



# **AIT Research Innovation & Enterprise Strategy 2015 -2018**

Revision 3.0

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# 1. Context

## 1.1 External Environment

Given the financial crisis and economic downturn that impacted Ireland over the past number of years, bridging the gap between research in HEIs and the application of valuable knowledge for socio-economic benefit has never been more important in order for the national research and innovation system to deliver real and sustainable impact - in the form of competitive exports and sustainable jobs - on the significant state investment in research over the past decade.

In this context, a number of recent policy developments underpin the future Irish RDI<sup>1</sup> environment, and provide important background for this Research Innovation and Enterprise strategy for AIT:

- The National Strategy for Higher Education has been set through to 2030, emphasising the need to build on existing investments in order to maximise future impact and on rationalising and consolidating RDI activity around key areas of expertise. It places a strong focus on regional clustering and provides for the creation of a new type of institution, the Technological University (TU). It has also led to an annual process of strategic dialogue and performance compacts between HEIs and the HEA.
- A National Research Prioritisation Exercise was commissioned which has designated 14 areas around which future national research funding will be prioritised, based on a combination of enterprise relevance, global market potential, and existing national research strengths.
- The changing remit of Science Foundation Ireland to reflect the need to fund applied as well as basic research activities, with its scope widening beyond ICT and biomedical research to include the other priority areas.
- The formation of a single Irish Research Council, providing a platform which should facilitate multidisciplinary research and funding for a greater range of postgraduate research provision, including employment-based opportunities with industry.
- A Forfás (now within the Department of Jobs Enterprise & Innovation) study on sustainability of research centres noting a need to fill a significant gap in engagement between higher education institutions and SMEs around RDI and in stimulating and supporting innovation in indigenous companies via market-informed ‘industry pull’ research centre models.
- A renewed commitment by Enterprise Ireland to supporting the start-up and scaling of innovative companies through the New Frontiers and other programmes; engagement in innovation by existing industry through national Technology Centres and regionally-spread Technology Gateways; and a more strategic collaborative approach to technology / knowledge transfer through the second phase of the Technology Transfer Strengthening Initiative, managed by the newly established ‘Knowledge Transfer Ireland’.
- All-of-government commitment to sustainable job creation, through the annual ‘Action Plan for Jobs’ process; and most recently, a related commitment to funding Regional Enterprise Strategies to drive job creation across all regions.
- Government strategy to secure as much EU funding as possible for Ireland through programmes including Horizon 2020 and European Regional Development Funds, based on national / regional ‘smart specialisation’ strategies.

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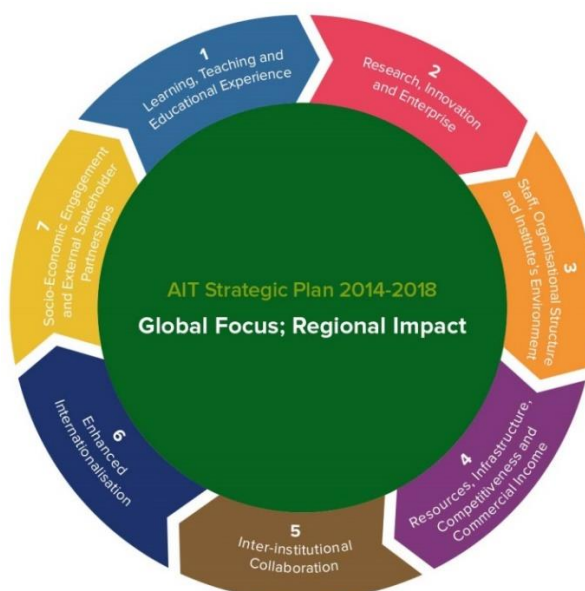
<sup>1</sup> RDI – Research, Development and Innovation

- A new overarching national ‘Strategy for Science Technology and Innovation’ (‘SSTI 2’) will also be developed and launched in 2015, via the Interdepartmental Committee on Science, Technology and Innovation to ensure this key new national RDI strategy benefits from a whole of Government perspective and approach.

The rapidly evolving national and international research and innovation landscape as summarised above is clearly entering a new phase of development, where the search for impact-focused, industry-informed RDI activity will underpin future RDI funding and support decisions.

## 1.2 AIT Strategic Plan 2014-2018

As illustrated in Figure 1 below, Research Innovation and Enterprise (RI&E) is a central and integrating pillar within the overall AIT Strategic Plan to 2018, clearly illustrating the strategic importance of the RI&E ecosystem across AIT and for our external regional, national and international stakeholders and partners. This is also reflected in the fact that research, innovation and enterprise engagement is heavily referenced across all sections / pillars of the new integrated AIT Strategic Plan.



**Figure 1:** AIT Strategic Plan 2014-2018: Research Innovation and Enterprise, central & integrating ‘pillar’.

The AIT Vision, Mission and Values below, taken directly from the new AIT Strategic Plan to 2018, also clearly illustrate the strategic importance of RI&E from the perspective of AIT senior management, staff, students, and our various external partners – all of whom contributed directly to the creation of this inclusive and vibrant AIT strategy for the years ahead.

### Vision

*AIT will be a technological university distinguished by outstanding learner experience, international focus, distinctive regional contribution and high quality impact of its staff, teaching, applied research and innovation.*

## Mission

*To provide student-centred, career-focused education, training and applied research programmes for our diverse cohort of learners within a professional and supportive environment. We are fully committed to intensive engagement with regional business, enterprise and social communities while maintaining our global orientation.*

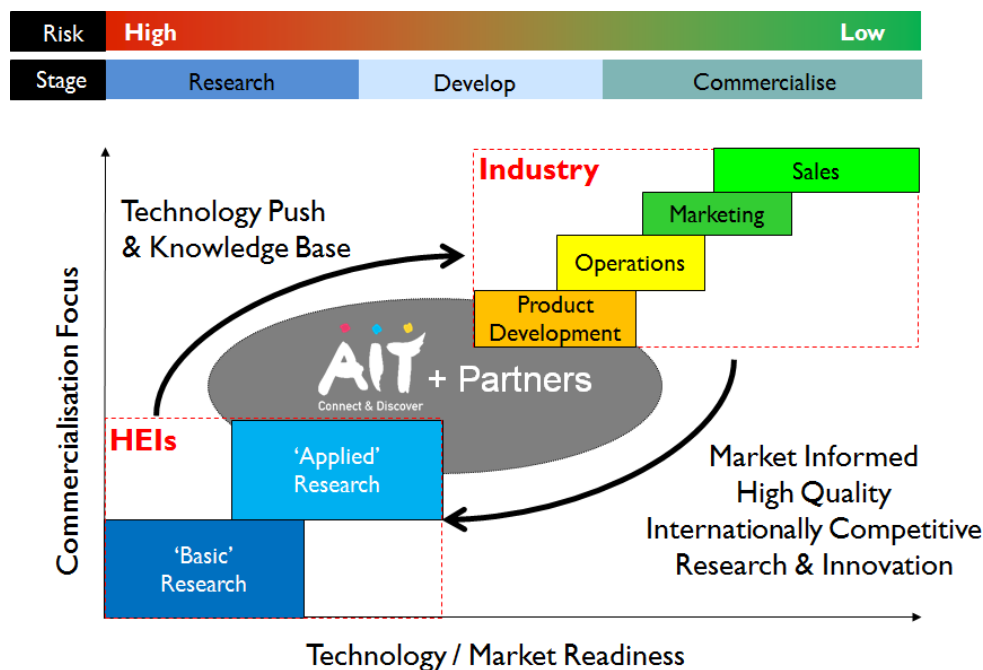
## Values

*In carrying out its mission, AIT is guided by a number of core values - excellence, partnership, transparency and accountability, professionalism and inclusive focus.*

## 2. AIT Research Innovation and Enterprise Strategy – Summary

In the context of the AIT Strategic Plan to 2018 and evolving national and international RDI policy as outlined in the previous sections, AIT's strategy is to be an RDI partner of choice for enterprise – focusing our research, innovation and enterprise engagement, development and support activities on addressing the needs of regional and national industry by proactively collaborating with start-ups and established companies via market-informed research across our areas of core research expertise, and by providing a comprehensive range of knowledge intensive support services, with a focus on SMEs.

Given our close connections with regional and national industry and communities, AIT is well positioned to help bridge the open innovation gap between new knowledge creation in HEIs and its real-world application for maximum socio-economic value and impact in people's lives, both now and into the future.



**Figure 2:** AIT RI&E Strategy: RDI Partner of Choice for Enterprise - bridging the open innovation gap

For example, from 2007 to 2014 our various AIT research and innovation centres completed over 1,250 projects for more than 300 companies, including over 270 innovation vouchers. In 2014 alone, AIT undertook 241 industry projects with 210 businesses across a broad range of industry sectors, including the successful completion of 43 innovation vouchers.

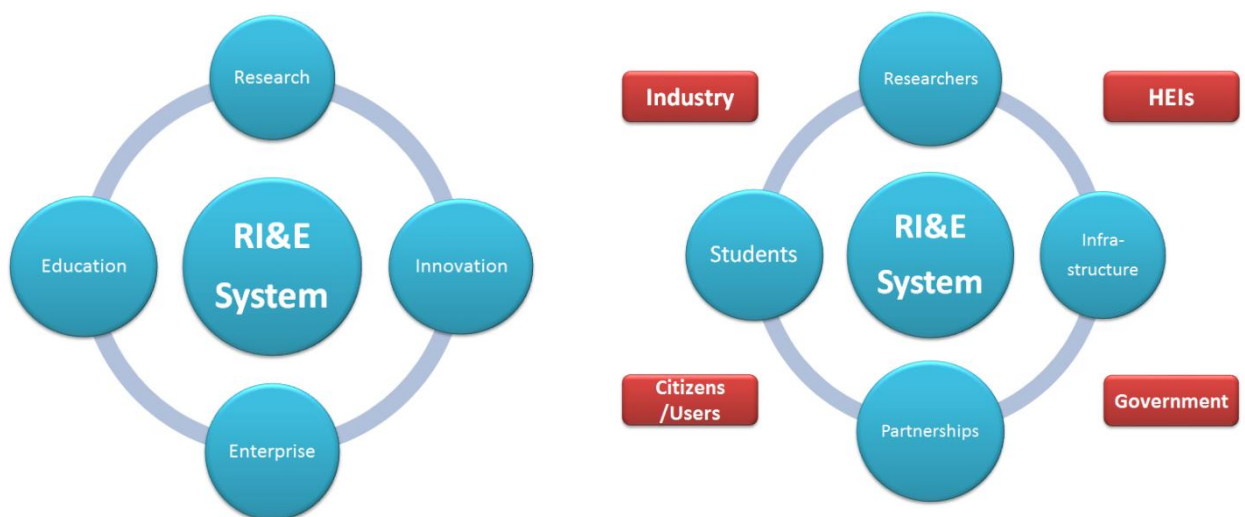
## 2.1 Key Strategic Goal

As outlined in the AIT Strategic Plan to 2018, AITs Research, Innovation and Enterprise specific mission and overarching key strategic goal is:

***To support sustainable socio-economic development regionally and nationally through relevant and internationally excellent collaborative research, innovation and knowledge-based enterprise development***

## 2.2 Integrated RI&E System

In order to deliver on the AIT RI&E mission outlined above in a sustainable manner with maximum impact and benefits for internal and external stakeholders, a key enabling strategy is the development of an integrated RI&E ecosystem, as illustrated in figure 3 below.



**Figure 3:** Integrated AIT Research, Innovation & Enterprise (RI&E) System for Sustainable Impact.

As illustrated in figure 3 above, it is widely acknowledged that interactions between education, research and innovation (often referred to as the ‘knowledge triangle’) are key in driving a knowledge-based society and sustainable jobs.

The development of an integrated RI&E ecosystem as depicted in the image on the right of figure 3 is a core element of our overall RI&E strategy, where all elements of the quadruple helix interact with, inform and benefit each other.

For example, interactions with industry of all types - from start-ups, SMEs, large indigenous and Irish-based multinational companies - ensures the ongoing relevance of our research and innovation activities, and that our graduates are work-ready. Industry and society often require solutions to be

developed in the relatively short to medium term, yet also depend on longer term research investment by AIT and the public research system to enable the development of a deep knowledge-base of expertise for the sustainable development of new technologies and solutions to future socio-economic problems and opportunities. This sustainable knowledge-base is generated from platform research undertaken by funded individuals and multidisciplinary teams of postgraduate research students and research active staff across AIT.

Educating the next generation of scientists, engineers, business, health and social care professionals, as the innovators and entrepreneurs of the future, will always require institutions such as AIT to engage in longer-term planning, and our students will benefit from being taught by staff actively involved in cutting-edge research and innovation activities in selected fields. A proactive mechanism to encourage staff to become and remain research and innovation active is also a key element of our strategy in the context of a sustainable ecosystem, as are plans to develop a career path for researchers.

Physical infrastructure and professional support services for research, innovation, enterprise development and support are also key elements of an integrated RI&E ecosystem; as are strategic partnerships and collaborations with other HEIs, Government, Citizens and Businesses at all levels – from local, to regional, national and international.

## **2.3 Strategic Objectives & Actions**

In order to deliver on the overall AIT Vision, Mission and Values as outlined earlier, and to realise the RI&E Key Strategic Goal and related RI&E ecosystem as summarised in the previous section, the following is a summary of the specific RI&E Strategic Objectives and Actions that will be targeted and implemented over the period of this AIT RI&E Strategic Plan.

1. The institute will demonstrate a developmental trajectory in line with the research dimension of a Technological University.
2. AIT has established three research institutes in materials (MRI), software (SRI) and bioscience (BRI). We will continue to build capacity around these focused areas of core research capability aligned with regional needs and national research priorities, and will leverage to drive market-informed impactful research in collaboration with our industry and community partners. We will also create an additional sustainable research centre in a focused area, again aligned with regional and national needs and priorities.
3. Deliver targeted numbers of top quality postgraduate research students in areas aligned with our focused research fields and undergraduate programmes, in order to provide a sustainable pipeline of researchers to drive the knowledge economy and to underpin our impact-focused applied research mission. We will also integrate practice-led, professional and industrial master's and doctoral structures within our regional MEND<sup>2</sup> cluster, alongside traditional postgraduate research routes.
4. Transfer advanced knowledge, technologies and valuable intellectual property (IP) to regional and national industry partners via the commercialisation of AIT's research, innovation and enterprise activities.

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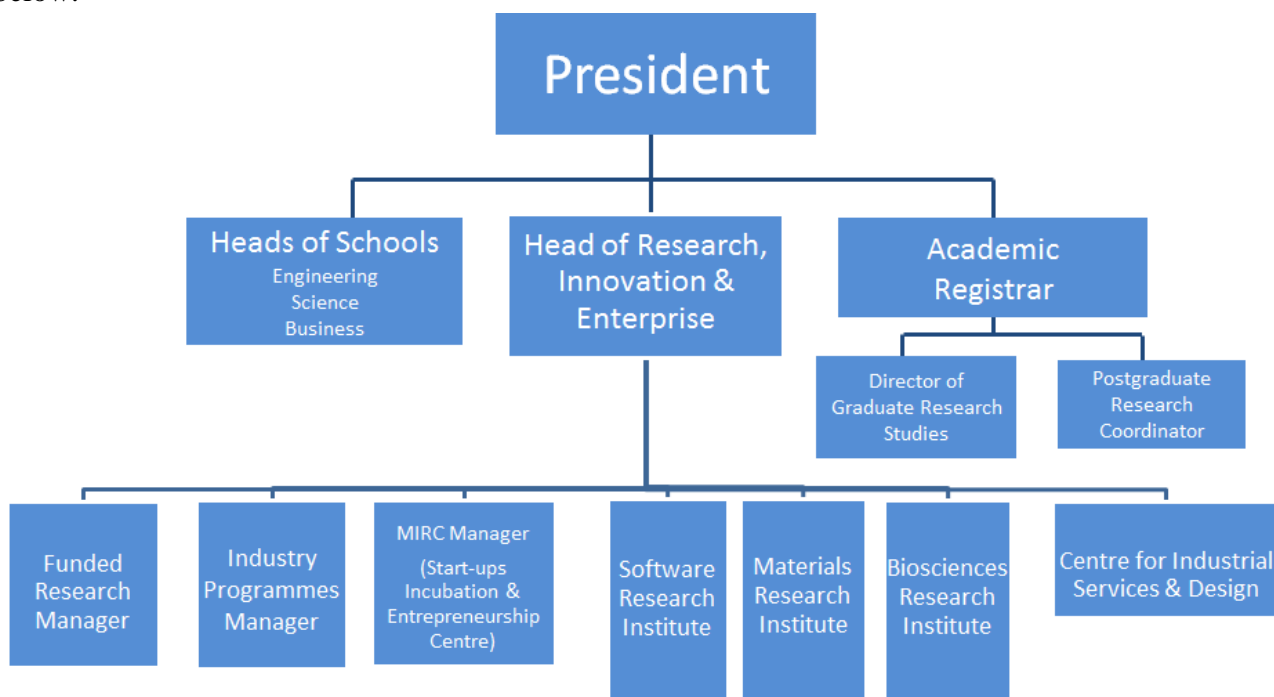
<sup>2</sup> MEND Cluster: Midlands, East and North Dublin. HEIs include AIT and Dundalk Institute of Technology, and the '3U' university partnership of Maynooth University, Dublin City University and RCSI.

5. Increase the number of knowledge-based start-ups in the region by directly supporting regional spin-in entrepreneurs, student start-ups and spin-out companies.
6. Provide a broad range of knowledge-intensive innovation services to industrial and community clients in the region and nationally - delivering results in a time frame that matches client needs, with a focus on start-ups and SMEs.
7. Benchmark research, innovation and enterprise activities against appropriate international standards.
8. Develop a cross-institutional framework to capture and strengthen pedagogical research at AIT.
9. Increase the awareness of AIT's RI&E capabilities, and identify and develop strategic partnerships within MEND and with other key stakeholders across industry, HEIs and government agencies.
10. Attract and retain top research staff in areas aligned with AIT's focused research strategy which will include a career path for researchers in line with national initiatives.

Please refer to Appendix A (AIT-HEA Performance Compact 2013-2016) and Appendix B (AIT Strategic Plan 2014-2018) for further details and more specific targets related to the integrated summary outlined above.

## 2.4 Organisation & Governance

In order to enable the effective and integrated delivery of AIT's strategic goals and objectives across research, innovation and enterprise development as outlined earlier, AIT has committed substantial strategic and operational resources in establishing the organisation structure outlined in figure 4 below.



**Figure 4:** Organisation Structure - AIT Research, Innovation & Enterprise

As illustrated above, the Head of Research, Innovation and Enterprise reports to the President, and the RI&E Office team comprises the following:

- Head of Research, Innovation and Enterprise
- Funded Research Programmes Manager
- Industry Programmes Manager (including IP Management & Technology Transfer)



- MIRC Manager (start-up incubation and entrepreneurship centre)
- Research Institute Directors (software, materials & bioscience)
- Centre for Industrial Services & Design (Director and staff)
- Administrative support staff

In summary, the RI&E Office team works closely with the Schools and the Office of the Academic Registrar (including the Director of Graduate Research Studies); the AIT research institutes and centres and associated research students and staff; finance and HR departments; registry, the library, and various institutional governance committees reporting to the overarching Academic Council and Governing Body.

For a detailed description of the roles and responsibilities of the various functions and teams outlined in Figure 4, please refer to the separate AIT document ‘Procedures and Guidelines for Postgraduate Research’. Appendix C also provides a summary of the governance and committee structures for research, innovation and enterprise across AIT - including the Research Ethics, Intellectual Property and Postgraduate Review committees under the RI&E Committee. The same appendix also includes a more detailed organisation chart for the extended AIT RI&E team.

### **3. Focused Research Strategy**

Given limited resources; a commitment to providing top international quality postgraduate research education; and a realisation that no single organisation can address the many and varied challenges and opportunities facing industry and society in the context of a global knowledge economy; our research strategy is to focus our research efforts in a small number of strategic platform areas based on core competencies built up over the years within the institution, and aligned with regional needs and national research priorities; namely materials, biosciences, and software.

AIT’s three research institutes<sup>3</sup> are anchored in these areas of core competence. The institutes have developed significant national and international collaborations with leading companies and HEIs; have attracted significant multimillion euro research and innovation funding; and have published in leading international journals. In order to enable more academic staff to engage in research activities, we have introduced a ‘research time release’ policy aligned with our focused research areas. Our three research institutes are also strategically aligned with national research priority areas and with fields in which AIT has targeted and achieved delegation of authority to award at PhD and masters levels in research, namely: polymer and mechanical engineering, toxicology, microbiology, and software<sup>4</sup>.

Our strategy is to continue to build capacity in our targeted research areas over the coming years, and to ensure that our aligned undergraduate programmes deliver a sustainable pipeline of postgraduate research students, in combination with national and international postgraduate students, to underpin the long term sustainability of our research institutes. This pipeline of postgraduate research students is critical in providing the new knowledge required to keep our research institutes vibrant and at the leading edge, so that we can sustainably deliver on our applied research mission in support of our regional and national industry partners. With this in mind, all postgraduate research candidates are located in our graduate research school, co-located with our research institutes in our east campus ‘research hub’ facility, thereby promoting and enabling opportunities for interdisciplinary research.

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<sup>3</sup> Material Research Institute (MRI), Biosciences Research Institute (BRI), Software Research Institute (SRI)

<sup>4</sup> Currently delegated authority is limited to Level 9 by research in the software area, with plans in place to achieve Level 10 delegated authority in this key ICT domain.

‘The Hub’ provides the critical physical and professional management support infrastructure to enable increasing levels of internationally competitive research and innovation activities focused on the needs of industry and postgraduate research candidates. AIT’s Director of Graduate Research Studies is also located in the hub, close to the postgraduate research students - all of whom have access to structured professional development training plans and to generic and transferrable skills training modules developed in collaboration with national and international HEI partners. As outlined earlier, our strategic objectives include the continued development of our focused postgraduate research offerings by working in close collaboration with our regional HEI cluster partners. We also plan to further develop our applied research physical infrastructure, with initial planning underway to develop an expanded ‘midlands technology campus’ in support of regional industry, to be funded from various sources.

A key objective is also to develop, attract and retain leading postdoctoral researchers as key resources for our research institutes and centres. For example, AIT is one of ten higher education institutions in Ireland currently working to implement the ‘Charter and Code’ for researchers and to achieve the ‘HR Excellence in Research’ logo awarded by the European Commission, thereby promoting AIT as a stimulating and favourable work place for top national and international research students and postdocs. The Charter recognises the value of all forms of mobility as a means for enhancing the professional development of researchers. Indeed, one of AITs leading postdoc researchers, and past AIT undergraduate and postgraduate research student, is working in collaboration with Harvard University’s Center for Advanced Orthopaedic Studies, funded by an EU Marie Curie International Outgoing Fellowship – a prestigious European research funding scheme for high potential young researchers.

Based on the solid and growing strategic foundations outlined above, AIT has secured funding to lead two new national ‘Technology Gateway Centres’ funded by Enterprise Ireland (EI), focused on collaborative research with indigenous SMEs in the areas of applied polymer technology and connected digital media; we are core academic partners in two national technology centres funded by EI and IDA in the areas of cloud computing and composite materials; and AIT is a partner in a large new SFI centre, SSPC<sup>5</sup>. As academic partners in these leading national research centres, we collaborate with many leading companies and HEIs, both nationally and internationally.

In summary, our research strategy is, and will continue to be, characterised by ‘smart specialisation’ – building on our existing and growing institutional research and innovation strengths in addressing regional and national needs, via strategic collaborations with industry and other regional, national and international partners.

## **4. Innovation & Enterprise Development**

### ***Knowledge Transfer & Research Commercialisation***

In the context of a modern open innovation ecosystem, collaborations between industry and academia via technology / knowledge exchange mechanisms are important in connecting HEI research and

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<sup>5</sup> Synthesis and Solid State Pharmaceutical Centre (SSPC), a Global Hub of Pharmaceutical Process Innovation and Advanced Manufacturing, funded by Science Foundation Ireland

innovation capabilities with current and future industry needs in order to deliver impactful socio-economic development and sustainable knowledge-based jobs at a regional and national level.

As part of the national ‘technology transfer strengthening initiative’ (TTSI), AIT is committed to the commercialisation of its research activities in the form of licensing of technology arising from collaborative research projects with established companies, and the creation of knowledge intensive ‘spin-out’ companies based on AIT developed technologies.

In this context, it is widely acknowledged that the effective and professional management of intellectual property (IP) is critical for the successful commercialisation of research outputs and in ‘putting public research to work for Ireland’, as detailed in the new national intellectual property protocol<sup>6</sup>. Here again, AIT is fully committed to the effective creation, management and commercialisation of valuable and ‘clean IP’ to help enable the success of our collaborating industry partners via strong and protected IP positions as they compete for exports and related jobs in fiercely competitive international markets.

In order to deliver on the above commitments, our strategy is to continue to invest in the development of our internal ‘technology transfer office’ and to provide appropriate levels of IP training for all our researchers; from research institute directors and lead principle investigators, through to research centre managers, postdoctoral researchers, research students and academic staff. In order to bolster our internal capacity, we have also formed a strategic partnership with Maynooth University in the context of the TTSI programme, whereby their larger and more experienced technology transfer office will provide support to AIT under the terms of a contractual ‘service level agreement’, with the strategic aim of driving increased levels of technology licensing and spin-out company creation over the coming years.

Our AIT strategy of focusing on market-informed research, versus an exclusively technology-push type model, should also deliver increased levels of commercially valuable outcomes in the form of technology licenses to our collaborating industry partners, as well as commercially viable and sustainable spin-outs.

### ***Knowledge Intensive Services***

AIT’s commitment to supporting industry is highlighted by the fact that we are among the top two knowledge providers nationally for the completion of EI innovation voucher projects with industry, including many regional Start-ups and SMEs; and are second among all IOTs nationally in undertaking larger EI innovation partnerships via collaborative research projects with leading Irish-based companies.

A key driver of the above statistics is the Centre for Industrial Services & Design (CISD). CISD delivers a broad range of knowledge intensive services for regional and national industrial clients; delivery results in a time frame that matches industry needs. The centres dedicated staff actively engage with clients to provide services including product design and rapid prototyping; extensive analytical testing via state-of-the-art equipment; physical and mechanical testing, and surface and elemental analysis - all of which cater for the many and varied needs of our industrial clients. AIT also

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<sup>6</sup> *Putting public research to work for Ireland - Policies and procedures to help industry make good use of Ireland’s public research institutions.* Forfas and Dept Jobs, Enterprise & Innovation

generates a significant number of links with a broad range of companies across the pharma, medical device, electronics, chemical, green-tech and engineering sectors through CISD. These engagements can and do lead to larger and more strategic longer term collaborative research projects across our research institutes, some of which are 100% funded by industry – a strong reflection of the value placed by our industry partners on the knowledge intensive research and innovation services provided.

Our strategy is to continue to support and develop CISD in order to deliver key knowledge intensive services to an increasing number of industry partners, with a particular focus on supporting regional SMEs and Start-ups in driving increased levels of regional innovation, competitiveness and growth. We also plan to expand the range of services offered by CISD to include more analytical testing services for the regionally strong life science and indigenous food sectors, by leveraging our internal bioscience research capabilities to support regional SMEs.

Another objective is to create even stronger internal linkages between the CISD centre and our research institutes, particularly to the applied research capabilities of our national technology gateway centres. The goal here is to proactively identify increased numbers of client companies with the mind-set and capacity to undertake longer term strategic research and innovation projects in order to drive their future growth ambitions, while also building on our internal applied research capabilities by collaborating with increased numbers of industrial clients with a broader range and depth of core research and technology challenges.

### ***Entrepreneurship, Start-ups & Regional Development***

As a regional economy, the Midlands has traditionally underperformed in generating new high growth knowledge-based export businesses (known as ‘High Potential Start-ups’, or HPSUs) - underperforming the rest of the State by 39% on a per capita basis since 2005. Hence, AIT has made support of entrepreneurship in the region, and creating an entrepreneurial culture on campus, part of its core mission in tandem with its traditional educational and applied research roles. Specifically, a key strategic priority of AIT, working in close partnership with Enterprise Ireland and regional partners, is to bring the rate of HPSU generation in the Midlands region up to, or above, the national average over the coming years. In order to help deliver on this strategic vision, AITs Midlands Innovation and Research Centre (MIRC) is a key enabling resource.

The MIRC provides incubation facilities for innovative knowledge based start-ups; hosts the ‘New Frontiers’ start-up accelerator program for regional entrepreneurs in collaboration with Enterprise Ireland and Maynooth University; and provides all our start-up clients with direct and easy access to the education, research, innovation and enterprise development resources and expertise of AIT and our network of regional, national and international partners. Working in partnership with Enterprise Ireland, the MIRC has incubated and supported over 90 start-ups to date, including 14 HPSUs that have gone on to attract significant levels of risk capital investment from the private sector. MIRC start-up clients have also undertaken over €2m in collaborative research and innovation projects with AIT researchers and the CISD centre to successfully develop their technologies. This ‘spin-in’ start-up model is also very financially efficient and provides very good value for money by generating a significant number of HPSUs in the Midlands Region for a relatively modest State investment.

In order to further our vision of delivering higher HPSU rates for the region, AIT entered into a strategic collaboration with Maynooth University (MU) in relation to the ‘New Frontiers’ programme in 2012.

This new joint programme is led by AIT in close collaboration with MU, and serves the broader Midlands-Mid-East region, incorporating both the Midlands counties of Westmeath, Longford, Offaly, Laois and the Mid-East counties of Kildare and Meath - representing up to 14 per cent of the population of the State. The programme also brings together regional entrepreneurs (typically more market-driven) with academic entrepreneurs from both MU and AIT (typically more technology-driven) on the same program, with resultant benefits and mutual learning's for both cohorts – with the ultimate aim of generating higher levels of sustainable start-up companies across the region. Given the significant under provision of top class knowledge-based incubation facilities and services for start-ups in the Midlands relative to other regions nationally, AIT also has a strategic objective to expand the current MIRC facility in order to accommodate more regional entrepreneurs, and have submitted a proposal to Enterprise Ireland in this regard.

An external MIRC advisory board has also been established to provide strategic advice and support in relation to the continued development of the MIRC and its services. This strategic board includes leading regional and international business angel and venture capital investors; leading entrepreneurs across various sectors relevant to the Midlands; the CEO of a leading national incubator; and the Enterprise Ireland regional director for the Midlands.

Finally, AIT launched a new Entrepreneurship Academy, InnovAIT, for student and graduate entrepreneurs in Sept 2013. This initiative is being led by the AIT Business School in collaboration with the MIRC and regional partners, and is based on learning's from leading international programs in Finland, the USA and elsewhere. This exciting new program will develop a cohort of entrepreneurial graduates from AIT, willing and able to inject entrepreneurial initiative and drive as employees within established companies, as well as graduate entrepreneurs launching their own knowledge-based start-ups in the Midlands Region and beyond.

We believe that the above enterprise development strategies and initiatives will significantly enhance the performance of AITs enterprise programmes, drive increased value-for-money and deliver increased outputs for the Midlands region; with the strategic goal of driving the rate of HPSU generation in the region from a position of significant under-performance to above the national average over the coming years, by working in collaboration and our regional partners and national agencies.

# Appendix A

## AIT-HEA Performance Compact, 2013-2016: Research, Innovation and Enterprise - Summary

| Strategy  | Objective   | Metrics / Targets   |
|---|---|---|
| High quality, internationally competitive research and innovation                     | <b>Build capacity around focused areas of core research capability</b> aligned with <b>regional needs and national research priorities</b> , and leverage to drive market-informed research in collaboration with industry partners   | <ul style="list-style-type: none"> <li># Projects</li> <li># Companies engaged</li> <li>Total € value of projects</li> <li>€ industry contribution</li> </ul>                 |
|   | <b>Deliver top quality postgraduate research programmes at levels 9 and 10</b> , aligned with our focused research areas and undergraduate programmes, in order to provide a sustainable pipeline of researchers to drive our impact-focused applied research mission. A key catalyst would be the reestablishment and maintenance of a postgraduate research foundation funding programme for the IOT sector | <ul style="list-style-type: none"> <li>L10 Software/Networks</li> <li>Shared PG research modules with NUIM (and other cluster partners)</li> </ul>                            |
|   | <b>Improved knowledge/technology transfer to enterprise</b> via the commercialisation of AITs research activities, in the form of technology licensing to Irish-based companies, and the creation of knowledge intensive 'spin-out' companies.  | <ul style="list-style-type: none"> <li>Licenses/Options/Assignments (LOAs)</li> <li>Spin Outs</li> <li>Invention Disclosures</li> <li>Priority Patent Applications</li> </ul> |
| Enhanced engagement with enterprise and the community and embedded knowledge exchange | Working with Enterprise Ireland, <b>support the development of knowledge-based start-ups in the Midlands</b> region via MIRC campus business incubator, including the New Frontiers entrepreneur development programme delivered in partnership with Maynooth University.   | <ul style="list-style-type: none"> <li># New Frontiers Phase 2 participants/year.</li> <li># other entrepreneurs/projects supported per year</li> </ul>                       |
|   | Provide a broad range of <b>knowledge intensive innovation services</b> to regional and national industrial clients, delivering results in a time frame that matches industry needs, and with a focus on start-ups and SMEs.  | <ul style="list-style-type: none"> <li># Industry Projects</li> <li># Companies supported</li> <li># Innovation Vouchers</li> </ul>   |

| Performance Indicator                                   | Target 2014 | Actual 2014 |
|---|-------------|-------------|
| # Projects<br>(> €1,500, Industry & Other RDI projects) | 72          | 182         |
| # Companies   | 64          | 210         |
| Total € value of projects                               | €937,000    | €3.4m       |
| Industry contribution                                   | €306,000    | €627,491    |
| Licenses/Options/Assignments (LOAs)                     | 2           | 2           |
| Spin outs   | 0           | 0           |
| Invention disclosures                                   | 4           | 5           |
| Priority patent applications                            | 2           | 2           |
| # Industry projects                                     | 169         | 241         |
| # Innovation vouchers                                   | 32          | 43          |
| # New Frontiers phase 2 participants                    | 13          | 13          |
| # Other entrepreneurs/projects supported                | 37          | 44          |

# **Appendix B**

## **AIT Strategic Plan 2014-2018**

### **5.2 Research, Innovation and Enterprise**

#### **5.2.1 Key Strategic Goal**

To support sustainable socio-economic development regionally and nationally, through relevant and internationally excellent collaborative research, innovation and knowledge-based enterprise (RI&E) development.<sup>7</sup>

#### **5.2.2 Strategic Actions to Deliver our Goal**

1. The institute will demonstrate a developmental trajectory in line with the research dimension of a TU.
2. AIT has established three research institutes in materials (MRI), software (SRI) and bioscience (BRI). We will create an additional, sustainable research centre in a focused area aligned with regional needs and national research priorities.
3. Deliver targeted numbers of postgraduate research students in areas aligned with our applied, problem-oriented research fields through the integration of practice-led, professional and industrial master's and doctoral structures within MEND alongside traditional routes.
4. Transfer advanced knowledge, technologies and valuable intellectual property (IP) to regional and national industry-based partners via the commercialisation of AIT's research, innovation and enterprise activities.
5. Increase the number of knowledge-based start-ups in the region by directly supporting regional spin-in entrepreneurs, student start-ups and spin-out companies.
6. Provide a broad range of knowledge-intensive innovation services to industrial and community clients – delivering results in a time frame that matches client needs, with a focus on start-ups and SMEs.
7. Benchmark research, innovation and enterprise activities against appropriate international standards.
8. Develop a cross-institutional framework to capture and strengthen pedagogical research at AIT.
9. Increase the awareness of AIT's RI&E capabilities, identify and develop strategic partnerships within MEND and with key stakeholders across industry, other HEIs and government agencies.
10. Attract and retain top research staff in areas aligned with AIT's focused research strategy which will include a defined career path for researchers in line with national initiatives.

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<sup>7</sup> The RI&E also refers to the sub-committee of Academic Council charged with supporting activity under this strategic heading.

### 5.2.3 Performance and Strategic Targets

1. Formulate a strategic plan by Q2 2015, for the advancement of new opportunities afforded to AIT in the areas of RI&E.
2. Increase postgraduate research enrolments at Levels 9 and 10 by 30% (from 90 to 120) by Q4 2018.
3. Continue to build critical mass in existing thematic research areas of materials, software and bioscience, aligned with regional needs and national research priorities to meet the following targets by 2018:
  - Number of projects to increase by 60%
  - Number of companies engaged to increase by 50%
  - Total monetary value of projects to increase by 75%
  - Monetary value of industry contribution to increase by 50%
4. Establish over the lifetime of the plan one new sustainable research centre/institute, created in collaboration with industry and academic partners.
5. Significantly improve knowledge/technology transfer to enterprise via the commercialisation of AIT's research activity through a 100% increase in the level of technology licensing to Irish-based companies and creation of knowledge intensive spin-out companies over the duration of the strategic plan.
6. In collaboration with Enterprise Ireland and Maynooth University, provide over the lifetime of the plan enhanced training and support towards the development of knowledge-based start-ups in the midlands mid-east region.
7. Increase the provision of a broad range of knowledge intensive innovation services to regional and national clients, with a focus on start-ups and SMEs. The performance targets in relation to the Centre for Industrial Services and Design (CISD) by Q4 2016 will include increases in:
  - Industry projects to 174/pa
  - Company clients to 88/pa
  - Innovation Vouchers to 34/pa
8. Benchmark RI&E activities against appropriate international standards by Q4 2015.
9. Achieve delegated authority to award at Level 10 in software/networking research by Q4 2014.
10. By Q4 2016, AIT will be on a path towards developing a distinctive model for structured postgraduate studies which emphasise core research competencies, knowledge transfer capabilities, innovation framework, in collaboration with regional and national enterprise partnerships.

### 5.2.4 Leading Action Projects

1. TU Project: This project to commence by Q4 2014 will develop formal strategies for AIT to achieve all research criteria pertaining to TU status over the lifespan of this strategic plan.
2. MEND Cluster Project (subject to agreement with MEND cluster partners): This project, to commence by Q3 2015, will establish strategies for the advancement of opportunities afforded to AIT in RI&E through MEND, including development and provision of shared postgraduate modules, support services for



technology transfer and enterprise development, and mechanisms for shared access to specialist research facilities.

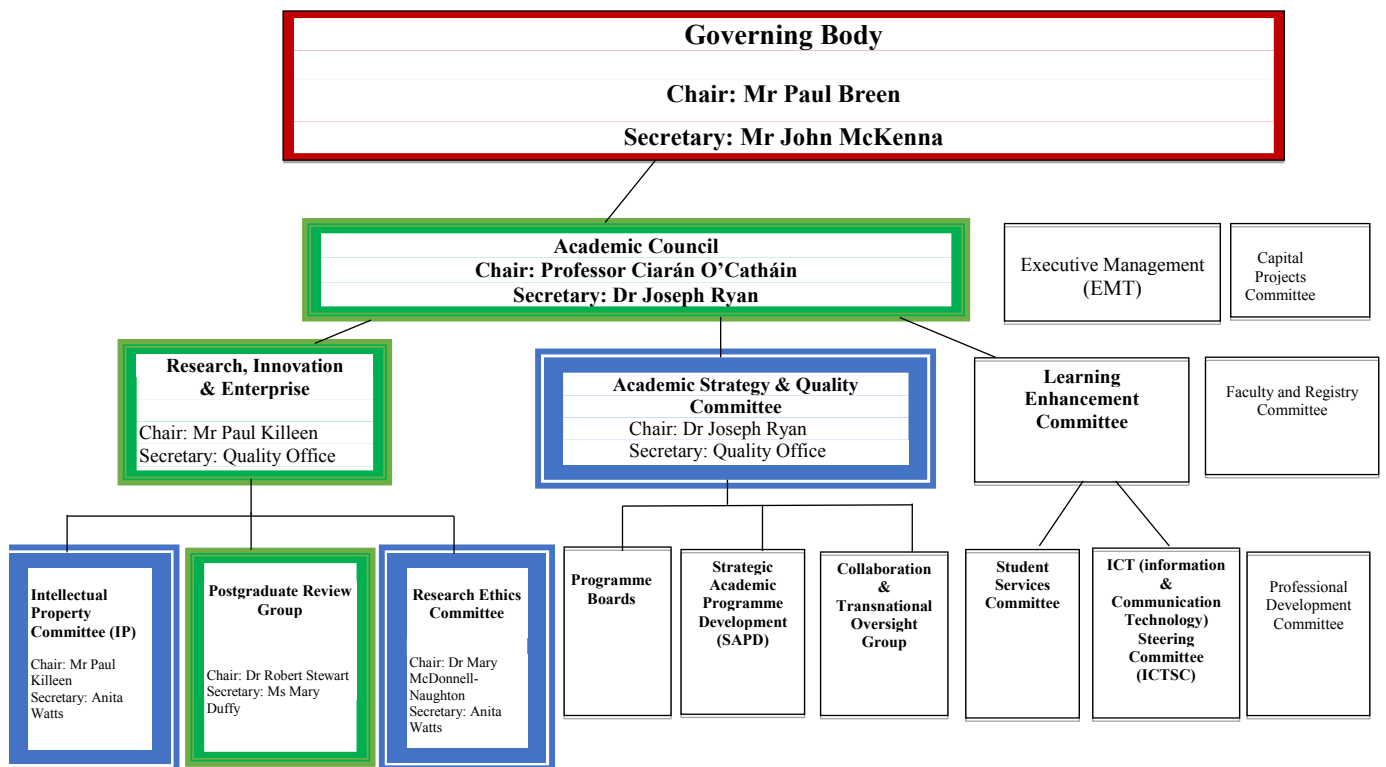
3. Funding Diversification Project: This project will identify a range of funding sources by Q3 2015 for RI&E, and target strategic and regional development funding opportunities aligned with AIT's strengths, regional needs and national priorities from diverse exchequer and non-exchequer sources, including EU, industrial, philanthropic and national funding initiatives.

4. Postgraduate Research Students: A sustainable plan will be defined and implemented to:

- meet targeted numbers of postgraduate research students in areas aligned with our focused research institutes.
- deliver structured generic and discipline-specific postgraduate research modules in collaboration with Maynooth University and other regional cluster partners, in line with the emerging QQI/HEA national doctoral framework.

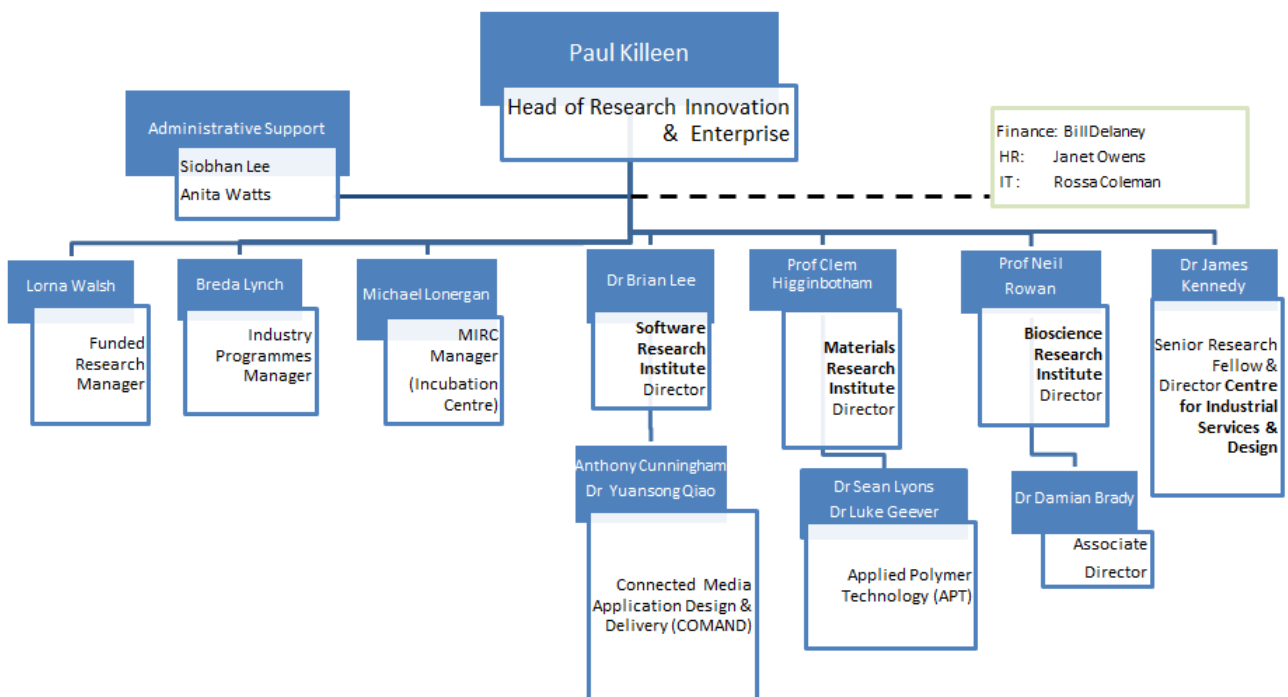
5. Career Path for Research Staff: A defined career path for AIT dedicated researchers will be developed and implemented by Q4 2018, in accordance with the EU 'Charter and Code' for researchers and achieve the HR 'Excellence in Research' logo awarded by the European Commission.

# Appendix C



**Figure C1:** Summary of AIT governance and committee structures for research, innovation and enterprise

NOTE: for descriptions of the various committees highlighted in figure C1 above, please refer to the AIT document 'Procedures and Guidelines for Postgraduate Research'



**Figure C2:** Organisation Chart - AIT Research, Innovation and Enterprise team