

CIT

YOUR LIFELONG ACADEMIC PARTNER

OUR ACADEMIC STRATEGY

2019-2023



We are Cork.

CIT CORK
INSTITUTE OF
TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ





CIT

YOUR LIFELONG ACADEMIC PARTNER

OUR ACADEMIC STRATEGY

2019-2023

OUR ACADEMIC MISSION AND ACADEMIC STRATEGY 2019-2023

At CIT we embrace positive and inclusive values. Our academic mission and strategy align with UNESCO's sustainability goal of 'inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030' (UNESCO, 2015).

Knowledge, skills and competence are at the heart of CIT. Our academic mission is to serve the educational, knowledge and skill needs of our community through excellence in teaching and learning, research and external engagement, to support and enable regional economic development and societal improvements. At CIT we are very ambitious for the continued evolution and growth of the Institute. Our aim is to empower our learners to develop individually and to contribute to society and the economy.

Our plan is academically-led and student-focused. The Strategic Plan for CIT (2018 – 2023) ensures that the necessary financial and other resources are employed, so as to deliver on the ambitious vision of this Academic Strategy. Our Strategy will provide the key guiding principles upon which the faculties and central service units can further develop and realise their plans.



This Academic Strategy is aligned with the vision of CIT's Strategic Plan 2018 – 2023 to *'empower individuals and enrich society through the innovative use of knowledge'*, whilst also delivering on CIT's compact with the Higher Education Authority (HEA).

We at CIT are proud of our tradition of teaching excellence that stretches back over 200 years to the Royal Cork Institution. We have a diverse range of academic programmes and research, serving industry and society with relevant and powerful impact. Our Academic Strategy will sustain and build on our strengths and successes over the next five years.

The objective of the Strategy is to maintain and enhance the excellence and relevance of our diverse academic activities, in three key pillars: ambitious and visionary student scholarship and teaching; impactful research and creative scholarship; expanding and deepening engagement with our broader community.

This Strategy was developed through facilitated workshops with members from across the Institute and informed by a wide range of national and international policies and strategies.



WELCOME

from the President and
Vice President and Registrar
for Academic Affairs

We are delighted to introduce *CIT – Your Lifelong Academic Partner – the Academic Strategy for Cork Institute of Technology 2019-2023*.

Cork Institute of Technology (CIT) is proud of, and committed to, its long-established tradition of student-centred focus and excellence in teaching and learning at all levels of the National Framework of Qualifications from Level 6 to Level 10. Through meaningful engagement with external stakeholders in education and industry, we have played a leading role in relation to graduate employability, access, recognition of prior learning and student engagement. Moreover, and across an extensive range of academic disciplines, we have created and delivered high quality programmes which provide opportunities for our learners and graduates to gain personal fulfilment while making a meaningful contribution to society, both nationally and internationally.

CIT is one of Ireland's leading research-informed third-level institutions. Notwithstanding the funding challenges, our research community has been highly successful in winning national and international competitive funding for both fundamental and applied research that focuses on economic and societal impact.

CIT is currently the highest performing Institute of Technology under the Horizon 2020 framework as well as being the leading Institute of Technology in terms of our involvement in Science Foundation Ireland (SFI) centres.

We in Cork Institute of Technology are proud of our track record in relation to engagement with enterprise and community. We have played a leading national role in the development of the relationships and synergies between Higher Education and enterprise. The Institute's Rubicon Centre is the largest and most successful on-campus business incubator in Ireland, and the themes of innovation and entrepreneurship are embedded in our programmes. We also have a track record in the area of civic engagement, with our significant





achievements in areas such as access, diversity and inclusion, sport, and arts and culture, enabling us to reach out to our community, be it local, national or international.

These are exciting and challenging times for Higher Education in Ireland. Our Academic Strategy will inform all our stakeholders in relation to CIT's academic agenda. It will also provide guidance to our faculties, schools and departments in developing their academic plans and in the development and review of programme offerings. Along with the Institute's new *Strategic Plan – Empowering and Enriching Through Knowledge* and with other plans/strategies including the research strategy, engagement strategy, and finance plan, it will inform decision making at all levels of the Institute. This Academic Strategy and its implementation will be reviewed on an annual basis by Academic Council.

Looking to the future, and in the context of our collaboration with Institute of Technology Tralee towards university designation, we envisage that CIT's Academic Strategy will, in due course, inform the development of the academic plan of the Munster Technological University.

Our Academic Strategy is the culmination of a process of engaged consultation and dialogue, during which we worked to agree and establish institutional priorities for the future development of our academic portfolio. We would like to express our sincere thanks to all those involved in bringing it to fruition, and we look forward to working together with students, staff and external stakeholders to ensure its successful implementation.

Mar a dúirt an saoi fadó: ní neart go cur le chéile!

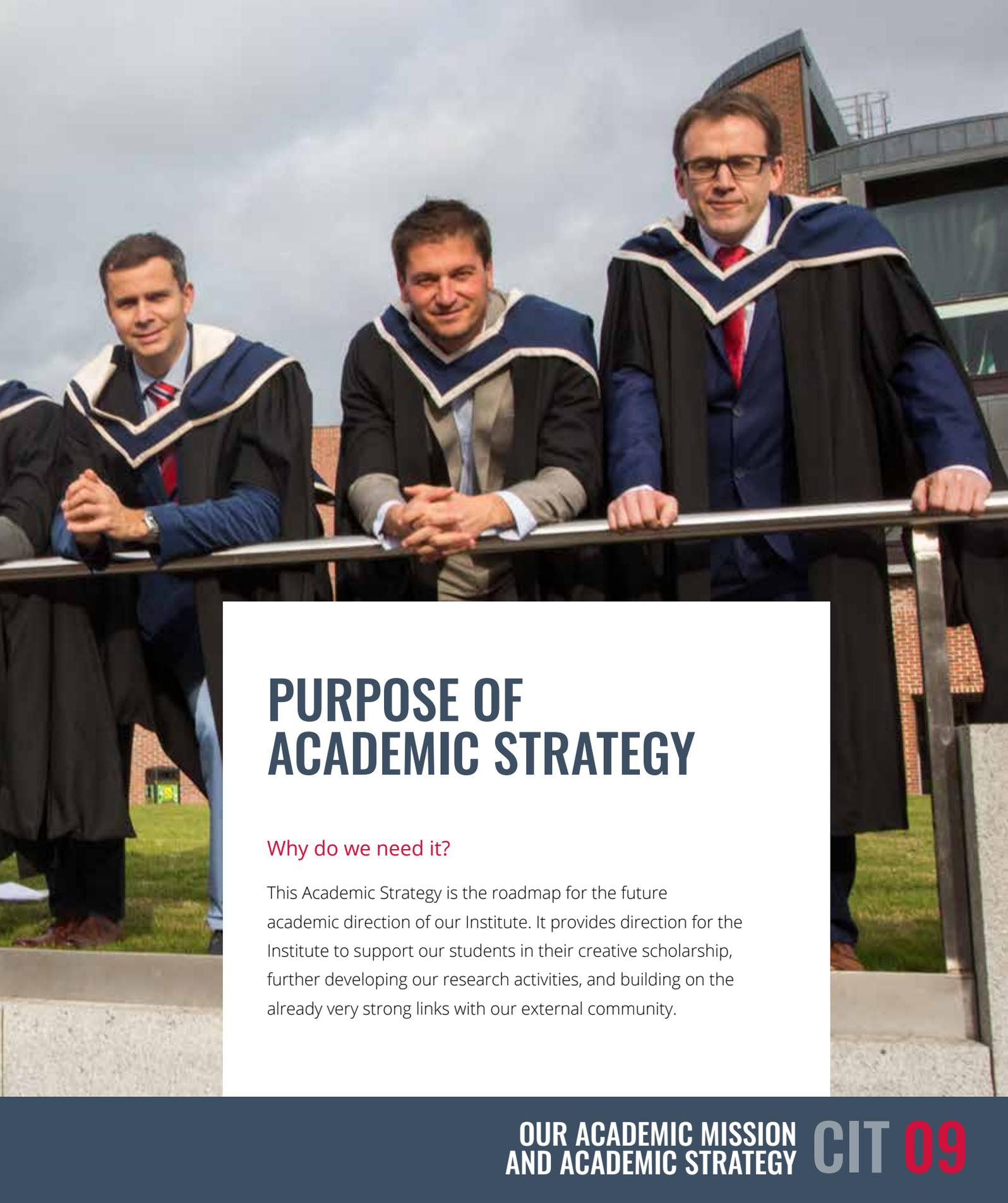
Dr Barry O'Connor

President

Dr Áine Ní Shé

Registrar & Vice President for Academic Affairs (Acting)





PURPOSE OF ACADEMIC STRATEGY

Why do we need it?

This Academic Strategy is the roadmap for the future academic direction of our Institute. It provides direction for the Institute to support our students in their creative scholarship, further developing our research activities, and building on the already very strong links with our external community.

ACADEMIC PILLARS



**AMBITIOUS AND VISIONARY
STUDENT SCHOLARSHIP
AND TEACHING**



**IMPACTFUL RESEARCH AND
CREATIVE SCHOLARSHIP**



**EXPANDING AND DEEPENING
ENGAGEMENT WITH OUR
BROADER COMMUNITY**



These 3 pillars feed from and nourish each other. They are interdependent, and mutually reinforcing. We recognise and commit to further enhancing each pillar, as well as the channels of interaction between them, so as to effectively realise the ambitious vision of CIT's Academic Strategy. The impact and success will be evaluated through the lifetime of this Strategy.



PILLAR 01

**Ambitious and Visionary
Student Scholarship and Teaching**





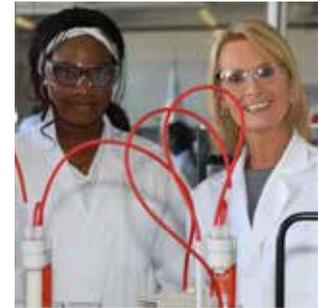
GRADUATES

OBJECTIVE TO DELIVER

Graduate highly educated, capable and motivated students.

WHY DOES IT MATTER?

We see it as our duty to prepare students to thrive in an ever more complex and changing world of work. We will encourage them to progress further academically and to engage in research, scholarly activity and/or knowledge transfer.



LEARNING EXPERIENCE

OBJECTIVE TO DELIVER

Further enhance an engaging, high-quality, flexible and inclusive learning experience for all our students.

WHY DOES IT MATTER?

Students thrive in a positive environment. We want to ensure our students are constantly motivated and progressing, both academically and personally, through their experience at CIT.



ASSESSMENT

OBJECTIVE TO DELIVER

Review and enhance assessment methodologies in line with best practice, and in accordance with principles of fairness and consistency.

WHY DOES IT MATTER?

We want to give our students a fair and meaningful learning experience, while developing the appropriate knowledge, competencies and skills.



DIVERSITY AND INCLUSIVENESS

OBJECTIVE TO DELIVER

Support a diverse student and staff population where difference is recognised, respected and promoted.

WHY DOES IT MATTER?

Education at CIT is for all. Diversity brings a depth of richness, mobilises a variety of strengths, broadens experiences and perspectives, and fosters a culture of dignity and respect. Our inclusion is a core value.





OUR COMMUNITY

OBJECTIVE TO DELIVER

Further enhance extra-curricular, support and developmental programmes and resources for staff and students.

WHY DOES IT MATTER?

Our CIT community is more than our academic pursuits. We value a holistic approach to learning and personal development, both to develop wider talents, and to support health and mental wellbeing.



INFRA- STRUCTURE

OBJECTIVE TO DELIVER

Provide our students with excellent, modern educational resources and infrastructure.

WHY DOES IT MATTER?

Excellent surroundings promote excellent outcomes. Our students and staff require top-class facilities and supports to maximise their potential.



STUDENT ENGAGEMENT

OBJECTIVE TO DELIVER

Further enhance an institute-wide explicit, resourced strategy for student engagement, progression and success.

WHY DOES IT MATTER?

People rise to meet high expectations. Our reputation as an ambitious but supportive educator must be manifested through purposeful, collaborative and positive action for all students.

WE VALUE A
HOLISTIC APPROACH
TO LEARNING
AND PERSONAL
DEVELOPMENT, BOTH
TO DEVELOP WIDER
TALENTS, AND TO
SUPPORT HEALTH AND
MENTAL WELLBEING



STAFF CPD

OBJECTIVE TO DELIVER

Further enhance programmes providing useful, relevant and accessible Continuous Professional Development opportunities for all our staff.

WHY DOES IT MATTER?

We are excited and motivated for our future. Investment in high quality staff development and support enables our continuous improvement in teaching and learning.



INFORMED TEACHING

OBJECTIVE TO DELIVER

Further enhance subject expertise and teaching methodologies to enable positive learning impact.

WHY DOES IT MATTER?

Our work must be relevant. Research and industry-informed teaching will enhance the learning experience and outcomes for our students and graduates, improving their employability and adaptability.



CONTINUOUS IMPROVEMENT

OBJECTIVE TO DELIVER

Continue to develop our process for course relevance, impact, content and delivery, having regard to national, international and professional academic quality standards.

WHY DOES IT MATTER?

We recognise the need to keep challenging ourselves. Evaluation and reflection drive ongoing improvement, stimulate academic enhancement, and protect academic quality standards. This empowers us to meet the expectations of students, staff, employers, industry, and society, as we pursue our mission.

PILLAR 02

Impactful Research and
Creative Scholarship





EXCELLENCE

OBJECTIVE TO DELIVER

Ensure that our research and scholarship are of the highest quality, with ambition to adhere to world leading standards of excellence.

WHY DOES IT MATTER?

So that we can respond to the opportunities and challenges presented by the changing external landscape, including those afforded by applicable higher education policy and strategy.



IMPACT

OBJECTIVE TO DELIVER

Continue to broaden and strengthen our collaborative research capacity and capability in key thematic areas.

WHY DOES IT MATTER?

So we can broaden and deepen the impact that our research has on our community and society.



SUPPORT TEACHING

OBJECTIVE TO DELIVER

Further enhance the scholarship of teaching and learning.

WHY DOES IT MATTER?

So that our teaching and learning can be informed by research and enriched through reflective practice. This will empower our staff with the necessary skills to support a diverse learning community.



SUPPORT STAFF AND STUDENTS

OBJECTIVE TO DELIVER

Encourage and support academic and technical staff and students at all levels to learn about, undertake and share impactful research.

WHY DOES IT MATTER?

So we enrich and empower our student and staff experience and continue to be recognised as a destination of choice for career development and satisfaction.



EARLY RESEARCHERS

OBJECTIVE TO DELIVER

Recognise, facilitate and empower early researchers.

WHY DOES IT MATTER?

To allow us to support and encourage early researchers to develop their research profile. We will explore avenues to facilitate this, particularly in the context of the academic workload model.





SHARE OUR RESEARCH

OBJECTIVE TO DELIVER

Effectively disseminate, promote and commercialise our research outputs and outcomes.

WHY DOES IT MATTER?

So as to enhance awareness of the range, diversity and value of our research activities at CIT.



INDUSTRY AND COMMUNITY ENGAGEMENT

OBJECTIVE TO DELIVER

Strengthen our research engagement with industry and the community, both nationally and internationally.

WHY DOES IT MATTER?

So we can deliver research outputs that have strong positive impacts with industry, and society, both in Ireland and internationally.



RESPONSIBLE RESEARCH

OBJECTIVE TO DELIVER

Ensure the highest standards of scholarly and research ethics and integrity.

WHY DOES IT MATTER?

So that we can maintain and enhance confidence on the part of all stakeholders – internal and external – in the quality and the benefits of our research and scholarship.

WE VALUE THE ENTERPRISING SPIRIT OF INNOVATORS AND ENTREPRENEURS. CIT STAFF AND STUDENTS WHO ARE ENGAGED IN INNOVATIVE AND ENTREPRENEURIAL PRACTICES CONTRIBUTE TO THE KNOWLEDGE ECONOMY, AND DEEPEN OUR LINKS WITH INDUSTRY

PILLAR 03

**Expand and Deepen
Engagement with our
Broader Community**





EXTERNAL COLLABORATION

OBJECTIVE TO DELIVER

Expand our consultation and cooperation with external partners, both from industry and from society to ensure cross-fertilisation of ideas and best practice, a connected curriculum and raise our global profile.

WHY DOES IT MATTER?

We must remain current and relevant. This will present many opportunities for academic knowledge to benefit our external partners, and opportunities for our external partners to contribute to our graduate formation.



INNOVATION AND ENTREPRENEURSHIP

OBJECTIVE TO DELIVER

Strengthen and extend our innovation and entrepreneurial activities.

WHY DOES IT MATTER?

We value the enterprising spirit of innovators and entrepreneurs. CIT staff and students who are engaged in innovative and entrepreneurial practices contribute to the knowledge economy, and deepen our links with industry.



LIFELONG LEARNING

OBJECTIVE TO DELIVER

Support ongoing and lifelong learning for those in the workplace and community, and expand our distance education for relevant programmes.

WHY DOES IT MATTER?

We believe learning is a continuous process. We support all our learners equally, and offer flexible learning and upskilling, wherever they may be. We will further enhance Recognition of Prior Learning (RPL), and its significant role in encouraging and supporting educational participation.



APPLIED LEARNING

OBJECTIVE TO DELIVER

Further develop opportunities for students to engage in internships, research projects, and relevant forms of applied learning.

WHY DOES IT MATTER?

We actively promote the fullest possible formation of our students. Such initiatives, both national and international, offer vital practical experience; enhance students' employability; and form initial professional networks for future careers.



INTERNATIONAL PROFILE

OBJECTIVE TO DELIVER

Broaden CIT's profile through international partnerships with academia, industry and community.

WHY DOES IT MATTER?

We have much to offer. We seek to deepen and extend our strong connections with international partners.

WE BELIEVE LEARNING IS A CONTINUOUS PROCESS. WE SUPPORT ALL OUR LEARNERS EQUALLY, AND OFFER FLEXIBLE LEARNING AND UPSKILLING, WHEREVER THEY MAY BE





ADVOCACY

OBJECTIVE TO DELIVER

Provide meaningful contribution to relevant societal issues from an academic perspective.

WHY DOES IT MATTER?

We are part of the wider society. We encourage active staff participation for positive societal impact.



CULTURAL AND SOCIAL VIBRANCY

OBJECTIVE TO DELIVER

Contribute to the cultural and social vibrancy of our region.

WHY DOES IT MATTER?

CIT has a proud tradition. We will build on our 200-year history, and continue to develop and share our culture.





ROLLOUT AND IMPLEMENTATION OF OUR ACADEMIC STRATEGY

This strategy will be realised in a dynamic way. It will evolve continuously to anticipate and reflect the changes in both our internal and external environments.

This Academic Strategy was approved by the Academic Council of the Institute on 13th March 2019, and subsequently presented to Governing Body at its April 2019 meeting. The vision of the Strategy will be realised, by further developing the actions, for each objective of the pillars at faculty, school, department and central service units. This work will be undertaken in the autumn of 2019.

The Strategy will be reviewed and reported annually to Academic Council, to evaluate the implementation of the vision and actions of the Strategy.

APPENDIX A

PLAN DEVELOPMENT PROCESS

The Academic Council of CIT requested the Registrar and Vice President for Academic Affairs to develop an Academic Strategy to give a clear vision for the academic priorities of the Institute going forward.

The terms of reference (included in Appendix B) and recommended structure for the Academic Plan Working Group (APWG) were developed by the Academic Planning and Review Committee (APRC) of CIT's Academic Council.

The Academic Plan Working Group was chaired by Dr Mary Moloney and its membership was drawn from all sectors of the academic community of the Institute, as illustrated on pages 38 and 39. Through facilitated workshops, the structure, key academic priorities and content of the Strategy were scoped. This Strategy was informed by national and international academic policies and strategies, including inter alia:





- Action Plan for Education 2016-2019
- Action Plan for Jobs 2018
- Action Plan to expand Apprenticeship and Traineeship in Ireland 2016-2020
- Enterprise 2025: Ireland's National Enterprise Policy 2015-2025
- HEA National Review of Gender Equality in Irish Higher Education Institutions
- HEA Progression Report 2018
- HEA Strategic Plan 2018-2022
- ICT Skills Action Plan 2014-2018
- Irish Educated Globally Connected: An International Education Strategy for Ireland 2016-2020

- Ireland's National Skills Strategy
- Ireland's Strategy for Research and Development, Science and Technology
- National Plan for Equity of Access to Higher Education 2015-2019
- National Professional Development Framework for all Staff who teach in Higher Education
- National Strategy for Higher Education to 2030
- OECD Education 2030
- QQI: National Framework of Qualifications (NFQ)
- Qualifications and Quality Assurance (Education and Training) Act 2012, Revised
Updated 18th November 2014
- Report to the European Commission on Improving the Quality of Teaching and Learning in Europe's Higher Education Institutions (June 2013)
- Technological Universities Act 2018
- THEA Strategic Plan 2018-2023

The outputs of the facilitated workshops and draft Academic Strategy were submitted to the Academic Planning and Review Committee, after which it was brought to the Academic Council of CIT for consultation and final approval.

APPENDIX A

ACADEMIC PLAN WORKING GROUP

Dr Barry O'Connor, President

Dr Áine Ní Shé, Registrar and Vice President for Academic Affairs (Acting)

Chair

Dr Mary Moloney, Lecturer, Department of Civil, Structural and Environmental Engineering

Marèse Bermingham, Head of AnSEO¹ and Head of the Teaching and Learning Unit

Dr Stephen Cassidy, Dean of Academic Quality Enhancement and Acting Dean of Graduate Studies

Dr Dan Collins, Academic Administration and Student Affairs Manager

Aryana Collins-Jackson, Students' Union representative (postgraduate students)

Dr Matt Cotterell, Head of School of Mechanical, Electrical and Process Engineering

Dr Catherine Frehill, Strategic Development Facilitator, Office of Strategic Development

Katherine Keane, Head of Department of Architecture

Michael Loftus, Head of Faculty of Engineering and Science

Dr Brigid Lucey, Senior Lecturer, Department of Biological Sciences

Hugh McCarthy, Senior Lecturer, Cork School of Music

Rose McGrath, Head of Department of Media Communications

Brian McGrath, Head of School of Business

Dr Seán McSweeney, Lecturer, Department of Computer Science

Dr Noel Murray, Head of Department of Tourism and Hospitality

Nuttawud Nuchanat, Students' Union representative (undergraduate students)

Gerard O'Donovan, Head of Faculty of Business and Humanities

Captain Sinéad Reen, Head of Department of Maritime Studies

Prof. Irene Sheridan, Head of CIT Extended Campus

Prof. Roy Sleator, Senior Lecturer, Department of Biological Sciences

Dr Niall Smith, Head of Research

Dr Angela Wright, Senior Lecturer, Department of Organisation and Professional Development

1. The CIT Student Engagement Office

APPENDIX A

MEMBERSHIP OF THE ACADEMIC PLANNING AND REVIEW COMMITTEE OF ACADEMIC COUNCIL

Dr Barry O'Connor, President

Dr Áine Ní Shé, Registrar and Vice President for Academic Affairs (Acting)

Chair

Dr Mary Moloney, Lecturer, Department of Civil, Structural and Environmental Engineering

Marèse Bermingham, Head of AnSEO and Head of the Teaching and Learning Unit

Maretta Brennan, Lecturer, Department of Mathematics

Dr Pio Fenton, Head of Department of Marketing and International Business

Dr Catherine Frehill, Strategic Development Facilitator, Office of Strategic Development

Eva Juhl, Delegated Authority Facilitator, Office of the Registrar and VP for Academic Affairs

Brian McGrath, Head of School of Business

Dr Jane O'Keeffe, Lecturer, National Maritime College of Ireland

Caroline O'Reilly, Curriculum Development Facilitator, Office of the Registrar and VP for Academic Affairs

Vincent Ryan, Senior Lecturer, Department of Computer Science

Dr Ann Toebe, Lecturer, Department of Process, Energy and Transport Engineering

APPENDIX B

Approved Terms of Reference for the Academic Plan Working Group
(approved by Academic Council on 5th May, 2017)

1. Contribute to the development of the academic mission and goals of the Institute
2. Define the scope, breadth and depth of the Academic Plan, with particular reference to the maintenance and development of the Institute's academic portfolio, including its research degree provision
3. Determine an effective and dynamic relationship between the Strategic Plan and the Academic Plan
4. Perform an environmental analysis reflecting best practice. This should encompass reviews of the following:
 - a. Relevant national and international policy and legislation
 - b. Industry, employer, professional body, community, and other stakeholder perspectives
 - c. Societal needs
 - d. Relevant policies and practices in higher education nationally and internationally
5. Consider and propose mechanisms for monitoring and reviewing the Academic Plan and its implementation.

REFERENCES

UNESCO, 2015. UNESCO and Sustainable Development Goals
Retrieved from
<https://en.unesco.org/sdgs>



BIBLIOGRAPHY

- Action Plan for Education 2016-2019, <https://www.education.ie/en/The-Department/Action-Plan-for-Education-2016-2019/>
- Action Plan for Jobs 2018, <https://dbei.gov.ie/en/Publications/Action-Plan-for-Jobs-2018.html>
- Action Plan to expand Apprenticeship and Traineeship in Ireland 2016-2020, <https://www.education.ie/en/Publications/Policy-Reports/Action-Plan-Expand-Apprenticeship-Traineeship-in-Ireland-2016-2020.pdf>
- CIT Strategic Plan: 2018-2023, <https://www.cit.ie/contentfiles/CIT-StrategicPlan-2018-2023-Web.pdf>
- Enterprise 2025 Ireland's National Enterprise Policy 2015-2025, <https://dbei.gov.ie/en/Publications/Publication-files/Enterprise-2025-Background-Report.pdf>
- HEA National Review of Gender Equality in Irish Higher Education Institutions, http://hea.ie/assets/uploads/2017/04/hea_review_of_gender_equality_in_irish_higher_education.pdf
- HEA Progression Report 2018, <http://hea.ie/assets/uploads/2018/05/HEA-Progression-Report-2018-FINAL.pdf>
- HEA Strategic Plan 2018-2022, <http://hea.ie/about-us/strategic-plan/>
- ICT Skills Action Plan 2014-2018, <https://www.education.ie/en/Publications/Policy-Reports/ICT-Skills-Action-Plan-2014-2018.pdf>
- Ireland's National Skills Strategy, https://www.education.ie/en/Publications/Policy-Reports/pub_national_skills_strategy_2025.pdf
- Ireland's Strategy for Research and Development, Science and Technology, <https://dbei.gov.ie/en/Publications/Publication-files/Innovation-2020.pdf>
- Irish Educated Globally Connected: An International Education Strategy for Ireland 2016-2020, <https://www.education.ie/en/Publications/Policy-Reports/International-Education-Strategy-For-Ireland-2016-2020.pdf>

- National Plan for Equity of Access to Higher Education 2015-2019, <http://hea.ie/assets/uploads/2017/06/National-Plan-for-Equity-of-Access-to-Higher-Education-2015-2019.pdf>
- National Professional Development Framework for all Staff who teach in Higher Education, <https://www.teachingandlearning.ie/wp-content/uploads/NF-2016-National-Professional-Development-Framework-for-all-Staff-Who-Teach-in-Higher-Education.pdf>
- National Strategy for Higher Education to 2030, <http://hea.ie/assets/uploads/2017/06/National-Strategy-for-Higher-Education-2030.pdf>
- OECD Education 2030, <http://www.oecd.org/education/2030/>
- QQI: National Framework of Qualifications (NFQ), [https://www.qqi.ie/Articles/Pages/National-Framework-of-Qualifications-\(NFQ\).aspx](https://www.qqi.ie/Articles/Pages/National-Framework-of-Qualifications-(NFQ).aspx)
- QUALIFICATIONS AND QUALITY ASSURANCE (EDUCATION AND TRAINING) ACT 2012 REVISED Updated to 18 November 2014, <https://www.qqi.ie/Downloads/Qualifications%20and%20Quality%20Assurance%20%28Education%20and%20Training%29%20Act%202012%20-%20Revised%20November%202014.pdf>
- Report to the European Commission on Improving the Quality of Teaching and Learning in Europe's Higher Education Institutions (June 2013), <https://www.teachingandlearning.ie/wp-content/uploads/NF-2013-Report-to-the-European-Commission-on-Improving-the-Quality-of-Teaching-and-Learning-in-Europe%E2%80%99s-Higher-Education-Institutions-Insight-for-Teachers.pdf>
- TECHNOLOGICAL UNIVERSITIES ACT 2018, <http://www.irishstatutebook.ie/eli/2018/act/3/enacted/en/html>
- THEA Strategic Plan 2018-2023, http://www.thea.ie/contentFiles/components/gdNews/34/Thea_Strategic_Plan_WEB.pdf



**CORK
INSTITUTE OF
TECHNOLOGY**

INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

[WWW.CIT.IE](http://www.cit.ie)