



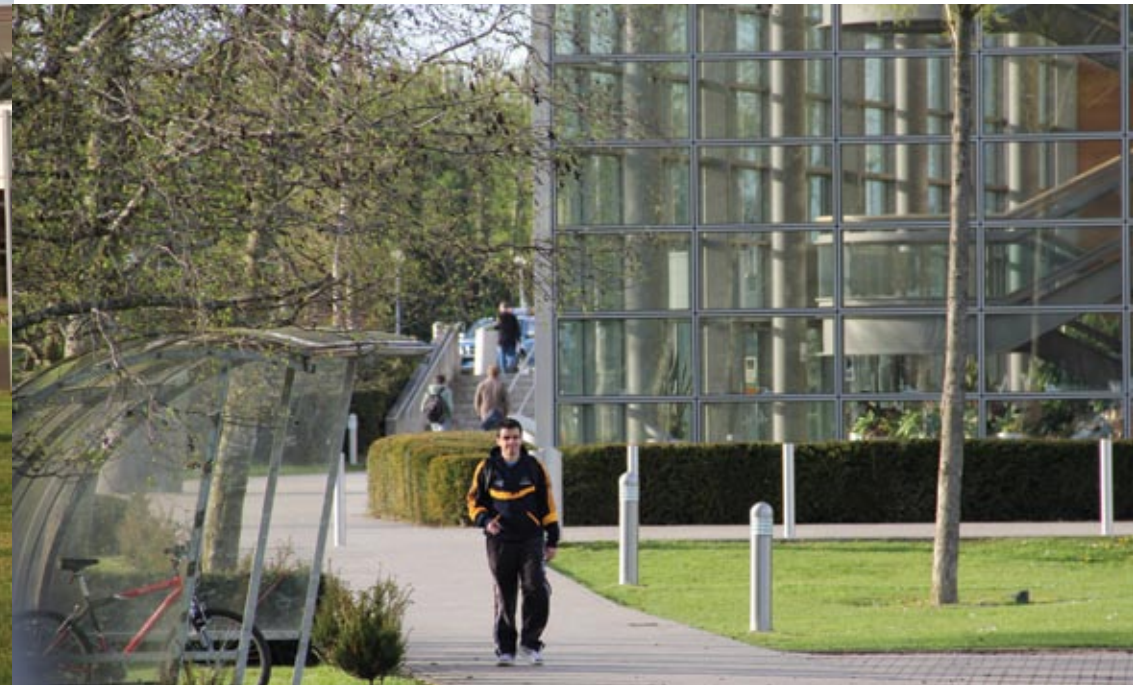
Campus
Development Plan

2011-2021



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Dundalk Institute of Technology Campus (2011)



1 Introduction and Context

1.1 Dundalk Institute of Technology and its regional and national context

Dundalk Institute of Technology (DkIT) is the only Higher Education Institution in the North-East region of Ireland and draws its student population principally from Counties Louth, Monaghan, Meath, Cavan and Fingal. It is one of thirteen Institutes of Technology that make up the Institute of Technology sector in Ireland. The sector provides approx. 45% of all higher education places in the state.

DkIT is situated in the Dundalk Town Council area and occupies a 30 Hectare (75 acre) campus on the southern environs of Dundalk town. The campus is adjacent to the Finnabair Industrial Park, Xerox Technology Park and to retail, hotel, leisure and shopping developments. Dundalk, with a population in excess of 30,000, is the main administrative centre for Louth and is designated as the only Gateway Centre in the North East region within the National Spatial Strategy.

The Institute campus is also at the centre of the Sustainable Energy Authority of Ireland (SEAI) sponsored Dundalk Energy Zone – a national renewable energy exemplar project- and has introduced many energy innovations over the last decade including the installation

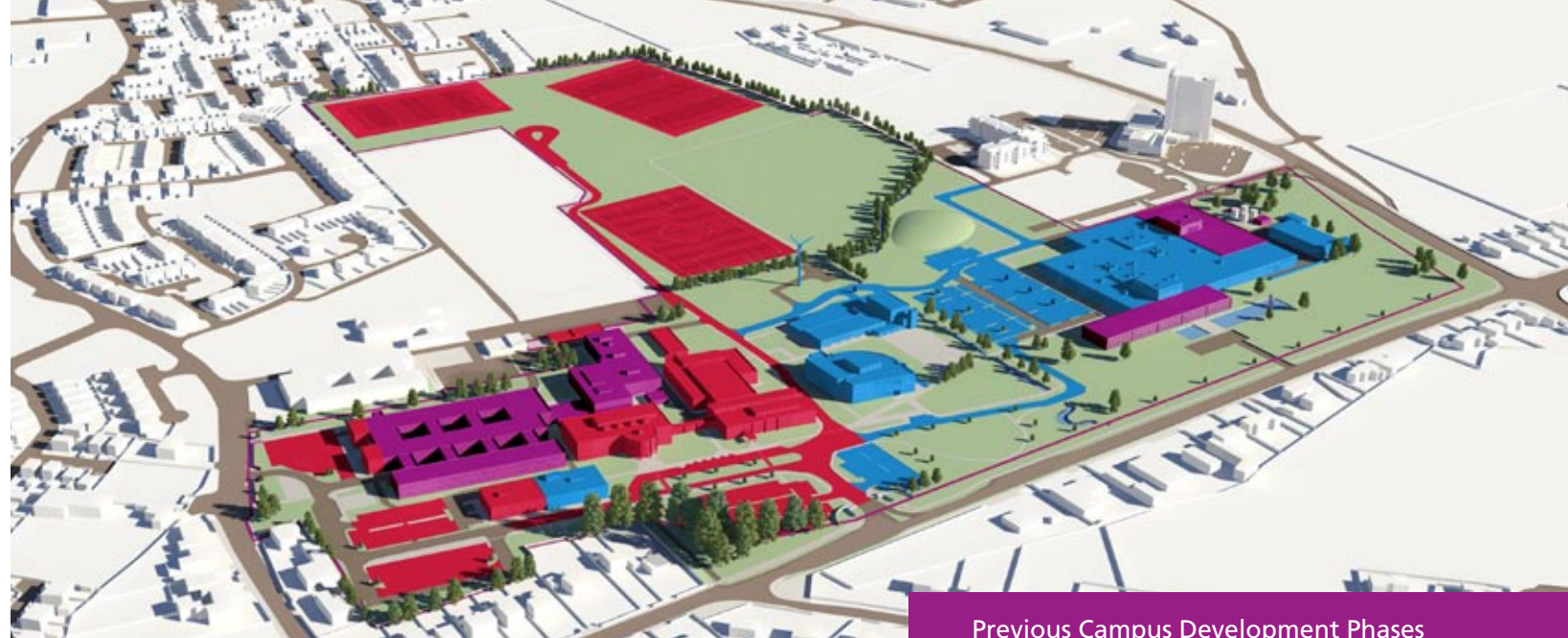
of the world's first campus based industrial scale wind turbine that provides a large proportion of the Institutes Energy needs. These various innovations have resulted in the Institute's energy usage and CO₂ output per square metre being reduced by 25% in the period from 2007 to 2011. Waste to landfill tonnages have also been reduced by 50% over the same period through a range of waste recycling and control measures introduced through various Institutional Environmental and Sustainability policies. The developments planned and described in this Plan will be undertaken in such a fashion so as to achieve further reductions in all sustainability targets by 2021 thereby addressing Institutional, local, regional and national sustainable development priorities. DkIT has placed a particular strategic emphasis on sustainable development, research and development and entrepreneurship and through its research clusters (in Ageing and Health, Renewable Energy & Environment and Creative Arts) is supporting a range of priority knowledge sectors of regional and national importance in an economic and social context. Through the Regional Development Centre innovate enterprise creation is also supported through



Mullaharlin Area Development Plan

a variety of programmes including on-campus business incubation facilities and knowledge transfer services to support innovation and growth in the SME sector.

Since its foundation in 1971 the Institute has been a key component and catalyst in the economic and social development of the North East region. Its programmes of study and research are targeted at impacting directly on regional and national development. This emphasis has led to a constant growth in student numbers with major facilities added to the campus infrastructure, particularly over the last decade. These developments have been planned and procured within local and regional planning guidelines (particularly within the Mullaharlin Development Framework Plan and Dundalk and Environs Development Plan (2009-2015)) and in keeping with an orderly development of the campus from an infrastructural and architectural perspective.



1.2 Campus Development

Dundalk Institute of Technology (DkIT) adopted its first Campus Development Plan (CDP) - or physical Masterplan - in 1994. The first plan coincided with the implementation of the new statutory arrangements under the 1993 RTC Act and the planned growth in Higher Education (HE) envisaged in the Governments Steering Committee Report on Capital needs in HE across all tertiary sectors (Universities, the Technological sector and in the Teacher Training sector). The Steering Committee Report also capped developments for all HE Institutions with DkIT's student numbers set at a maximum of 3000 by 1998. DkIT's first CDP included a new Hospitality Training Building, a Library and Information Resource Centre, expanded Incubation facilities and an expansion of the Campus Multi-Purpose Centre and outdoor sports areas. The first Masterplan was completed by

2001 and in the period from 1993 to 2001 student numbers had increased by 50% from 2000 to 3000.

In 2001 the Institute began its next phase of campus development planning to coincide with the launch that same year of the First DkIT Strategic Plan for the period 2001-2006. A major strategic acquisition in 2002 by the Institute of the adjacent Carroll's manufacturing facility (on a site of 18 Hectares) effectively doubled the campus site and necessitated the preparation of a new CDP to include the development of the c. 18,000 sq.metre Carroll's factory area as part of the overall campus expansion programme. The CDP was also developed to inform national HE capital investment planning and prioritisation, a process which was to lead to the publication in June 2003 by the Higher

Previous Campus Development Phases

- Phase 1 (1994 to 2001)
- Phase 2 (2002 to 2011)

Education Authority (HEA) of the Kelly Report. This Report recommended a prioritised list of capital investment projects nationally over a period upto 2013 and for DkIT recommended a major capital programme which included the partial development of the Carroll's facility, the addition of a new Restaurant facility, improvements to campus infrastructure and enhanced facilities for business incubation and R&D. In parallel with these developments, and as a consequence of the transfer of Nursing Education from clinical sites to the HE sector, DkIT was also approved as a site for the location of a new c.4,500 sq.metre Nursing and Health Studies facility which was completed on campus in 2004. By 2010 the new CDP had provided the Institute with a modern campus catering for 4,500 FTE students and had also begun to address new statutory requirements for H&S and Disability

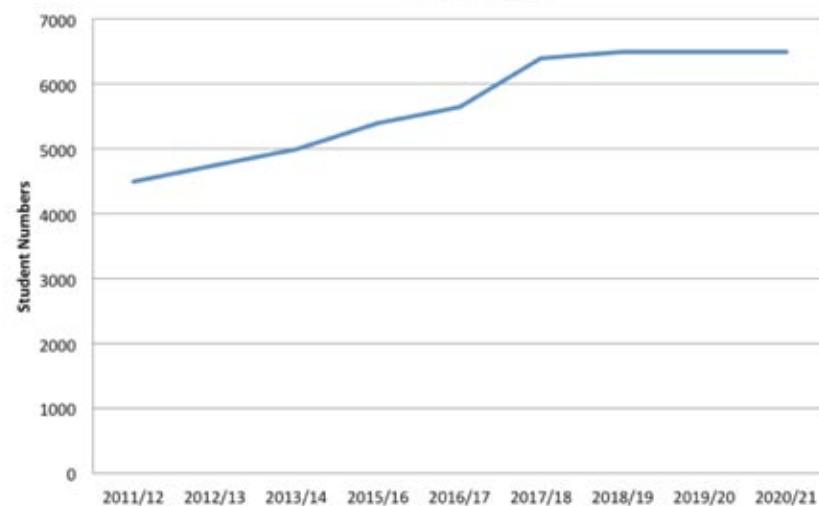
Access. By 2010 capital investment at the Institute amounted to €150 million over a 15 year period or an expenditure of almost €850,000 per month on average over that period.

In 2011 the Institute began the preparation of a new Strategic Plan for the period 2011 to 2014. A shorter Strategic Planning period was felt to be appropriate given the difficult economic circumstances, the changes occurring and planned in HE (as an outcome of the implementation of the HE Strategy published by Government during 2011 and the new HE Framework published by the HEA in 2012), new workforce re-skilling and up-skilling requirements, changes occurring in apprentice education and the increases in student registration charges and the impact of this on long term strategic planning. As a consequence of increases in HE education participation envisaged through the Hunt Review and the 70% growth in HE enrolment projected by the DOES upto 2031(Projections of Full-Time Enrolment 2011-2031 – issued June 2012) it was clear that DkIT would need to cater for upwards on 6,500 FTE students (See Figure 1 right) by 2021 as part of the overall envelope of the HE population. It was therefore decided that a new CDP was required that would examine physical development options and identify

the building, infrastructure and funding requirements necessary to accommodate the increased student population envisaged. It was recognised that a variety of innovative approaches would be necessary to resource this expansion during a period of limited state capital investment and at a time when private capital and borrowings would be difficult to access. The new plan would also have to involve a level of phasing and a degree of flexibility to enable the most efficient use of the assets available to deliver the range of educational, research, developmental and community support services required as funds became available. This CDP is therefore a strategic response to addressing the physical space and infrastructural needs of the DkIT community over the next decade and beyond.



**Fig 1: Planned Growth in Student Numbers
(2011 to 2021)**







2 Strategic Planning Framework

The vision and underlying principles for the Campus Development Plan is to provide DkIT:

- (a) With facilities that are excellent and appropriate to the teaching, learning, research, knowledge transfer, developmental and recreational needs of the Institute and of the wider community and region,
- (b) With an environment that provides an aesthetic context which enhances the experience of staff, students and visitors and which is both beautiful and enriching, and
- (c) A campus that in its design, function and form gives expression to the Institutes principles of sustainability, energy conservation and community access.

To achieve this vision – one which is derived from the Institutes Strategic Planning framework and Goals – an approach has been adopted which will identify in macro terms the additional space requirements for teaching and learning, R&D and student support whilst also recognising the need to maintain and modernise older building stock and enhance the overall campus environment and address energy efficiency, Health and Safety and mobility access priorities. From this macro analysis specific projects will be defined, designed, developed, procured and delivered in a phased manner and/or as funding (or match funding) opportunities arise over the period up to 2021.

The Plan also recognises that the developments and enhancements envisaged must meet an ever changing external planning priority framework (at urban, local, regional and national levels) whilst also adhering to changing legal and regulatory frameworks that affect the way buildings and facilities are planned, procured, operated and maintained.

Finally the CDP recognises that facilities must be developed that are capable of meeting sustainable development principles and policies (in particular those expressed in the Institutes Environmental Policy, Green Campus Policy, Sustainable Traffic Management Policy, Access Policy, etc.) and that minimise the operational costs that the Institute must meet as part of its limited recurrent resources. All building refurbishment projects and new buildings will therefore continue to be analysed as appropriate through the relevant Capital Appraisal procedures of the Department of Finance and will be procured in a manner that adheres to national and EU procurement law.





3 Core Requirements

In 2008 the Institute undertook a major space audit (part of a larger national exercise in all HE Institutions co-ordinated by the HEA) and since then this audit has been updated to take account of new facilities added since then – in DkIT's case mainly the new areas developed in the Carroll's building and coming into use in 2010. Nationally (and indeed internationally) HE space requirements are calculated against a high level average space requirement of 10 sq.metres per Full Time Equivalent(FTE) student. This average, known as a Space Norm, is used as a benchmark to identify in macro terms space deficiencies in the HE sector and within HE Institutions. The Space Norm also informs decisions at a budgetary level nationally and Institutionally so that national HE capital requirements are identified so as to enable HEI's to reach the ideal norm of 10 sqm. per student.

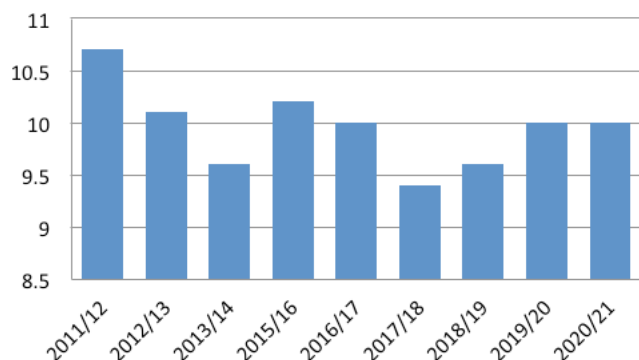
For many years DkIT's average space norm was well below this average but over the period 1995 to 2010 this has improved to the extent that with our student numbers at 2011/12 our norm is approx. 10.7, this improvement particularly since the addition of the Carroll's facility in 2010. The Institute now (at the outset of the new CDP period) has a

total developed area of c. 48,000 sq.metres in use. This overall space norm of 10.7 for DkIT, whilst indicating adequate space provision, hides space deficiency situations in certain Institute areas. Whilst teaching and laboratory space is generally above the average support areas such as Sports and Recreation areas, Library, student services, and central administration facilities are below average. This was demonstrated in greater detail within the space audit conducted for the HEA.

As part of the Strategic Planning exercise conducted during 2011 a target of FTE student registrations at 6,500 FTE was set. This target is also consistent with the overall increases in enrolment projected by the Department of Education and Science in their projections published in June 2012. This would therefore indicate that an overall space requirement for DkIT would be 65,000 sq.metres indicating a deficit to be addressed of c. 17,000 sq.metres over the planning period. Part of this deficit can be accommodated by refurbishment of the remaining areas of the Carroll's building and also by the addition of new buildings or extensions to existing facilities.

The optimisation of the Institutions space norm over the period 2011 to 2021 is indicated graphically in Figure 2 below. This indicates how the space norm will be optimised as each phase of future campus development in the next 10 years (as set out in Phase's A,B and C below) is implemented so as to attain the desired average of 10 sq.metres per student.

Fig. 2: Optimisation of Space Norm (sq.m./student) as CDP phases A,B and C are implemented.



In parallel with the Strategic Planning process internally the Institute has also been asked to examine capital priorities as part of preparatory capital expenditure planning being undertaken by the HEA. As an outcome of this exercise, and an analysis of the Institutes space deficits going forward, a number of priority areas emerge. These include:

- (a) A requirement to address the provision of core student support areas (and particularly Student Sports and recreation areas and Library facilities,). With the rapid pace of expansion over the last CDP the emphasis (and state investment) has been channelled towards teaching, laboratory and R&D areas. Much of DkIT's core support areas were designed and constructed for a student FTE population of just 3,000 in the case of the Library and under 2,000 in the case of the Sports Hall. This latter facility is now in fact catering almost exclusively for teaching needs in Sports, Exercise and Health programmes and is practically unavailable for student recreation purposes.

- (b) A requirement to modernise and upgrade the original 1970's building stock (principally the North and South buildings and the remaining areas in Carroll's). The internal layout of the N&S buildings in particular has been modified on an ongoing basis since their construction but the fabric (roof, walls and glazing) and building services are now 40 years old and require complete refurbishment/replacement. A successful refurbishment methodology has already been specified, agreed and successfully tested in an adjacent facility (O Fiach College). As well as addressing the fabric and services upgrading the methodology and approach results in structures that are highly energy efficient, comply with new access and H&S legislation and are less of an operational burden on the facilities management budget of the Institute.

- (c) The need to provide additional academic space (teaching areas, labs., research space and academic and support staff areas) to address student number increases from 4,500 (at the commencement of this new CDP period) to the 6,500 student population envisaged by 2021.

- (d) The upgrading and improving of site utilities and infrastructure as part of (a) to (c) above. This will involve dealing with upgrading energy supply infrastructure, electrical switchgear, ICT infrastructure, water, gas, waste, car parks, roads and grounds generally as each phase progresses. These measures will recognise the principles and objectives laid down in various Institute policies particularly the Green Campus, Environmental and Sustainable Traffic Management policies.

Since September 2008 (when the Governing Body agreed the Institutes capital investment priorities) these projects have continually featured within the Institutes Programmes and Budgets Annual submissions to the HEA. With the pause that has now occurred in the HE Capital Investment Programme it is clear that HEI's will have to advance any future capital investment programme in innovative ways and through joint funding approaches with non-exchequer bodies, external organisations and through private fund raising and philanthropy. Whilst this CDP suggests a prioritised and phased approach it must be recognised that the availability or absence of identified funding sources may result in certain phases occurring in a different order and/or consisting of different content and solutions than those originally envisaged.



4 Project Prioritisation, Phasing and Scheduling

Based on the Strategic Planning exercise and the projected increase in requirements as outlined, the Institute has examined a range of options to address the needs outlined. The previous CDP's have all taken future potential expansion into account and the main campus infrastructure and site have been developed to facilitate this expansion. A variety of sites around the campus environs facilitate the expansion needs of core services, academic Schools, R&D, Sports and Recreation so that this current CDP is more an updating of the previous CDP to take account in more specific terms of the current development priorities.

The phasing proposed is based on the priorities emerging and the funding or match funding opportunities available at present particularly with Phase A. It should also be noted, however, that if cost-effective alternative solutions arise (on or off campus) or if unexpected sources of funding are awarded for distinct facilities, then the elements within each phase (or the phases themselves) may be re-prioritised, altered or omitted. Nationally strategic projects (decided by Government – such as the decision in 2004 to construct Nursing Education facilities at DkIT) may also require a modification to the phasing proposed. All changes will require approval of the Executive Board and the Governing Body.

On this basis the following phasing of future capital investment projects is proposed:



New Campus Development Phases

Phase A (2011-2015)

- Student Centre
- Stadium, Running Track and ancillary areas
- Library Expansion (Phase 1)

4.1 Facilities – Major Refurbishments, extensions to existing buildings and new buildings

Phase A | Implementation from 2012 to 2015

Content

- (a) The provision of a new Student Centre of c. 4,000 sq. metres minimum to accommodate sports and recreation facilities and areas for Student Clubs and Societies to use. The facility will also house the Club Bar (to be relocated from its current location in the Faulkner Building) and other social areas. It is estimated that this will require a budget of c. €10 million.
- (b) Expansion of the Library to occupy the Ground Floor area of the Whitaker Building currently used by Central Administration functions. This will enable the Library to increase its available area by c. 30% and increase its study and support areas accordingly. This will also require Central Administration functions, Registrars functions and the main Institute reception, boardrooms, etc to be relocated to the front glazed office area in the Carroll's building which will require refurbishment. A budget estimate of €6 million will be required for this element.
- (c) The development (in co-operation with the GAA) of a 12,000 seat stadium and ancillary sports facilities to include a running track, athletic areas and associating training areas. This will serve the needs of the GAA at county, regional and national levels as well as the needs of the Institutes sports clubs, sports courses and other sporting organisations. The facility will contain changing rooms, meeting and support areas and be accessible for use by DkIT and the external community. It will also complement the Student Centre and vice versa. It is estimated that the overall development of this element will cost €7 million.

Total Budget for Phase A € 23 million



New Campus Campus Phase B (2015 - 2018)

- North and South Building Refurbishment with additional floors
- Library Expansion (Phase 2)
- Refurbishment of remaining areas of Carroll's Building

Phase B I Implementation from 2015 to 2018

Content

- (a) Replacement, refurbishment and/or upgrading of North and South Buildings. This will explore the options of fabric upgrading (involving the replacement of the roof membrane, glazing, external panels, building services, ICT infrastructure and the energy/insulation upgrading to meet optimum BER requirements), internal refurbishment and modernisation, the addition of a second floor or a new building option. (A detailed cost benefit analysis exercise will be necessary to compare the various options – refurbishment, expansion and new build - and select a preferred option.) The estimated cost would be €16 million.
- (b) Refurbishment of remaining vacant areas in the Carroll's building. Following the major redevelopment of the facility completed in 2010 the fabric and services of the main Carroll's building has been modernised but c. 3,000 sq.metres of the old warehouse area remain available for conversion. This is suitable for the provision of teaching space, lab space, R&D areas and staff accommodation and its allocation and use can be defined in greater detail when course provision requirements are more closely defined by each School at Institutional and School review planning stages. It is estimated that this would cost c. €3 million to refurbish.
- (c) Expansion of the Whitaker Building for additional Library space. Whilst Phase A (a) of this plan gives the library additional space quickly to deal with space deficiencies and to accommodate some growth in student numbers, it is clear that, to cater for 6,500 students, the Library will require an additional area of c. 2,000 sq. metres to provide the accepted national HE library norm of approx. 1 sq.metre per student. The Whitaker building was designed in the 1990's to allow an additional block to be easily added on the southern end of the facility. This addition would provide the necessary additional space required and it is estimated that a capital investment of c. € 4 million would be required for this new wing.

Total Budget for Phase B € 23 million.



New Campus Campus Phase C (2018 - 2021)

- Various Building Extension options
- New Building Location Options

Phase C I Implementation from 2018 to 2021

Content

Phase C represents an accommodation requirement in gross area terms of approx. 6,000 sq. metres. To achieve this a number of options are available depending on where the actual space requirements arise in terms of discipline area or new activity not currently accommodated.

The CDP allows for a variety solutions including:

- (a) Extensions/additions of any of the major buildings (ie. N&S Buildings, Whitaker, Faulkner, Muirhevna, Carroll's and Regional Development Centre).
- (b) New stand alone buildings located in a variety of suitable and serviced site areas around the campus.

- (c) A location off campus, should that option arise or be a requirement.

A capital investment allowance of €15 million would be required to accommodate these various options.

Total Budget for Phase C € 15 million.



Proposed Cycle, Parking and Traffic Network

- Existing Car Parking Areas to be Retained
- Existing Car Parking Areas to be Removed / Built Over
- Proposed Replacement Car Parking Areas
- Proposed Cycle Network
- Proposed Vehicular Network

4.2 Critical support infrastructure

For each phase of development described above accompanying critical infrastructural investments will also be necessary. Each new phase will require the following enhancements:

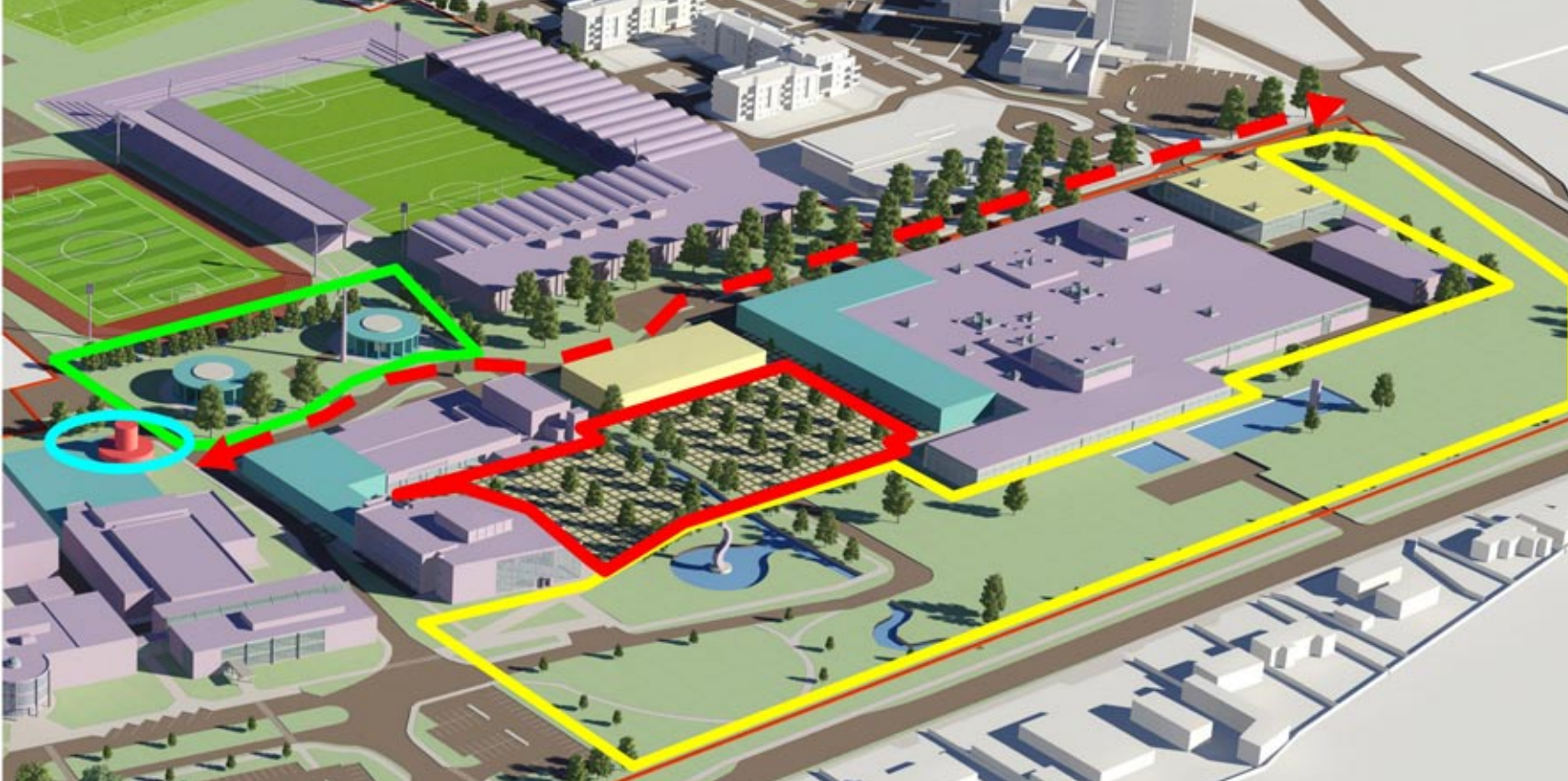
- (a) An upgrading of High and Low voltage **electrical infrastructure** to carry the additional loads that the new facilities in each Phase will add. In designing each facility the Institute will also continue its policy of introducing energy conservation technologies and features so as to reduce the impact on energy usage. The highest Building Energy Rating (BER) standards will be applied in all design phases.
- (b) Expansion and upgrading of **space heating infrastructure**. Whilst building insulation standards and BER ratings will be optimised there will continue to be a requirement to provide gas fired or equivalent space heating in new facilities. This will require a new mains network to the areas where new buildings (or building extensions) will be added, in particular in Phase C. Various renewable energy alternatives will also be explored and assessed.

- (c) An upgrading of the **ICT infrastructure**. Major investments to the ICT server provision and backbone have occurred at each phase of campus development to date and this will continue to occur to reflect the changing technology platforms available to improve wide and fast access in classrooms, labs, library, offices and around the campus with expanded WiFi or equivalent provision. The ICT infrastructure will also increasingly have to support new distance learning and web supported services. The definition and scope of ICT Infrastructure needs are defined separately in the Institutes ICT Strategy.
- (d) **Water** is becoming a scarce and expensive resource. The Institute has achieved significant water savings over the past decade through the installation of metering, a repair programme to the campus water services infrastructure so as to minimise leakage and through improvements at high water usage points in each building. In the design of new facilities economically viable solutions that reduce mains water usage (including rainwater harvesting, etc.) will continue to be a priority.



- (e) Through the efforts of a committed Environmental Committee major improvements have occurred in the **reduction and control of waste**. Waste is segregated and recycled throughout the campus and this policy will continue to be a feature of all campus developments going forward.
- (f) Through the Institutes **Sustainable Traffic Management** Policy a range of solutions have been introduced to reduce car usage and offer alternatives. On campus cycle parking bays have been installed and additional shower and changing facilities will be provided to encourage greater cycle usage. Pedestrian access and circulation routes have also been improved and bus set down, shelter and parking areas provided. Pay parking has been introduced and income from this will continue to be invested in providing for solutions that continue to reduce and discourage car usage. It is apparent, however, that the developments and campus expansion proposed in this CDP will impact on existing car parks. Currently the campus maintains a 1:4.5 car parking to student/staff ratio. To maintain this (and replace car parks affected by new buildings – particularly in Phase C) it is envisaged that approx. 450 additional car parking spaces will be required over the various phases outlined in this plan. The overall campus development plan therefore envisages a total of c. 1,500 car parking spaces by 2021.

A budget of €7 million is required to address the upgrades described.



Landscape Framework Strategy

- Central Campus Square
- Covered Cycle Park
- Parkland - Funk Masterplan
- - - Tree Lined Boulevard
- Focal Point at the end of Boulevard

4.3 Landscaping and external spaces

In previous phases of Campus Development the aim has been to integrate new buildings into the landscape with minimal impact and to ensure that the green areas and formal parkland settings are dominant. This approach has been particularly important with the acquisition of the Carroll's site in 2002 and the sensitivities with regard to its placement within its own grounds and how this has been managed in the integration of that landscape with the original campus. A particular aim of the previous landscaping programme was also the creation of a hard landscaped civic square that would assist in unifying the campus and creating a gathering point and focal area that is a centrally located hub for all activities and where the main pedestrian routes between buildings converge.

In the next phase of campus development the aim is to strengthen this approach and in particular to give greater effect to the dominance of the civic square whilst also addressing the integration of the stream and other water features into the campus in a more environmentally appropriate manner. The restoration of the Gerda Fromel art piece and water feature in front of the Carroll's Building will also be important elements in this overall treatment. Additionally

the aim will also be to create a parallel boulevard from the Crowne Plaza roundabout entrance through to the Faulkner Building. This boulevard will be a major secondary thoroughfare and will be particularly important as Phases A to C of the Campus Development Plan are delivered and an increased number of buildings are added along that route.

In addressing landscaping the Institutes sustainability theme will also continue to dominate and a greater variety of habitats and sustainable environments will also be created so that there is diversity and variety to balance the formal parklands that dominate the front (west facing) areas of the campus.

The strategy of commissioning and installing art pieces externally that create focal points and are framed within the landscape will continue to be a priority within the campus development programme.

A budget of € 3 million will be required to address this programme



5 Funding and monitoring the Campus Development Programme

Unlike any previous CDP this new Plan will require a degree of innovation, flexibility and an ability to take advantage of funding opportunities and developmental alternatives as they arise. The development of novel funding solutions in order that the Institute can provide the quality of infrastructure necessary for it to achieve its strategic objectives and serve its community locally, regionally and nationally will be essential.

In Section 4 above a preferred and orderly Phasing of the CDP is proposed and the funding requirement for each phase is outlined. Table 1 below contains a more detailed analysis of costs and funding sources being proposed. As stated at 4 above, the overall phasing and the elements within each phase may alter should alternative funding or match funding solutions arise during the implementation period.

This funding requirement, and the Campus Development Plan itself, will continue to be reviewed by the Governing Body and the Executive Board on an annual basis. In addition the Capital Expenditure Committee of the Executive Board (CAPEX), that is chaired by the President and which meets four times per year (or more regularly as required), will be responsible for the monitoring the implementation of the various phases of the CDP and in closely monitoring

budgets and expenditures at planning and delivery stages.

The delivery and management of the CDP will be the responsibility of the Head of Development who reports to the President, the Executive Board and to CAPEX.



Project/Phase		Budget	Proposed Source (€ millions)			
			DkIT	Non Exchequer/ Private	Loan Capital or Equivalent	Future Exchequer HE Capital
Phase A (2012-2015)	(a) New Student Centre	10				
	(b) Library Expansion (first phase)	6				
	(c) Sports Stadium and arena	7				
Total Phase A		23	4	4	7	8
Phase B (2015-2018)	(a) N&S Building Refurbishment	16				
	(b) Carrolls warehouse refurbishment	3				
	(c) Library Extension (second phase)	4				
Total Phase B		23	2	2	0	19
Phase C (2018-2021)	Additional Teaching, R&D and Lab facilities	15				
Total Phase C		15	2	5	0	8
	Infrastructure	7	2	0	0	5
	Landscaping Programme	3	1	0	0	2
Totals		71	11	11	7	42
(%)		100	15	15	10	60

Table 1 Funding each Phase of the Campus Development Plan



Dundalk Institute of Technology
Dundalk County Louth Ireland

t + 353 42 9370200
w www.dkit.ie