REPORT ON PROGRAMME REVIEW **Draft Q 3 report**

Part 1 Programme details

Existing title and code	TPC – TU Dublin Joint Mechatronics Programme DT7035
Mode and duration of programme	Three years, full-time
ECTS	180
TU Dublin award(s) sought	Bachelor of Engineering Technology in Automation Engineering
Exit awards proposed	None
Classifications of award(s)	Distinction; Merit Grade One; Merit Grade Two; Pass
School responsible	School of Mechanical & Design Engineering (TU Dublin) and Automation Engineering Department (TPC)
Professional body accreditation and relevant dates (where applicable)	Award is accredited by Engineers Ireland for associate membership
External provider type (where applicable)	Tangshan Polytechnic College, China – Franchise of TU Dublin programme
Delivery location	Tangshan Polytechnic College, China

Part 2 Programme approval information

Date of review event	**16 March and 23 March 2021**
Date of approval by Academic Council and Governing Body	

Part 3 Programme background/structure

Background

Tangshan Polytechnic College (TPC), previously Tangshan Industrial Vocational Technical College is a public funded higher vocational college authorised by the Chinese Ministry of Education (MoE) located in Tangshan, an industrial city in Hebei province. In 2016 the Dublin Institute of Technology entered into an agreement with TPC whereby the School of Mechanical and Design Engineering's Bachelor of Engineering Technology [Automation Engineering] programme would be delivered in TPC by TPC teaching staff to TPC students. It is a requirement of the Chinese Ministry of Education that TU Dublin staff deliver one third of the programme modules and one third of the hours for the programme. TU Dublin staff attend

TPC for three weeks in December to deliver six modules through accelerated, block delivery and again in May where four modules are delivered. Modules are delivered through English and Chinese (approximately 50% each) in year one, mainly through English in year two (approximately 75%) and entirely through English in year three. Students also must take English language modules to support their language learning, and in order to satisfy the requirements for the TPC Diploma award they must take additional modules in PE and politics.

The Joint Mechatronics programme provides a thorough grounding in the scientific, technological and application principles relating to automated manufacturing technology. The programme makes available learning opportunities to allow students to gain the technical and personal skills required to pursue a career which will allow self-development, and enable them to contribute to modern manufacturing industries. The Mechatronics degree programme aims to provide graduates with the appropriate mix of technical, managerial and communication skills, in order to equip them for a wide range of careers within a broad spectrum of industries home and abroad.

To date, out of the 131 students who have enrolled on the programme, 39 have been awarded the TU Dublin B.Eng.Tech in Automation Engineering.

Stated learning outcomes of the programme

On completion of the programme the Mechatronics Technologist will be able to:

1. Apply a body of knowledge and a range of skills to the integration of Mechanical, Manufacturing, Electrical and Electronic systems with Software Engineering and Computer Technology at a level appropriate to modern automation and manufacturing systems.
2. Design, develop and construct a range of electromechanical systems operating under programmed control.
3. Explain and assess the functionality, operation and integration of a variety of electro-mechanical hybrid devices, equipment and systems.
4. Use tools, machines and materials in a safe manner, identify hazards and evaluate risks.
5. Use a range of software-based engineering tools and applications, as well as word processing, spreadsheet, database and presentation software.
6. Locate, evaluate and utilise relevant information from technical manuals, drawings, databases and other sources.
7. Demonstrate relevant transferable and interpersonal skills, such as, communications, teamwork, project management and self-management skills.
8. Distinguish between management functions and supervisory roles and be capable of implementing them within a high technology organisation.
9. Carry out their role within society in an ethical manner.
10. Communicate effectively through the English language.

Programme structure

The first stage of the programme is a full academic year of two semesters, 35 weeks in total. The second stage of the programme consists of one full academic semester of 18 weeks, followed by a work placement of 20 ECTS which must be of at least 12 weeks duration. The

third stage of the programme is a full academic year consisting of two semesters, 36 weeks in total, including a final project.

Entry Requirements

The requirements for admission to the programme are:

For high school students who take part in the national university entrance examination, students shall graduate from high school; and their scores in the national university entrance examination shall not be less than the admission score of Hebei Province for college students (Note: the admission score is determined and published by the Education Department of Hebei Province every year).

For secondary vocational and technical school students and high school students who take part in the exclusive recruitment examination for high vocational college: a) students shall graduate from secondary vocational and technical school or high school; b) their scores in the exclusive recruitment examination for high vocational college shall not be less than the admission score; c) their qualifying interviews are assessed by the Department of Automation Engineering.

Student assessment

In accordance with TU Dublin's General Assessment Regulations. In some cases where there is more than one assessment component, minimum thresholds of performance apply.

Derogations from the General Assessment Regulations, including rationale for derogation and view of the Panel:

None sought.

Part 4 Review Details and Membership of Panel

The review took place over two days, 16 & 23 March 2021, via Microsoft Teams.

16 March 2021 (via Microsoft Teams)

Irish Standard Time	China Standard Time	
8.00 hrs	16:00 hrs	Introductory meeting of Review Panel with the Dean of College of Engineering & Built Environment and key staff from the School of Mechanical & Design Engineering, TU Dublin.
8.30 hrs	16:30 hrs	Private meeting of Panel to discuss and draw up an agenda of matters to be raised at meetings with the School and teaching staff.
9.15 hrs	17:30 hrs	Meeting of Panel with key staff with responsibility for the programme to discuss specific issues raised by the Panel.

10.00 hrs	18:00 hrs	Meeting of Panel with TU Dublin staff teaching on the programme in TPC.
11.00 hrs	19:00 hrs	Private meeting of Panel to plan agendas for subsequent meeting with TPC management, staff and students, and identifying additional documentation.
12.00 hrs	20:00 hrs	Feedback to School in preparation for meeting with TPC.

23 March 2021 (via Microsoft Teams)

Irish Standard Time	China Standard Time	
8.00 hrs	16:00 hrs	Introductory meeting of Review Panel with Head of School and Programme Chair from TU Dublin, representatives of Senior Management of Tangshan Polytechnic College and TPC Programme Chair
8.30 hrs	16:30 hrs	Private meeting of Panel to discuss and draw up an agenda of matters to be raised at meetings with the TPC staff, students and graduates
9.00 hrs	17:30 hrs	Meeting of Panel with key staff with responsibility for the programme at TPC and relevant support staff to discuss various matters.
10.00 hrs	18:00 hrs	Break
10.10 hrs	18:10 hrs	Meeting of Panel with current students and graduates.
10.45 hrs	18:45 hrs	Meeting of Panel with TPC teaching staff to discuss learning, teaching and assessment issues
11.45 hrs	19:45 hrs	Private meeting of Panel to discuss its report
13.00 hrs	21:00 hrs	Verbal report back to TU Dublin and TPC management and staff School on the Panel's findings.

Panel Membership

Dr Colin Hughes (Chair)	Head of Graduate Business School, TU Dublin
Professor Anne Greene	School of Chemical & Pharmaceutical Sciences, TU Dublin

Louise Lynch	School of Civil & Structural Engineering, TU Dublin

External members

Dr Fergal O'Rourke	Department of Electronic & Mechanical Engineering, Dundalk Institute of Technology
Mr Yu Shuli	General Manager, Tanghsan Modern Industrial Control Technology Co. Ltd

Quality Assurance Officer

Jan Cairns	Quality Assurance Officer, TU Dublin

Documentation submitted
The Panel received the programme document, student handbooks, TPC self-study, programme implementation document, work-placement handbook, annual monitoring reports and external examiner reports.

Part 5 Findings of the Panel

The Panel is pleased to recommend continuing approval of the TPC – TU Dublin Joint Mechatronics Programme leading to the TU Dublin award of Bachelor of Engineering Technology in Automation Engineering at Level Seven on the National Framework of Qualifications. The programme also leads to the TPC award of Diploma in Mechatronics. This approval is subject to one condition and the Panel also makes several recommendations.

The Panel acknowledges the great commitment of TPC and the School of Mechanical & Design Engineering to this programme and the significant dedication and hard work on the part of both parties to the smooth running of the programme.

Resources and facilities available to the programme
Unfortunately, the Panel was not able to visit TPC's campus and facilities as part of this review. However, it did receive information on the facilities and equipment available and a video of the campus and the Department of Automation Engineering and it was impressed with what it saw, in particular the facilities and equipment relevant to the programme which it considered to be advanced. TPC reported that it is well supported financially by the government to enable them to update their equipment. TPC have a library and in addition students have access to TU Dublin's on-line resources.

Student support
The Panel notes the supports available to students at TPC. The General Education Centre can provide additional academic support as required, for example in mathematics and English. TPC has a Health Centre and Counselling Service on campus, and the Panel notes that students reside on campus during their studies. The Panel met a tutor on the programme with a specific pastoral role to support students.

Condition

The concerns around students' ability to reach an appropriate standard of English to be eligible for the TU Dublin award were acknowledged by all. The Panel notes the various approaches to addressing this concern that were reported during the review. However, the Panel required that an integrated, cohesive plan to support the improvement of the English language proficiency of students be presented, to enable more students to graduate with the TU Dublin award. The plan should clarify English language requirements on entry to the TU Dublin programme, how English language proficiency is developed and assessed in a consistent and integrated manner throughout the programme and the final assessment of proficiency when eligibility for the TU Dublin award is being considered. The Panel considers that TU Dublin and TPC should work together to come up with this plan. It suggests also that the following should be considered:

- Integration of English language modules and other supports
- The provision of guidance and support from English language experts in TU Dublin
- Opportunities for students to have more regular interaction with native English speakers. Where possible, more TU Dublin staff should travel to TPC to support language learning and interaction;
- Greater collaboration between the programmes at TPC and TU Dublin including supported interaction between students, such as a buddy /peer mentoring system, which could also benefit Irish students.

TPC have identified that it is not possible for TPC to stipulate the English language requirement at programme entry as it is not permitted within the Enrolment Policy issued by The Ministry of Education in China. Therefore, there is no policy to support TPC to enforce this requirement as it would violate the Enrolment Regulations. The average score achieved in the Gaokao by students entering this programme is improving each year owing to the popularity and growth of TPC reputation suggesting that the English language proficiency of the incoming cohort is steadily improving.

A new strategy for English Language Learning and Monitoring/Assessment has been agreed and will be adopted from Academic Year 2021-22 onwards. A detailed Table [Table (i)1] is provided within The Implementation Document in Section (i) on page 8. The following is a summary of the measures and key points that have been agreed in the provision of English Language Learning on the programme;

- Upon confirmation of their programme of study students will be given a one-month programme of English language learning in advance [possibly in May or Jun of their year of commencement]. This will involve an introduction to the English Language requirements of the programme and classes in Listening, Speaking, Reading and Writing.
- Contact has been made with staff involved with comparable programmes across the TU Dublin Campuses and meetings are in place for the sharing of experience and knowledge in establishing best-practice in learning delivery and facilitation. Training has previously been provided by Deirdre Ryan [International Pathway Programme Coordinator at TU Dublin] to English Language staff at TPC. The International Foundation Programmes are currently running on-line using Bongo in BrightSpace.

This approach has been successfully facilitated for students studying in China. Classes are as interactive as possible i.e. cameras on, use of breakout rooms, collaborative digital tools [such as MURAL, Lino and Padlet] etc. 12 Hours of Live classes per week has been working reasonably well for these programmes.

  - Modules delivered by TU Dublin Lecturers, including English Language modules, will be delivered across a longer timeframe. The delivery time is being increased from 3 weeks to most likely 6 weeks. The delivery will take place across 6 consecutive weeks, consisting of 3 weeks of on-line delivery using Bongo [a pilot study of Bongo viability for learning delivery has commenced, see response under Recommendation 1] followed by 3 weeks of face-to-face lecturing at TPC. This will greatly promote potential for immersion with the module material and enhance the learning experience for both staff and students.

- Mark McGrath has had a meeting with the Programme Chairperson of the TU Dublin Automation Engineering programme in relation to the integration of the 'buddy' [Each student in the Joint Programme at TPC will have a 'buddy' in the TU Dublin programme] initiative within both programmes. It has been decided that, at least initially, that this activity will be embedded within the Communications 1 Module [COMM 1103]. A meeting has been organised with the lecturer involved to identify how this integration can be facilitated as an assessable element of the module. This has strong potential for language and cultural learning on both sides and the development of sustainable personal engagement as students progress through the programme and beyond. The ongoing BrightSpace pilot module study will be again be harnessed in the development of this activity.
- English Language teaching staff at TPC are going to be directly involved in supporting the project modules [PROJ 2103 and PROJ 3103]. Assistance will be provided to the students in the completion of required documentation and presentations. This additional support in 'embedding' and application of the English Language Learning and utilisation within the programme should assist in engaging the students in key learning within the discipline.
- 'English Corner' has been set up on-campus at TPC. This is an English learning group, which organizes activities related to learning English, participation in English-related activities, such as morning reading, English vocabulary contest, English speech contest, English reading & Writing contest [held annually] etc. These integrated initiatives will take place across the 3 years of the programme. Participation and performance within these activities will be embedded within the grading of the modules.
- Experienced English teachers who are professional in IELTS teaching will provide IELTS Learning & Assessment delivery. They will teach IELTS for students in the programme. It is planned that the students will have 4-6 hours per week for IELTS learning. This ensures that the IELTS approach is fully embedded within the curriculum providing for enhanced monitoring of learning and assessment.
- Peer review of work within English Language classes will be used extensively to promote greater interaction and communication between the students during and after classes.
- From Semester 2 Year 1 onwards extensive 'listening practice' is being promoted and facilitated outside the classroom [An English film (every week), VOA Special (1 hour),

VOA Let's learn English (1 hour)]. All these listening materials will be delivered on the TPC Campus network which can provide supervision and feedback to the students.

- On-line self-directed English language learning, in addition to on-line support tutorials, will be available to the students during their Work Placement [4 Hrs per week for 18 Weeks].
- This blended approach [i.e. IELTS Delivery & Assessment in combination with EAP (English for Academic Purposes) modules] will provide for enhanced delivery and monitoring of English Language learning. This can then be used to constructively inform any interventions or amendments required.

Recommendations

1. It is a requirement of the Chinese Ministry of Education that TU Dublin delivers one third of modules on the programme in TPC. TU Dublin staff travel each semester to TPC: in semester one staff go to TPC for a three-week period to deliver six modules and in semester two staff go for three weeks to deliver four modules.

   The Panel met with the TU Dublin staff who currently deliver this programme and it notes that this three-week delivery is intensive and proving challenging for students. The Panel considers that these sessions that include intensive English delivery may have a negative impact on students who are considering whether to opt for the TU Dublin award pathway. The panel strongly recommends that the School of Mechanical & Design Engineering and TPC consider how to address this issue for staff and students, whether through more extended attendance by TU Dublin staff, moving some of the delivery online in advance of face-to-face delivery, or the engagement of TPC staff in the delivery of these modules.

   The school of Mechanical & Design Engineering and TPC acknowledge that, from a learning perspective, this is not an ideal arrangement. Students require time for 'immersion' with the material of a module, particularly when it is not being delivered in their first language.

   The school and TPC, in consultation with staff with direct involvement with comparable programmes, has explored various alternative options that may be possible. The use of on-line tools subsequent to the visit is being adopted as the future approach to the 1/3 delivery.

   Bongo in BrightSpace has been used with reasonable success across a small number of programmes with students studying in China. The plan is to utilise Bongo for the on-line delivery of lectures and module content in the weeks prior to travelling to China. It is most likely that this blended approach will consist of 3 weeks of on-line delivery followed by the 3 weeks of face-to-face delivery on-site at TPC. Students will have full access to all learning materials on BrightSpace.

   A pilot module for the Final Year Project [PROJ 3103] has been developed and the 3rd year students have been enrolled. This is being used to communicate and assist the Final

Year Students in the completion of their Final Year Projects. In addition, this module is being used as a vehicle for the identification of any technical/access issues that arise. Support is currently being sought from the BrightSpace Team on how best to provide access for TPC Academic Staff as this is considered a very beneficial additional mechanism for improved overall communication.

Greater incentives for staff, whether they be PWT, TWT or HPAL's, would greatly assist in the recruitment and retainment of staff for engagement on such international initiatives. Linking such engagement with progression in a more meaningful and explicit manner may assist in the successful development and facilitation of such programmes.

It has been noted that participation as a lecturer on programmes such as these, where the lecturing takes place in another country, is not listed as a criterion in the documentation for Assistant Lecturer to Lecturer [AL to L] progression.

https://www.dit.ie/hr/resourcing/resourcing/progression/

This should be listed as an explicit criterion within the documentation and more specifically, section 6 in the Application Form, to ensure appropriate recognition. The Head of School of Mechanical & Design Engineering has brought this to the attention of Human Resources at TU Dublin for consideration and it is hoped that this will be addressed as a matter of urgency.

2. TPC and TU Dublin should further consider how to promote and market the programme more effectively to reach the target annual student intake of 60. It recommends that the use of testimonials from recent graduates are considered as part of this promotion.

The School is working closely with TPC in developing a marketing plan which more effectively integrates testimonials and experience of past graduates. A number of Joint Programmes now exist across the TU Dublin campuses. Greater efforts will be expended in promoting communication and engagement with staff on these programmes so that a Best-Practice approach to marketing/promotion can be identified and adopted across the campuses.

TPC has developed a brochure about the joint programme and the staff will go to local high schools to introduce the programme to the students and teaching staff.

The School of Mechanical & Design Engineering has contacted the company who developed the promotional videos for the programmes within the School. The process has commenced for the development of a promotional video that can be used to illustrate to TPC students what it would be like to study at TU Dublin. This video and additional content related to the Joint Programme, study-abroad opportunities and Dublin in general will be available on the School Website. A link to this website will be provided within promotional materials at TPC.

In addition, the Automation Engineering Department at TPC has a 5-Year Development Plan which includes the selection and support of students for study visits to TU Dublin. This action had to be postponed owing to the Covid pandemic but will be activated once

travel is permitted and on-campus learning has full recommenced. This 'Visiting Study' will be a great promotion initiative and develop a greater awareness of TU Dublin on the TPC Campus.

The graduates of the Joint Programme are regularly being contacted by their former tutors by phone or email. Additionally, there is a specific platform used by TPC to keep in touch with students when they do internships or practical training outside the campus which is also used for staying in contact with graduates. Information pertaining to their employment and roles is being gathered and this, coupled with additional insights/experiences of the programme, will be used as testimonials in literature and website.

3. The Panel notes that while several TPC staff have spent time in TU Dublin as part of their professional development, the potential benefits of this collaboration for TU Dublin have not been fully realised. It recommends that the School of Mechanical & Design Engineering together with TPC explore further staff and student exchanges whereby TU Dublin staff and students travel to TPC and current TPC students visit Dublin.

Options had previously been considered for promoting greater interaction between the programme at TU Dublin and the programme at TPC at student level i.e. embedding formal bilateral engagement, potentially through a 'Buddy' type approach, within some modules [e.g. Communications/Professional Development modules]. A robust approach to facilitating this mutually-beneficial learning initiative is being thoroughly explored as an integral part of the on-going review and development of the programme. Initiatives which incentivise and promote greater bilateral exchange of both staff and students between the partner institutions will be explored.

As outlined in Recommendation 2, 'Visiting Study' of selected TPC students to TU Dublin will commence when travel is permitted and access to campus-based learning has been fully restored.

Mark McGrath has had a meeting with the Programme Chairperson of the TU Dublin Automation Engineering programme in relation to the integration of the 'buddy' [Each student in the Joint Programme at TPC will have a 'buddy' in the TU Dublin programme] initiative within both programmes. It has been decided that, at least initially, that this activity will be embedded within the Communications 1 Module [COMM 1103]. A meeting has been organised with the lecturer involved to identify how this integration can be facilitated as an assessable element of the module. This has strong potential for language and cultural learning on both sides and the development of sustainable personal engagement throughout progression through the programme and beyond. The ongoing BrightSpace pilot module study will be again be harnessed in the development of this activity.

In light of the range and quality of the equipment available at TPC, and the recent significant investment in Automation and Robotics equipment in the School of Mechanical & Design Engineering, engagement with research collaborations at Level 9 and 10 are

being examined as this could prove to be a very solid foundation for the generation of sustainable partnerships into the future.

TPC and TPC staff have expressed high interest in Level 9 and 10 research projects/collaborations in the fields of Mechatronics, Industrial Robotics, Intelligent Manufacturing, Internet of Things, Rapid Manufacturing and New Energy Technology. When circumstances permit, the exchange of students and staff will be explored and implemented. There is also real potential for research development in additional areas of transport, logistics etc and staff from TU Dublin have visited TPC in the recent past.

4. The Panel had noted the need for the inclusion of new technologies around AI to support local industry, as expressed by the external industry panel member, along with the senior leadership team at TPC and colleagues in TU Dublin. The School of Mechanical & Design Engineering reported that a new module in Robotics had recently been approved to run in the TU Dublin programme and will run in TPC from September 2021. It also reported plans in TU Dublin to develop a degree programme to replace this level seven programme and that this new programme would cover the new technologies referred to above. The Panel recommends that TPC are informed of and involved in this programme development as soon as possible.

The need to review and develop this programme, and the associated programme at TU Dublin, has been identified as a priority by management and academic staff within the school. Industrie 4.0 and the associated implications for the manufacturing sectors in both Ireland and China in addition to modern manufacturing across the world, requires 3rd level learning within this discipline area to shift significantly. This 'shift' has commenced within the school where a full review of the B.Eng.Tech. in Automation Engineering has been initiated. Input from Industry and TPC will be harnessed within the review process to ensure the relevance and appropriateness of the changes to the content and focus of the programme.

This review of the programme has commenced and a number of Programme Team Meetings have taken place [25th March and 17th May] in addition to a high number of meetings of the subgroups within each of the 8 'pillar' or thematic areas. Discussion on the proposed content for the revised programme has taken place in the subgroup meetings, was summarised at the 17th May meeting, and continues to be fleshed out through consultation between staff and feedback from industry.

TPC will be involved in this process when this initial phase of detailed assessment of content has been completed.

The Programme Document has now been updated to include and represent the 'Industry Robotics 1' module [Page 212 Programme Document]. The entire content of this module reflects industry standard hardware and software and furnishes the students with invaluable skills in advance of Work Placement and preparation for a career in modern manufacturing as Mechatronics/Automation Engineering professionals. This module takes place in accelerated/intensive format between the end of Semester 1 and the commencement of Work Placement in Semester 2. It is a 5 ECTS module, these credits

coming from a justified reduction in the Work Placement credit allocation from 25 ECTS to 20 ECTS.

5. The Panel notes that the module descriptors across the programme in TU Dublin and TPC would benefit from review and updating, in terms of module learning outcomes, assessment methods, in particular the reliance of the final examination, and reading lists. It recommends that this should be conducted through the College QA processes.

   The majority of the modules have a substantial CA inclusion but it is recognised that updates will improve the representation of the learning and assessment. As identified earlier a comprehensive review of the programme has been initiated. The focus and content of the programme is being revised to ensure currency and relevance in a rapidly-evolving industrial environment.

   This process, which has commenced in earnest since the 25th March 2021, will involve a complete reconsideration of the nature and content of all modules. Some existing modules will be removed or significantly updated in addition to the inclusion of new modules specific to the discipline area. The learning outcomes, and associated assessment and reading materials will all be updated within this process.

6. It has been noted that many of the above recommendations that might contribute to the success of the programme are to a large extent dependent on policies and practice within TU Dublin. The Panel notes that it has been a challenge for the School to identify full-time academic staff to teach in Tangshan and therefore most of those now travelling to TPC are part-time staff. The Panel recommends that TU Dublin should consider how its policies and structures might be revised to support its stated priority of internationalisation, including:
   - incentivising academic staff to travel to teach on programmes delivered internationally, such as recognising this work as a criterion for progression/promotion, granting time allowances;
   - a financial model that supports such international initiatives;
   - agreed procedures and structures to support programmes of this nature and how they interact with University administrative functions, e.g. Registrations, Examinations, Fees and Income etc.

   The School very much welcomes this recommendation and the specific issues presented within. Such programmes/initiatives must be more completely embedded within the business of the University if we are to better present/represent our 'internationalisation' dimension. The particular challenges and requirements in facilitating learning delivery and assessment on such programmes should be more explicitly recognised and acknowledged within our academic promotion/progression processes. Adopting coherent, standardised and embedded approaches, which are common across the TU Dublin campuses, to the central services aspects of such programmes is critical to the smooth running and development of joint programmes.

   Mark McGrath has met with Bei Gao [Strategic Partnerships & Alliances Manager, TU Dublin] to discuss some of the challenges and benefits of these Joint programmes. As a result of this Bei has a arranged a further meeting to take place the week beginning

Monday 31st May. Invited attendees are staff from across the TU Dublin Campuses who have direct experience of Joint programmes with Chinese Universities/Colleges. The principal aim of this is to initiate greater sharing of experiences between colleagues. Discussion towards planning to address such issues as [list not exhaustive];

- Challenges with academic staff recruitment
- Facilitation and renumeration/subsistence of staff teaching in China
- Adoption of best-practice approach to learning delivery and assessment
- Common approach to finance and other central requirements
- Increasing visibility of these programmes on School Websites
- Developing existing partnerships to full potential

It is hoped that this will lead to changes which will assist in advising on the development of procedures and structures to support the development, facilitation and growth of such programmes.

7. The School of Mechanical & Design Engineering have accrued much experience and knowledge from its involvement in this programme, and it would have benefitted greatly from the advice of others within the institution at the outset of this collaboration. The Panel recommends that a mechanism within the University be created to share and build on learning from the experiences of those within the University involved in international collaborations, in order to exchange knowledge, improves processes and allow further opportunities for collaboration to be pursued.

   Again, the School greatly welcomes this recommendation. Operating in 'silos' greatly hinders the development and effective implementation of such joint partnerships. The school of Mechanical and Design Engineering is delighted to be involved in any TU Dublin wide initiatives which promote the sharing and leveraging of knowledge and experience gleaned from previous and ongoing international engagements.

   As outlined in the previous Recommendation this has been initiated. This will be an extremely useful, collegial and constructive 'pooling' of staff learning and will ultimately enhance TU Dublin's capacity to deliver, and leverage benefit from, Joint Programmes into the future.