by the chair with Mr Paul Killeen, head of research, enterprise, and innovation. It was explained as a supportive scheme with an allowance of up to six hours.</p> <p>The discussion address the number of postdoctoral students associated with the engineering school and the relationship between final year projects and postgraduate research. The panel encouraged a doubling of students engaged in research.</p> <p>The chair asks about other incentives for research apart from the 6 hours buy-out release scheme. Mr Killeen says both the institute and school are strongly supportive of research engagement. Mr Anthony Cunningham, COMAND Technology Gateway Manager, talked about the spin-out potential and provides an example. This work is strongly supported in turn by Enterprise Ireland (EI).</p> <p>The role of research as a factor in promotion or career advancement was another matter afforded attention in this session as was the balance between research and teaching given the heavy load in respect of the latter within this system. These matters were discussed in the context of the achievement of TU status.</p> <p>The chair asks about the research equipment available to the ES. Dr Kennedy gave the panel information around actual equipment and number of projects facilitated through the CISD.</p> <p>The discussion turned to learner support. Ms Sarah La Cumbre, Student Resources manager, speaks to her own unit's support for the ES with particular emphasis on maths and IT support. She states that the AIT student socio-economic profile is distinct; over half of AIT's students are grant-assisted. Thus supports are essential. However, her experience is that engineering students are not engaging with the supports as do other students; this may be a factor of physical distance. There is, however, a strong take-up for maths supports either individually or in class sessions. The clients are predominantly engineering</p>	

students and mainly first years. It was queried whether there has been an analysis of the benefits of the maths supports; it was deemed advisable to undertake this work. While this is not a formal recommendation of the panel, the school management is advised that there would be benefit in undertaking an analysis of the effect of supports provided for students including maths support. Dr Enda Fallon speaks on the excellence of the service from his perception; in his view the support prevents a number of students from failing. This led to a discussion on the link between maths capacity and retention.

Ms La Cumbre proceeds to provide an introduction to the PASS (Peer Assisted Student Support) system and the advantages of same. It works on a buddy system is the response provided in response to a question from the chair.

Mr Terry Twomey, referring to the gender imbalance in the school, queries what is being done to attract females to a study of engineering. One response is that the school is not dissimilar in its 10:1 ratio than other such schools in this state.

The chair invites input from the L&T unit. This is provided by Ms Nuala Harding. She says that the unit operates a secondment model that is reorganized on an annual basis. This means there is risk involved. Currently there are two engineers involved. Evidence coming through from the ISSE (the national Irish Survey of Student Engagement) is strongly supportive of the advances in pedagogical approaches which is valued and especially by mature students.

The chair asks about the excellent ISSE take up and also if there are awards for teachers. The L&T unit attests the strength of the ISSE data and feels that this complements the informal feedback mechanism. There is less support for an internal award system as the unit seeks to win broad support and increasing engagement and fears that an internal award system might prove divisive; however, the National Forum for the Enhancement of Teaching and Learning has instigated the national scheme and two AIT lecturers were recognized in the first round in 2014. The chair notes the response but advocates for the value of internal awards.

The panel wonders whether more advanced students might be used as maths tutors. The chair also wonders if the institute VLE, Moodle, is used universally. It is heading that way according to Ms Geraldine McDermott. Moodle use is both advanced and being increasingly embraced and is now employed by a majority of staff.

The panel queried the incentives for staff to engage in changing practice. Staff are funded by staff development but there is no incentive in terms of time and that is an issue, says Ms Harding. All assessments are authentic and are linked to practice. Staff develop modules on Moodle.

The discussion turned to the attrition figures for each programme and the question of input metrics and responsibility for student recruitment.

Mr Twomey talks of the young entrant, the majority who may not fully know what they wish to do. National advice is toward more common entry to support such students. Does the school allow some flexibility? The subsequent discussion agreed that more commonality was desirable and is being embraced elsewhere in the institute. Prof Culley on a point of clarification asked have incoming students visited the institute previously. It was a case of managing expectations. How was the school providing information for prospective students? Might there be greater focus on the pre-admission phase for students? They were to enter a school with class contact 24 to 26 hours which is regarded as high by Prof Culley.

The chair asks about 3<sup>rd</sup> and 4<sup>th</sup> year students as ambassadors; are they employed in this manner? This system is in place and there are videos prepared by such as Polymer students.

Mr Joe Lawless, head of department, talks of mental health support and praises the role of Student Resources. In addition, the assigned librarian for workshops is a role praised by staff.

In summation, the want of a school strategy and tracking for retention strategy were matters that had emerged strongly. Student recruitment and a retention officer were also mentioned by the chair. This matter emerges as an element within Recommendation 4 of this report.

The fall in the Trades numbers was mentioned by Mr Lawless. This led to a brief discussion on the new apprenticeship model and whether Trades continues to fit in with the vision for an engineering school as part of Technological University. The school says it remains committed to the support of Trades. The panel quizzes whether there is an allied danger that this might send out a confused message to prospective students.

As the session drew to a close, the chair invited reflection on the major themes that had emerged. Dr Farrell returned to the question of brand: what might engineering in AIT be best known for? The HoS references Polymer and more recently Software. He also notes the strong contact with industry. However he noted the demographic limitations in this regard.

The chair also noted that there is a need for a clear strategic statement from the school that brings all of its ambition together.

Dr Farrell reflected on the school brand. What distinguishes engineering in Athlone? The HoS mentioned Polymer and niche growth such as areas in software. More contact with the mechanical side on the industry side. Mr Lawless identified the connection to industry as the main strength. The panel queried whether we see the same mix of programmes in five years' time? The HoS argues that engineering will continue as a "mixed farm".

The panel asks, would you continue to support construction or civil if numbers stay low for another 5 years? And where do the Trades fit into the school plan? Mr Lawless sees strong advantage in maintaining the existing specializations in the institute. The head of

department (HoD) doesn't see the Trades as a millstone around the neck of the school; it is not considered a draw on resources. However, the panel states that this importance is not reflected in the school documentation.

On the question of the future of Trades, the panel queries if there is the danger of the school looking in two different directions while seeking TU status. Dr Hanley says he is as enthusiastic about Trades as research. Three Trades remain in the school which has moved out of the wet Trades. The panel feels that if that is the commitment of the school, it needs to rebrand the Trades and integrate them into the offering. The advice provided was to rebrand the area and focus on craft and skills.

Dr Hanley stated that the school is leading in industrial links and in teaching advances. But the chair would welcome the articulation of a strategic vision for the school. The 43 programmes currently lack a sense of a coherent selling point. The HoS talks of the four central themes which elicits the response from Prof Culley that that might be communicated better.

The panel voices concern that there was a risk of fatigue for management and staff in maintaining such a diverse portfolio.

The session concluded at 13.00 hrs with the gratitude of the chair to all who had contributed.

#### **14.00 - 15.00**

#### **Meeting with Students**

##### *In attendance:*

Keith Quinn, Brian Lennon, Martin Singh, Brendan McDonnell, Martin Nolan, Patrick Doran, Andrew Healy, Gabriel Goettemdelima, Paul James, Timothee Wibault, Baptista Genauzeau.

The chair welcomed the representative students and invited each student to provide the panel with a brief introduction.

The general feedback was that study in AIT was a rewarding experience. The students stated that they found the contact hours very heavy.

The panel explored with the reason for the high dropout rate. Course duration is a factor mentioned by one student; the undergraduate civil engineering programme was five years; this was seen to be too long. Other voices said that the entry level is quite low and this wouldn't be the first choice for some candidates and thus they are not committed. Some students, one says, harbour misunderstandings about what the course entails. There are incorrect perceptions. It was clear from the responses that students know where to find assistance.

The students spoke of their interaction with researchers and whether they might consider a research path. One student suggested that the HoD should come and talk with final year students; it would assist in clarifying options. There are some examples of PhD students lecturing the undergraduates. Science, it was said, sponsor this but not engineering; the

students envy that system. Students would welcome better interaction with postgraduates.

Interaction with industry is part of the experience of some students. There seems to be limited example of visits from industry; this would assist in retention, and the students would welcome more talks from engineers.

Attention was devoted to the opportunity for placement. The students stated that there is little structured support for placement but the experience is an eye-opener. Some students don't achieve a placement; it was stated that working on an internal project was not a satisfactory replacement. Furthermore, there is no placement if one is following the ladder system. The civil programme has a placement and, if not obtained, a project is put in place. Most placements are unpaid and if they are located in the summer it deprives the student of an earning opportunity.

On the positive side, students reported that there are clear outcomes that are required from the placement and a daily log is maintained and there is good communication between the supervisor and the placement host.

Why choose Athlone, asks Dr Farrell. Cost was mentioned as a factor. The central location was seen as an advantage. One international student spoke of the partnership with his home institution in Nantes.

When quizzed, the students had limited knowledge of online learning. Moodle, some said, is used for notes and assignments, but they didn't engage in online learning. Some examples of more advanced Moodle use cited; one such example was stated as helpful in respect of maths.

The students spoke highly of their lecturers and reported that the system was fair to them but they appeared unclear about their options at the end of an undergraduate course.

With respect to workload, the students felt there was no let-up in final year; they made a plea for assimilation time. Their complaints were around disproportionate weighting and workload attaching to projects and elements not relating to the reward. They would like to see project work concluded well in advance of the terminal examinations.

Prof Culley noted the strong endorsement from students about their course and support but wondered how this sits with a high dropout rate. The students' response was around information and expectation; there is uncertainty when one comes direct from school. Interestingly, the consensus was that the challenge is not in the difficulty of the subject but in the workload volume.

Concerning feedback, there was limited evidence from the session of broader awareness of the class representative system and the management of programme boards but students were satisfied that the approachability of lecturers meant that communication channels were available.



One contribution at the meeting was made by a PhD student from Brazil. He reported himself as enjoying the experience. He works well with the companies and finds this a good experience. There are some structured modules which are prerequisites. He is here for four years under the Science Without Borders scheme (this programme is a joint effort of both the Brazilian Ministry of Education (MEC) and the Ministry of Science and Technology (MCT) through their respective funding agencies and it aims to send some 100,000 Brazilian students to study internationally in the science, technology, engineering, and mathematics (STEM) subjects by 2015).

Based on the student comment, the first year experience might be revisited. The school might bring in PhDs to supplement the teaching load. The panel noted the comment of students around input metrics and supports the proposal that input threshold standards may have to be raised with a consequent reduction in recruitment numbers. In addition, the workload burden might be revisited by the school.

The panel voices concern at the management of placement. This will inevitably trickle down and will impact on recruitment. The concern was especially focused on the consistency of outcomes and the treatment of those students who did not manage to obtain an external placement.

#### **15.15 - 16.15**

#### **Meeting with Stakeholders**

##### *In attendance:*

John Boyd, GMIT, Timothy Beck, SAP Galway, Grainne O'Meara, Aptar, Fionnuala Daniels, Road Safety Authority, Brendan O'Meara, Banagher Concrete, Colin Donnelly, Steripack Group, Anne O'Connell, Ericsson, Mark Atterbury, Enterprise Ireland, Brid Summers, IDA Ireland, Lyzlinn Murgia, SAP Galway.

The session sees input from local employers, placement hosts, contractors, and agencies. An impressive and varied group provides a brief indication of their various interactions with the school of engineering.

The chair issues a welcome and proposes an open, free, and confidential discussion.

In response to a query as to what differentiates the engineering school in AIT, Polymer was cited as the significant differentiator, being only one of the schools in the country and having links through Polymer to other HEIs. Life science cluster with medtech proposed as a local strength by the IDA and the industry perceives access to Polymer expertise as an important support.

On the matter of graduate attributes, the response focused on well-rounded graduates; the feeling was that the vast majority did very well. They found employment in processing, as quality engineers, and also in sales and in a wide variety of roles. The regeneration of the Polymer undergraduate programme was welcomed.

Turning to the Ericsson experience, the situation was proposed as specific. There is currently a funded masters; 30-50 students in a given year. Ericsson is hiring successful

graduates. They commit to hire to the largest Java house in Ireland. The requirement is technical proficiency and an ability to work in teams. Dr Farrell sees this particular programme as a wonderful model. Ericsson also hire directly. There is a partner programme in DIT. Is the Masters programme sustainable, asks the panel; the company indication is that it will have a certain life from inception in 2011. Some 25% of the staff will come through this initiative by close of this calendar year. This Ericsson model is highly praised by the panel.

Prof Culley refers to the paradox facing the panel; the panel was hearing good things from students and stakeholders but the retention rates can be improved. The stakeholders referred to the difficulty in the transition to third level for some students. In their view we have a 3<sup>rd</sup> level driven education system. Maybe more partnership with industry would be desirable. While opportunities such as this to influence the offerings within an individual HEI and school were welcome, industry would prefer a more structured and long-term engagement. Under current conditions, does industry engage with academia and have opportunity to advise the school, queries the panel. Energy has been devoted to setting up linkages but, state the stakeholders, this needs more exploration.

On the question of graduate placement; there are some examples. Would a longer model work? The meeting agrees with Prof Culley that it would.

The discussion moved to how one gets the engineering message to prospective first years, and the role of industry in this. The panel asks whether engagement with the school is preferred as ad hoc or structured; there is strong support for a structured engagement. The industry view is that this would offer them greater potential and, most important, would offer continuity. Stakeholders talked of willingness to become involved in recruitment fairs.

On the gender imbalance and entry of females into engineering, Ericsson offers its experience. They have targeted girls' schools and especially those with high achievers but engineering doesn't rate with them. The meeting considered whether there might be merit connecting career guidance advisors with industry to raise awareness of engineering avenues and opportunities. It is concluded that a collaborative network may prove the way forward toward enthusing prospective students to a particular domain.

On the matter of best preparing students to transition into the world of work, there was discussion around the value of electives in 4<sup>th</sup> year with a view to meeting the broader needs of students.

The meeting discussed the merits of a broader initial year for engineers. It was agreed that a strong basic technical basis is required.

What would be lost if the school was closed tomorrow, leaving aside Polymer, asks Dr Farrell. The IDA sees the school as vital and wishes to have focused support locally; having the institute is a significant plus in attracting clients to invest in the region. On behalf of the sister agency, Enterprise Ireland, it is stated that it is difficult to get software developers into the regions.

The Road Safety Authority see the location of Athlone as a central attraction. The institute offers a consistency of training and standards. AIT is doing an excellent job in support of their work, according to this contributor.

Do the students know what they are getting in engineering in AIT, asks another contributor. It turns the conversation again to pre-admission information. Coordinated initiatives in this respect are again raised. These include presentations from industry to both 1<sup>st</sup> and final year cohorts; the use of videos produced by Engineers Ireland; and taster sessions to be provided by industry to transition year students. The stakeholders also felt that the school's CAO offerings were too complex and were a source of confusion and that a common entry approach offering flexible progression routes would be more attractive. They were also critical of the school's web presence which was adjudged to be poor. It was agreed that increased exposure to industry for students would be beneficial.

The chair brought the session to a close and thanked the various contributors. He then invited private panel comment on what had emerged.

There was discussion around the complexity of offerings within the school; it was perceived to be confusing for prospective students and stakeholders. There was a related concern around branding coherence. The panel advocates the merit in simplifying the portfolio and in offering three common entry points by stream: mechanical, electrical, and civil options. This would assist in achieving a common understanding.

Currently the system works as a sieve; this reflects the continental model. The system works to an extent, but only with a high attrition rate. The portfolio is in need of significant rationalization and also requires stability. It is appreciated that the school is anxious to respond flexibly to market demands but this best happens within a stable strategic context.

The panel turned to the Trades element. They had heard differing views of the Trades. The school faced a choice in this matter: either make this close to your strengths and embed it, or hive it off as a standalone entity.

On the quality of documentation provided by the school, it was regarded as complex. But it was acknowledged that the team has been through a difficult time. As a result they have been acting tactically. Streamlining and significant institutional support is advised.

**16.15 - 17.00**

**Optional quality documentation review**

There was opportunity for the panel members to view a range of quality documentation at both institute and school level.

**19.30 hours**

**A working Dinner for the Panel was held at the Radisson hotel. The opportunity was employed to reflect upon the major themes that were emerging from the day and to review the schedule for the second day of the evaluation.**

DAY 2 Friday, 08 May 2015	
9.00 - 11.00	Meeting with academic staff from the <u>departments</u> within the school, as follows:
9.00 - 9.50	<b>Department of Civil, Construction, &amp; Mineral Engineering</b>
<i>In attendance:</i>	Austin Hanley, Joe Lawless, Marcus Rahilly, Cyril Morris, Finola Deavy, Jim McNamara, Attracta Foley, Brian Garvey, Leo Reddy, James Mooney, Chris Hannevig, Fergus Higgins, Michael McLoughlin, Joe Keogh, Joe O'Toole, John O'Callaghan, Stephen Harney, Paul Archbold, Alan Duffy, Paul Dolan, Joe O'Brien, Michael McMahon
<p>The chair invited introductions and provided an outline of what was proposed for this series of focused sessions with each of the areas within engineering.</p> <p>The session covered industry engagement and impact and focused on the role that Springboard offerings play. How this Labour activation programme appeals to mature learners was discussed. So too was the role of such programmes as a testing bed for products which later become an integral part of the school's suite.</p> <p>Arising from student comment, the panel queried the nature of placement and what might happen when a suitable placement is not available. The financial stress on students facing the placement over summer was mentioned as was some of the critical feedback in respect of students who did not achieve external placement. There was a feeling that this may reflect some misunderstanding on the part of individual students. The school advised that there is dedicated academic support for placement.</p> <p>The role of guest lecturers was also explored.</p> <p>The staff view on retention was also sought by the panel. There is often misapprehensions of what the programme is about. This is allied to low numeracy level. The maths tutor, Mr Joe Keogh, distributed a report on retention to the panel. There is, in his view, a low level of maths at intake. The chair talks of the focus on the first six weeks and a concentrated effort to support students in their initial stages of study.</p> <p>Both graduate attributes and community engagement through the Campus Engage project were also discussed.</p>	
9.55 - 10.45	<b>Department of Electronics, Computer &amp; Software Engineering</b>
<i>In attendance:</i>	Marcus Rahilly, Austin Hanley, Mairead Seery, Seamus Ryan, Martina Cunningham, Ronan Flynn, Shane Banks, Declan Byrne, Tom Bennett, Paul Mulvey, Nigel Flynn, Niall Murray, John Barrett, John Hogan, Michael Thornton, Dennis McCarthy, Mark Daly, Sheila Fallon, Mary Giblin, James Mooney, Paul Jacob, Sean Kennedy, Karol Fitzgerald, Michael O'Rourke,

	Kevin McDermott, Mike Russell, Enda Fallon, Frank Doheny, Tony Commins, Cyril Barnicle
<p>This discussion followed the pattern outlined in the previous session and commenced with a consideration of the industry linkage and placement. Parity of assessment between those who achieve placement and those who do not was a particular focus of the discussion.</p> <p>What differentiates the AIT offering, asks Ms Cranley. Dr Enda Fallon says the department has one of the highest levels of applied research funding in the ECS area. He adds that the institute is strongly industrially grounded with some relationships with some 45 companies. This also feeds into programme development.</p> <p>It is noted that there is no placement in the Level 6 &amp; 7 programmes. The placement is located in the ab initio 4-year programmes. This is a factor of the requirement to cover core material toward individual awards on the ladder system.</p> <p>Mr Tony Commins replies to a question from Prof Culley on retention citing changes proposed for September 2015. These changes are based on reflections from experience and are contained in changes recommended under this PR process. Effectively students are going to be more practically focused initially with theoretical components now located in 2<sup>nd</sup> and 3<sup>rd</sup> years.</p> <p>Is there a common first year delivered in this department, asks Prof Culley. The HoD, Marcus Rahilly, replies that there are two common first years involved here. The Connected Devices new programme doesn't fit precisely into this model but it also shares some modules. He explains that there are no Springboard offerings in this suite.</p> <p>AIT engineering graduates are proposed as dynamic and as good problem-solvers. How is this inculcated? The focus on assessment and the broad range of approaches to assessment is the reply; this is proposed as being based upon authentic industry-informed cases.</p> <p>Prof Culley asks departmental staff whether they know where their students go and what the employment rates are. This should be known as is a key part of the school's marketing drive. This becomes a key in getting the students through the first year. He notes that all academics in his own department (within the University of Bath) have this information to hand as it is a critical tool in the marketing of the offerings.</p> <p>Mr Twomey seeks information on the software design placement in third year. The length is to be commended. Equally Ericsson is to be commended in how it has addressed the needs of a locally based multinational.</p> <p>The chair asks about shared modules with the business computing offering; could this release resources? It's an ongoing discussion is the response. There could emerge a unified ICT grouping.</p>	

Concerning the MEND (the Midlands East & North Dublin [MEND] consortium of HEIs comprising Dublin City University, Maynooth University, Dundalk Institute of Technology, and Athlone Institute of Technology), the potential for a progression pathway to MU on the electronic stream is mentioned by the HoS. At present the discussions are around the foundations for collaboration. The HoS has met with Dr Farrell of Maynooth University and one progression path has been proposed.

The chair invites final comments or questions. The integration of the industrial advisory board model is proposed by Mr Twomey. Dr Enda Fallon mentions that Enterprise Ireland is major funder. Dr Hanley accepts that this is a good idea to have an integrated advisory board; he identifies common themes from existing links with communication offered as example. There could be an integrated board and a cross-disciplinary advisory group, he says; these are not mutually exclusive.

The chair concludes by reflecting the positive outcome from the meeting with stakeholders. He also references the complexity of the schools current portfolio of offerings.

**10.50 - 11.30**

**Department of Mechanical & Polymer Engineering**

*In attendance:*

Austin Hanley, Joe Lawless, Martina Cunningham, Padraig Cooke, Ronan Dunbar, Tom Bennett, Joe Keogh, Michael Nugent, Edel Chadwick, Nigel Flynn, Martina Nolan, Keith Vaugh, Eoin Ward, James Mooney, Sean Glennon, Jim Hopkins, Tony Commins, Eoin McIntyre, Pat Rogers, Ken Corless

This discussion followed a pattern similar to that in the previous two sessions with an initial focus again on industry links and especially placement.

Commonality in respect of the three L7 offerings was questioned by the panel. The response cited the common elements in first year, major commonality between two of the three offerings in 2<sup>nd</sup> year with differentiations in the third year.

Views on retention are sought from the staff. The first-year experience is the major focus; might one build early enthusiasm through industrial visits and a real-world feel? Have the students a sense of shared identity? Examples of team work were provided. The new engineering building is now fostering a sense of community.

The chair advocates early PBL and group-based work. An example of a risk-free early engagement is provided. The preparation for group work and how this is embedded through a number of modules was mentioned.

Mr Lawless talked of the resources required to deliver PBL is funded by the income from revenue such as the RSA contract. This brings this back to the business model raised previously by Ms Cranley. This is to be commended. However, the funding cannot be depended upon so it is not a sustainable model. The chair commends the manner in which incentivization has been employed within the school.

The chair also asks about the 96 international students within the school and does a proportion of this finance return to the school. While international monies are managed centrally a proportion is returned to the schools and has been of significant benefit in enhancing the operations of the school of engineering.

Following the conclusion of this third and final departmental session, the chair invited the panel members to reflect on their impressions and to prioritize points that might be raised with the management team in an additional meeting scheduled for 12:45 hours. The shared review of the panel was that while the mechanical, polymer, and software units had presented well, they had concern with the confidence in focus evident in civil engineering. The attention was on how to offer support to ensure the sustainability of the programme offerings within this area given the impact of the economic downturn.

With respect to topics to be discussed with the engineering management team, the panel wished to explore the viability of programme structures that were being dictated by the accreditation criteria from Engineers Ireland. They expressed the wish, once again, to tease through the distinction between the three discipline areas. They wished also to know the school's contribution to the achievement of Technological University status. Most critically, the panel wished to have a clear understanding of the strategy for the whole school and where it is intended to be in five years' time. They wished for additional information around the coordination and capacity to sustain the Springboard offerings. And finally, they wished to share their concerns around the manner in which placements were managed. This point was to be added to the manner in which the school might reduce its teaching contact load in order better to manage not only placement but also general marketing and admissions.

#### **11.45 - 12.45      Tour of facilities and private time for panel**

The panel was afforded the opportunity to visit the new engineering school where it was guided by the HoS and his HsoD. There was opportunity to visit various labs and to get a sense of the scale of the building and the quality of equipment available within. The panel was impressed with the excellence of the facility and its equipment.

**At 12:45 hours** the panel held an additional short meeting with the management of the engineering school. Prof Ryan opened the session by asking the school management about the vision and strategy. Dr Hanley replied that the strategy was to concentrate research efforts into the existing two areas and to grow these. The school was also going to maintain the three broader existing domain areas. He proposed to create more Level 8 programmes in order to realize greater visibility on the CAO. The current image doesn't portray the strength of what the school currently has, was his stated view.

The chair responded by asking about how the school might seek to consolidate its offerings. The head of school responded that as new programmes gain in popularity others will be removed from the CAO.

The financial plans of the school were discussed in the context of the HEA Compact. The HOS has already submitted that numbers will be flat in engineering. He feels that AIT is at national norms in respect of retention in engineering.

Software and Polymer are adjudged the jewels in the crown by the panel but they would encourage a more proactive approach to recruitment and retention.

<b>14.00 - 14.30</b>	<b>Reflection time for panel</b>
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The schedule afforded the chair and panel a period of private time for reflection before the interim review to the school management. The chair wished to record his acknowledgement of the professionalism of the arrangements for the review.

The panel considered the recommendations that are provided below in the next section and wished particularly to record the desire to see the school attend to the student experience in the first year. It was also felt important to ensure that placements were managed rigorously and consistently.

<b>14.30</b>	<b>Interim feedback to institute &amp; school management</b>
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Following lunch the chair brought the recommendations together in order to inform the interim feedback to the school management.

The school management comprising the HoS and his two HsoD rejoined the meeting at 14.30 hrs as scheduled.

The chair, Professor Michael Ryan, on behalf of the evaluation panel, expressed his appreciation for the professional manner in which the institute and its school of engineering had arranged the site visit portion of the review over this two-day period.

The school was commended for its successes to date and especially in relation to Polymer and Software along with the progress in which it has made in the field of research. However, the panel recommended that the school should now enter a period of consolidation whereby the activities are clarified and presented both internally and externally in a more simplified and coherent form. Furthermore, the activities and work of the school should be reorganized so as to free up more time to permit staff to undertake functions necessary to ensure the success of the school into the future.

On the basis of the review, the panel will recommend to academic council the revalidation of the school's suite of programmes for a period of no more than seven years subject to the recommendations which are included in this formal report.

Dr Michael Ryan then proceeded to offer the management team an indication of the major recommendation themes that are listed below in this finalized report.



The panel was impressed with the professionalism of the institute and school. The commitment of the management and staff of the ES was commended especially as they had been operating under extremely difficult financial circumstances in recent times.

Overriding all of the recommendations below, the panel strongly recommends to the institute that the school of engineering develops a clear strategic plan consistent with that of the institution and implements same. This plan will have to encompass the recommendations below including programme portfolio reorganization, consolidation and simplification of pathways, reduction in teaching hours, enhanced information for prospective students, more targeted marketing, formalized structures for engagement with regional industry, and rigorous and consistent oversight and support for the placement element within programmes.

#### **Recommendation 1**

The programme portfolio and delivery mechanisms to be reorganized across the three major themes, Civil Engineering, Polymer & Mechanical Engineering, and Electronics & Computer Engineering to provide a common first year and, as much as possible, a common second year; this should encompass shared modules and potentials for sharing with other schools. This will have the benefit of reducing the workload of staff and thus freeing up staff time which is required to support other recommendations arising from this review.

#### **Recommendation 2**

That the teaching contact hours for students be reduced as follows: a maximum of 24 hours per week for year 1, a maximum of 22 hours per week for Year 2, and an appropriate reduction for year 3 and year 4. In addition, blended learning and problem based learning to be enhanced across all three disciplines within the school. Staff time released should be allocated to specific duties aligned with the implementation of these recommendations.

#### **Recommendation 3**

That the school enhance its pre-CAO information. That prospective students be provided with information on the school's graduate attributes and employment prospects and locations. That there be a special focus on information for transition year students. The school should work to improve the first year experience and use it as an excellent building to attract students. The institute support systems should be promoted and a focus on such support and participation should be placed in the first few weeks of each programme.

#### **Recommendation 4**

The recruitment, including more gender balance, and retention of students, needs more specific assignment of roles to staff in the school working with central institute support staff. In rationalizing the modules and the common years and reducing the student contact time, it is proposed that staff time be freed up and assigned to specific areas to address matters such as attrition rates, retention, recruitment etc.

#### **Recommendation 5**

That the critical and unique role which the school plays in the region be further developed by the establishment of a formal Industrial Advisory Board for the School. It is

recommended that this board would hold meetings on a biannual basis. The panel notes that the stakeholders are fully supportive of this.

**Recommendation 6**

That a clearly defined schedule be drawn up for each programme within the school. This schedule should include details of all industrial placements and be provided to all students across the three disciplines at the commencement of each academic year.

**Recommendation 7**

That the industrial placements be resourced and formalized at both school and programme level. Formalize the placement management and information.

**Recommendation 8**

Consistent with the overriding point recorded above, that the school portfolio of activities including a rebranding of the Trades maintained be clearly aligned with the strategy and ambitions of the institute and in doing so aim to fulfil the key performance indicators.

The above records the formal recommendations of the panel. In addition the chair suggested that the school take the following points into account:

- Offer electives in year 1, 2, & 3 rather than specific niche programmes at 1st year
- More online delivery of modules to give flexibility in delivery and economic use of resources
- In-house learning support specific to engineering from engineering academics
- That the scarcity of female students in the school be addressed
- Consider local pastoral systems
- Redevelop the AIT website
- Market all programmes effectively, put a plan in place
- Establish and disseminate student employment figures

With respect to what the panel perceived as a lack of confidence, it advises the school and its departments to encourage a more positive feeling. This might be achieved by leveraging off the successes that are both real and recognized.

Concerning retention, the issue of high wastage was discussed extensively throughout the review. There seemed to be a tendency to accept these wastage figures as national figures and ones that it was not possible to do anything about. The panel's recommendations, above, are developed to clarify and enhance the student learning experience and motivate the students to engage fully with the courses. This engagement is more likely if there is clarity around the offerings and their benefits and if staff are freed in respect of time from what is an unsustainable teaching load.

The chair finally recorded appreciation for the open discussion and contribution of the management team and wished the school continuing success with the hope that this review will contribute to the enhancement of its teaching and research.

The head of school, Dr Hanley, thanked the panel for the informative engagement which was appreciated. The academic registrar, Dr Ryan, recorded the appreciation of the

institute to the chair and panel for the care with which they had undertaken this review and to the head of school and his staff for the considerable hard work that informed the preparation and defence. Finally, he recorded special appreciation to both Cora McCormack and Amanda Ryan for their excellent logistical support throughout all of this review period.

**Signed:**

**Chair of Panel :**

**Dated:**