MILTON KEYNES:

MAKING A GREAT CITY GREATER

Commission Working Paper 16

Options and opportunities for university education in Milton Keynes
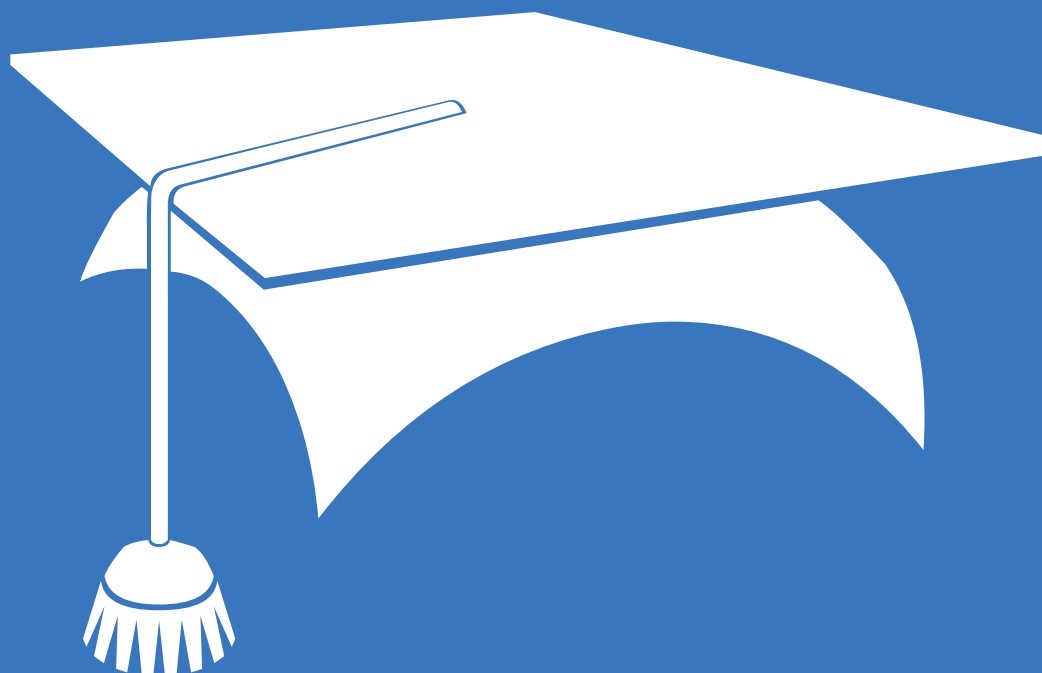
PA Consulting

Milton Keynes Futures 2050 Commission

MILTON KEYNES FUTURES: 2050

THE MILTON KEYNES FUTURES 2050 COMMISSION

Options and opportunities for university education in Milton Keynes

17 May 2016

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FOREWORD

The MK Futures 2050 Commission has identified the establishment of an international technical university, situated in central Milton Keynes, as a flagship development for the future growth and standing of the city.

PA Consulting Group were engaged by the Commission to advise on the potential vision for a new university, taking account of wider developments in the national and global higher education environment and the history and situation of higher education provision in Milton Keynes.

This report summarises our review and proposals, offering a vision for a new model of university provision, designed to meet the changing expectations of 21st century higher education and to further the particular vision for MK 2050.

TRENDS AND DIRECTIONS FOR UK HIGHER EDUCATION, 2010 TO 2020

Introduction

The current decade is witnessing fundamental shifts in almost every aspect of the higher education (HE) system. These started with policy and market changes introduced by the Coalition Government after 2010 and will continue to reshape the system for at least the next five years.

This section reviews the most important of these changes as they affect the considerations for HE provision in Milton Keynes, under ten headings:

1. Students
2. Provision
3. Funding
4. Policy
5. Learning and teaching
6. Research and innovation
7. Technology
8. Employability
9. Globalisation
10. Localism

1. Students

Despite a steep fall in the numbers of 18 year-olds starting around 2010 (and projected to continue until 2020), demand for full-time university places from UK school leavers has held steady over the past five years, recovering quickly from a downwards 'blip' when tuition fees were increased in England in 2012. However, since the removal of student number quota controls (discussed later), the pattern of demand has moved strongly towards those universities regarded as most attractive by students and parents, with the result that many lower-rated institutions have experienced sharply falling demand. These falls have been especially marked among institutions recruiting part-time students, numbers of which have fallen by almost 50% over the past five years.

Many universities have sought to counter falling home demand by increasing their recruitment of overseas students, the numbers of which have grown substantially over recent years. Demand from non-UK students has grown more than 10% p.a. over recent years, especially from China and more recently from the EU, but there are signs of this trend slowing considerably, due in part to the negative impacts of government visa restrictions; recruitment from India (the second-largest source of international recruits) has fallen nearly 45% over the past few years.

Against this background, there are real indications of excess supply in parts of the HE system, with overall sector-wide enrolments down almost 10% over the past five years and up to 20 universities losing more than 20% of their total enrolments (and running financial deficits) over the period. However, the numbers coming through the schools system in recent years have been growing strongly, suggesting that overall demand for post-secondary education (including HE) will start rising again after 2020.

2. Provision

In 2012 the government announced the designation of 10 'new' universities, all of which were actually pre-existing colleges of higher education or specialist art or agricultural colleges. Most were (and remain) small institutions, taking advantage of a reduction in the size threshold for university status, from 4,000 to 1,000 HE students. Several private HE providers have gained university status in recent years; they include BPP University, the University of Law, Arden University (online) and Regents University, joining Buckingham University which has been so designated for some years.

There have been a number of initiatives to establish new HE provision in under-served areas, usually in the form of sponsored partnerships between universities and existing FE colleges. Examples can be seen in Ipswich, Southend, Scarborough, Hastings, Chatham, Shrewsbury, Hereford and Cornwall, and in Milton Keynes. Some of these have recruited reasonably well in their immediate localities but all have struggled to grow their student rolls beyond the hundreds.

Over the same period, the government increased the number of approved 'alternative providers' offering HE-level courses that allow their students access to student loans. Alternative provider status is given on a course-by-course basis, and is subject to quality assurance of the awards offered (mainly at certificate and diploma levels) by a designated university. There has been controversy around the entry standards applied by some of these alternative providers, both academically and with regard to visa status, and a number have had operating licences and designations revoked.

Among established universities, experiences over the past five years, and the prospects looking forward, have been very mixed. The lifting of quota controls on student recruitment, coupled with a move from formula-based grant funding to market-driven income from tuition fees, has created a situation of winners and losers across the sector. Some institutions, notably the large civic Russell Group universities (Leeds, Birmingham, Bristol, etc.) have grown their student intakes by up to 50% over recent years, and have been generating commensurate financial surpluses, while a number of other universities (including some large, urban post-1992 universities) have experienced falling enrolments, some by more than 30%, and recurrent financial deficits. While persistent predictions of institutional failures have not been realised, there are certainly some universities caught in a 'zombie cycle' of falling recruitment, revenues and reputation.

The government's higher education white paper, published on 16th May, opened the prospect of further disruption of higher education provision, in particular by encouraging and facilitating the entry of new 'challenger' providers and accelerating processes for them to access student loan funding, gain degree awarding powers and to acquire university titles. These changes will remove many of the barriers and constraints to the establishment of new universities, with Hereford, Suffolk and Pearson College in London expected to be among the early beneficiaries.

3. Funding

As noted, the big change in funding for English universities in recent years was the 2012 increase in loan-backed undergraduate tuition fees, from around £3,300 a year to maximum (in practice a new norm) of £9,000. Teaching grants from the Higher Education Funding Council for England (HEFCE) have been reduced commensurately, being effectively cut back to top-up grants for medicine and other expensive subject areas. Funding arrangements are now different in Scotland and Wales, neither of which charges fees to 'their' students.

The other main sources of funding for universities have been relatively stable over recent years:

- Tuition fees for non-EU students remain unregulated and are often set at double or more the level of domestic fees; growth in recruitment and income from this source has been crucial for many institutions although, as noted above, there are signs of this demand slowing if not declining in coming years

- Research spending has been protected from austerity cuts, at least in cash terms, and has accordingly been a relatively stable income source for many institutions over recent years. There

are however wide disparities in the distribution of research income across institutions, with fewer than 20 research-intensive universities securing some 75% of the funds available from HEFCE and the research councils

- So-called third stream income, from commissioned research, consultancies and similar traded services has shown steady growth for most universities, representing around 10% of income at sector level (about £3 billion in total), rather more for the large research-intensive universities and somewhat less for others.

Looking ahead, the main uncertainties around university funding concern the government's recently-announced plans to link tuition fee levels to judgements of teaching quality based on a Teaching Excellence Framework (TEF). The proposal is that only institutions achieving the highest ratings against TEF metrics will be allowed to raise tuition fees in line with inflation; by inference, other institutions could see the real value of their tuition fee income reduced in real terms.

The 2012 reforms to HEFCE funding also removed most of the assured capital funding previously available to universities, which had been provided through formula-based allocations and discretionary grants for agreed projects. Perhaps surprisingly, this has had little effect on the volumes of capital spending by universities, which have actually grown significantly in recent years, funded partly from the windfall benefits of the increased student income represented by £9,000 fees and also from the ready availability of cheap commercial loans in recent years. University borrowing rose to over £3bn in the latest reported figures, boosted by over £1.25bn of bond issues in 2015 alone. HEFCE has warned that this level of borrowing is 'unsustainable' and could put some institutions in vulnerable positions given the uncertainties around future income levels.

4. Policy

The past five years have seen major changes in government policy for universities, with even more disruptions expected over the rest of the decade.

The major changes in recent years have been mentioned above, notably:

- the increase in undergraduate tuition fees to £9,000/year, coupled with reductions in direct grant funding, making institutions largely dependent on the fee income they can secure through student recruitment
- the lifting of student number controls, which effectively provided a quota system of assured enrolments for institutions, in favour of allowing institutions to compete in an open market for as many students as they are able (and wish) to recruit
- measures to encourage and facilitate the entry of alternative providers (at the level of approved courses) and new institutions, notably the four new private universities mentioned earlier and others waiting for university status (notably Pearson University College, a New Model university project in Hereford and University College, Suffolk).

Despite these changes, the government has made clear its concerns about the extent and quality of higher education choices available to fee-paying students, and is proposing further major reforms.

Further significant regulatory and legislative changes have been outlined in the latest government White Paper proposals, published on 16th May. These include:

- further streamlining and acceleration of the approvals processes for new entrants to access the market and to gain degree awarding powers and university status
- introduction of a Teaching Excellence Framework to rate the effectiveness of institutions' teaching provision, linked to permitted tuition fee increases
- strengthening of protections for students' interests, by extending consumer protection regulations into HE and establishing an Office for Students
- substantial increases in the availability of degree level apprenticeship schemes, funded through a levy on employers, intended to create an alternative route to employment-based HE

Taken together, these changes – if enacted – will complete a fundamental turnaround in English government policies for higher education, from many years in which policy was geared to assuring the health and sustainability of provision (through direct funding, assured numbers and protection from competition) to a regime almost entirely concerned with student choice and welfare, with the interests of providers made dependent to their success in a competitive market for HE services. For the first time, government policy statements openly countenance the possibility of providers 'exiting the market', although this has yet to be tested in practice.

The other major policy uncertainty for universities at this time is of course the European referendum on June 23rd. Universities are extremely concerned about the prospect of Brexit, which they fear would remove their access to EU research and investment funds and would also deter EU students from applying to UK universities.

5. Learning and teaching

Research by PA Consulting has identified seven global themes that are reshaping the design and provision of learning and teaching by innovative universities around the world:

Global innovation theme	Examples of innovations
Curriculum reforms and new pedagogies	Cross-disciplinary and thematic programmes; liberal sciences foundation years; problem-based and competency-based learning; etc.
Student-driven, flexible study modes	Multiple entry points during year; accelerated and extended programme options; demise of traditional academic year; etc.
Integration of learning with working practice	Bespoke and employer-based programmes; accreditation of work experience; competency and achievement 'badges' and transcripts; etc.
Mobility and transferability between providers	Recognition and transferability of credits between providers; international recognition of credits; multi-institutional awards; roll-on, roll-off study; etc.
Uses of technology to transform learning experiences	Flipped learning, acquiring content online; demise of lectures and timetables; anytime-anywhere learning; MOOCs; mobile VLEs; etc.
Uses of student data analytics for personalised services	Targeting 'at risk' students; monitoring engagement and progress; personalised recruitment processes; tailored learning plans; etc.
Unbundling of educational service provision	Use of open-source and proprietary teaching resources; third-party partnerships for recruitment, assessment or placements; 'pick-and-mix' programmes, etc

A number of universities around the world have adopted some or all of these developments to reposition their offers to students and employers, and in particular to break down the disparities between traditional university teaching and the learning needs for 21st century professions and careers. Among the international pioneers in these areas are Aalborg University in Denmark, which is a world-leader in problem- and project-based learning, Zeppelin University in Germany, which has pioneered trans-disciplinary learning built around thematic social challenges, and the Singapore University of Technology and design, which has put design thinking at the heart of its curriculum.

There are of course many other examples of pioneering and innovative institutions around the world, but disappointingly few in the UK.

PA's research found that, while UK university leaders acknowledged the profound importance of these innovations, relatively few were adopting them on any scale within their own institutions. There are many reasons for this, but the implication is that HE learning and teaching provision in the UK falls behind international best practices, and disappoints the legitimate expectations of students and employers.

6. Research

The majority of universities present themselves as research-led institutions, but the reality for most is that research represents a minority aspect of their business. Across the sector, research income from all sources accounts for 16½% of total revenues; in practice, most of this income is concentrated among fewer than 20 institutions, and the research strengths of other universities tend to be in specialist 'pockets' rather than institution-wide. Nonetheless, it is the research culture and capabilities of universities, and the extent to which these are reflected in their educational offers and external engagement with business and local communities, that differentiates them from colleges and from 'alternative' or private HE providers.

These wider impacts of university research activities are becoming important factors in the allocation of government research funding, having been incorporated into the 2014 Research Excellence Framework (which provided the basis for allocating £2.2 bn of HEFCE research grants) and also into research council decisions on a further £1.5bn of research contract allocations. Impact, in this context, is increasingly assessed in terms of capacity building through collaborations (especially international) and focus on 'grand challenge' areas such as healthcare, environment, urbanisation and new technologies.

Government research policies, and the related allocation of responsibilities and funding, are increasingly focused on building national centres of excellence in areas of strategic importance, mostly geared around 'big science', especially in bio-medicine and advanced engineering. While overall research funding has been protected in cash terms through recent national budget rounds, much of it has been directed to major national centres such as the Crick Institute in London, the National Graphene Institute in Manchester or the Joint European Torus in Oxford. Other research areas are being developed through the establishment of national Catapult Centres to support research and innovation in selected fields. University-based researchers are of course heavily involved in all of these initiatives, but the centres operate outside the mainstream university system with their own structures and strategies.

7. Technology

There has been much speculation over the past few years about the potential impact of new technologies on traditional universities, with excitable predictions that an internet-powered 'tsunami' is about to sweep away conventional campus-based models of learning and teaching. Much of this hype has centred around massive open online courses (MOOCs), web-based resources offered free by international platform providers such as Coursera, edX, Udacity and, in the UK, FutureLearn. Despite huge growth in MOOC offers and followers, the threatened displacement of established providers has not materialised - and nor will it because MOOCs and their variants are being shown to serve different learner groups and different learning needs, augmenting rather than displacing conventional provision.

Since the so-called Year of the MOOC in 2012, literally thousands of MOOC courses been launched by universities around the world on one or other of the main platforms, with several million 'students'. In practice, most MOOC followers are either already enrolled on mainstream university programmes, and are using MOOCs to supplement their studies, or are professionals in employment, looking to update their knowledge of current or new fields. These are of course entirely legitimate motivations, and many universities and corporate development programmes are incorporating MOOCs – and

variants such as SPOCs (small scale, professional online courses) – into their programmes to extend these benefits.

The impacts of technology on mainstream HE provision to date have been incremental rather than transformational, with technology-enhanced learning (for example innovations in student-centred learning) arguably a more important force than technology-based substitutes for conventional education. This trend will undoubtedly evolve further in future, as technology enables greater flexibility and tailoring of learning to changing patterns of demand, and especially facilitates the blending of study with work and practical experiences. But 'pure' online study seems likely to remain a niche area within the expanding landscape of technology-enriched learning.

8. Employability

One compelling reason for this view is the growing concern, in the UK and internationally, about the relationships between higher education and employability, whether judged in terms of the supply of 'work-ready' graduates from the university system or the earnings returns that graduates can expect from their investment of time and money in university study. Although employers continue to look to universities for their future managerial and professional workforce, and students continue to regard a university degree as the platform for their career and earnings aspirations, there are growing signs of disillusionment from both sides.

Employers have been critical of the preparedness of university graduates for working life, and many large firms are increasing their recruitment directly from schools onto company training schemes, apprenticeships and in-house HE programmes. These schemes offer attractive alternative options for school leavers who are seeing the earnings premium from a conventional degree being eroded and high quality graduate jobs harder to secure.

Universities' response to these challenges has been to place greater emphasis on employment-related skills and lifelong employability, mostly by supplementing their taught programmes with 'soft-skills' modules, enhanced careers advice and work placements and internships. These approaches clearly have value and impact; graduate recruitment data show clear differences in employment success and starting salaries between applicants who can demonstrate direct working experiences and those who do not.

Beyond this remedial approach, a number of universities are working with employers and their students to integrate formal learning and working practice, such that the transitions between study and work become almost seamless. Examples of these approaches include the project- and practice-based curriculum models developed by universities such as Aalborg, Olin and Purdue. Others have developed bespoke programmes for particular employers, such as KPMG's collaborations with Durham and Birmingham Universities; graduate apprenticeships extend the same approach. A third strategy is to interleaf periods of formal study with extended work placements, on the lines of 'old-school' sandwich courses. Aston is one of a few UK universities pursuing this approach for (almost) all of its students; Waterloo University in Canada offers co-operative programmes that interleave study semesters with placements involving over 5,000 employers.

9. Globalisation

The globalisation of higher education has both advanced and evolved over the past decade, and will do so even more over the coming years.

Ten years ago, the dominant factor in the international HE market was rapidly growing demand for university education from the rising middle classes in the BRIC economies. This demand was focused on Western universities, particularly in the UK, the USA and Australia, and was met through rapid growth in the overseas student numbers recruited by universities in those countries, and also through the establishment of offshore campuses and other offshoot facilities, such as Nottingham University's campuses in China and Malaysia and Heriot Watt's in Dubai. Most UK universities have grown their international recruitment very rapidly over these years, from a national total of fewer than 120,000 in

2005 to more than 300,000 today. Similar numbers are studying UK university courses in their home countries.

While international demand for HE continues to rise, the dynamics of globalisation are changing. The competition for internationally-mobile students is intensifying, with a number of European universities offering English-language programmes for transnational students, and US and Canadian universities becoming more aggressive in the international market. This is being reflected in a slow-down in the numbers of international students coming to the UK, exacerbated by government restrictions on entry visas and post-graduation employment rules.

A more important development has been the very rapid growth in the volumes and quality of domestic HE provision in emerging economies, especially but not only in China. China has been opening a new university almost every week, and is seeking to become a regional if not global recruitment hub for transnational students, as well as educating higher proportions of its own young people. Chinese universities are starting to make their mark in the global rankings of universities, and are looking for research collaborations with Western universities to build their own capabilities and reputations.

10. Localisation

In parallel with increased globalisation and the opportunities for international collaborations, universities in the UK and Europe are experiencing growing calls for them to engage with local growth strategies built around highly skilled people and research-based innovation.

In the UK, these pressures stem from the government's commitments to devolve responsibilities and budgets for economic growth and social development to city-regional partnerships, notably through the Northern Powerhouse and similar so-called Devo Deals across the Midlands, the South West and other regions. A number of government reports have highlighted skills shortages and lack lustre workforce productivity as major constraints to national prosperity, and have called for concerted local responses through Devo Deals and local enterprise partnerships. All of these local strategies identify needs to develop, employ and retain highly skilled people as top priorities, and most also stress plans to grow and attract knowledge-intensive businesses and R&D centres in the locality. .

It is somewhat surprising, therefore, that relatively few universities have become centrally involved with the realisation of these local growth strategies, although most are represented on the relevant committees. This situation contrasts with experiences in many European city-regions, were so-called triple-helix collaborations between universities, industry and civic authorities have addressed local skills, employment and societal challenges.

Conclusions

It is stating the obvious to observe that these are years of great change and challenges for universities and the higher education. In a very short time, the UK (and especially the English) HE system has been transformed from a state-controlled, grant-funded and protected club to an open and highly competitive buyers' market. Over the same years, the nature of HE services has also transformed, with concepts of institutional autonomy and academic quality supplanted by multi-partner collaborations and relevance to external needs.

For some providers these changes represent real threats to their sustainability, but for many others they open new possibilities for redefining their offers and relationships for a new world. It is hopefully not hyperbole to see a renaissance of higher education emerging across the world.

HISTORY AND CURRENT PROVISION OF HIGHER EDUCATION IN MILTON KEYNES

Context

Milton Keynes is one of the few medium-sized, fast-growing cities in the UK not to host a free-standing university. Others in this position include Peterborough and Swindon, while similar small cities like Leicester and Reading have well-established and successful universities (Leicester has two). There are various reasons for this, of which the most important appears to be relate to the development strategies adopted by different cities.

Milton Keynes has for many years had a declared ambition to establish a significant higher education institution in the city. There are of course several important universities located in or near Milton Keynes, but only Bedfordshire has hitherto regarded itself as part of the local tertiary education system. Although the Open University, with over 250,000 students worldwide, has its main campus in Milton Keynes, it has never aimed to recruit particularly from the city. The private University of Buckingham is located nearby but recruits internationally. Cranfield University is located several miles from Milton Keynes, and has been concerned with recruiting post-graduate and research students in national and international markets. The University of Bedfordshire has a satellite operation in the University Campus Milton Keynes, operated in collaboration with Milton Keynes College.

Other universities within commuting distance of Milton Keynes, and that indeed serve students and employers in the city, include Bedfordshire, Coventry, Northampton, Bucks New, De Montfort, Leicester, Warwick, Birmingham City, Birmingham and Aston. With the possible exception of Bedfordshire, which has a presence in Milton Keynes, all of these could be expected to regard any new institution in Milton Keynes as an unwelcome competitor.

History

There were earlier hopes that the aspiration for a University of Milton Keynes would be delivered through partnership with the then Leicester Polytechnic, now De Montfort University, which opened a campus at Kents Hill in Milton Keynes in 1992. This campus closed in 2003 when De Montfort reversed its strategy of operating through a number of sub-regional centres and consolidated on its Leicester campus. The Kents Hill site was taken over by the Open University.

In 2008, Milton Keynes College, a further education provider, entered a partnership with the University of Bedfordshire to provide franchised 'HE in FE' courses, mainly at certificate and diploma levels, in the newly-designated University Centre Milton Keynes. In 2012 this arrangement was relaunched in collaboration with Milton Keynes Council as the University Campus Milton Keynes (UCMK), under a memorandum of understanding (MoU) that envisaged the campus eventually becoming a free-standing university with upwards of 10,000 students. Interim targets of 5,000 students by 2025, and 1,000 by 2016 were incorporated into the MoU.

Since 2012, recruitment to UCMK has reached only 200 students, and the University of Bedfordshire has downplayed its growth targets, at least in the short term. Given the relatively high HE participation rates among Milton Keynes' school leavers, at around 55% of the 3,500 emerging from the local schools system each year, this seems a modest total. It indicates that the great majority of MK young people entering HE do so outside the city, while almost no students come to Milton Keynes to study. However, even if almost all eligible MK students chose to study in the city, this would fall a long way short of the 10,000 student – and even the 5,000 student – targets.

Outlook

It is clear that this ambition will only be met by establishing an HE provider able to recruit strongly from across the UK and indeed internationally. The broader willingness of both types of students to move away from home to attend university shows that this is a feasible ambition, provided that the programmes and experiences offered can compete with strong alternatives elsewhere, and also that the academic offer is accompanied by attractive residential and other facilities. The histories of Reading and Leicester offer examples for how this has been achieved – albeit in the circumstances of their times – while those of Swindon and Peterborough arguably show the limitations of locally-focussed solutions.

In addition to providing opportunities for higher level study, and attracting students and prospective professionals to Milton Keynes, a new university should be expected to enhance the economic and community well-being of the city through its research and innovation activities. There are encouraging demonstrations of this effect through the established universities, in particular the £18m MK:SMART collaboration between the City Council and the Open University, fostering a range of innovative capacity-building initiatives including the MK Data Hub and associated business engagement activities. The co-operative development of the UK's first private medical school between the University of Buckingham and the Milton Keynes NHS Trust is further demonstration of the potential for 'triple helix' innovation collaborations between universities, industry and the city.

THE MILTON KEYNES INSTITUTE OF TECHNOLOGY – REINVENTING CONCEPTIONS OF 21ST CENTURY HIGHER EDUCATION

If we didn't have universities, what would we invent?

The Milton Keynes Institute of Technology (MK:IT) will be the first university anywhere to be designed from the outside-in, that is, with its mission and organisation shaped from the outset around the needs of industry, communities and society. It offers a revolutionary response to the global forces that are redefining the relationships between higher education institutions, 'real world' learning and civic place-making. It represents a radical answer to the question: 'if we didn't have universities, what would we invent?'

PRIDE, PLACE AND PHDs

Blog by the elected Mayor of Milton Keynes, June 2030

Not that long ago, visitors to Milton Keynes would probably (and unfairly) have identified us with retail, roundabouts and concrete cows. Despite being voted among the best places in the country to live, the image of the city was, well, a little tame. It is difficult to imagine anyone thinking that about MK today.

Scarcely a week goes by without national news coverage of the latest new idea to be launched here, whether in our smart transport system or our citizen-driven public services, from a new start-up enterprise or by one of the 25 global firms that have located their international R&D operations here. And the city centre, for long something of an urban desert, now buzzes with the energy of a thriving creative community.

While MK has always prided itself as being a go-ahead city, our transformation into an icon for urban creativity and enterprise took off with the founding just 15 years ago of the Milton Keynes Institute of Technology (MK:IT).

From the outset, MK:IT was conceived as something very different from other universities. It was designed to develop solutions to some of the wicked challenges facing fast-growing cities – how best to move people and things around without congestion or pollution; how to sustain healthy, inclusive communities; how to encourage enterprise and creativity; and how to design human spaces for 21st century working and living. The Institute has brought the very best expertise, experiences and partner organisations from around the world to Milton Keynes to research and learn together around these global challenges.

(continued...)

The new university will be developed on four platforms, illustrated in Figure 1, each reflecting the changing understanding of the place and impacts of higher education in modern life:

- Portfolio Learning – recognising the diversity of learning objectives and situations that shape the higher education landscape, and that advanced learning is an intrinsic and continuous requirement of 21st century working lives

- Living Lab Research – recognising that complex societal and economic challenges demand research-based, multi-disciplinary innovations developed in real-world contexts and involving the communities that they affect

- Learning Partnerships – recognising that education, skills training and personal development to meet emergent individual and employer needs must be designed and realised through systematic, multi-partner collaborations

- Creative Place-Making – recognising the powerful impacts that well-integrated university presence and engagement, including centrally co-located student residences, can have on the generation of a distinctive city centre 'buzz' and community growth.

Figure 1: Platforms for a new model of HE
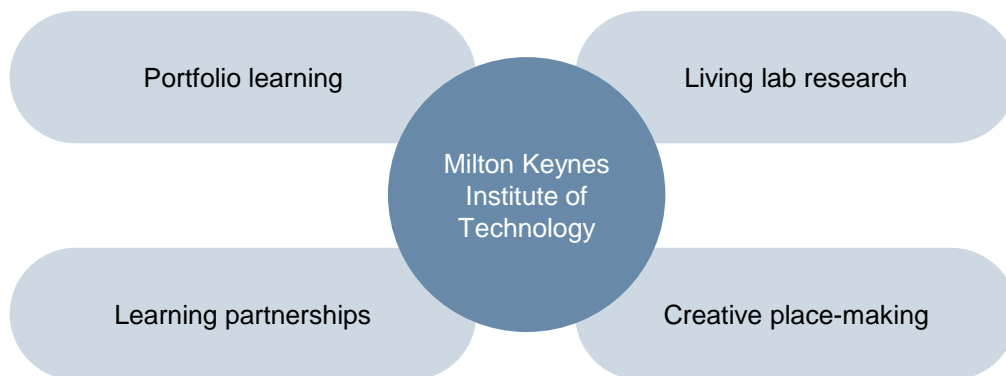
MK:IT will work with local, national and global partners to lead new approaches to learning, research and innovation, focused on international challenge themes such as intelligent mobility, community wellbeing, technology and design, entrepreneurship and innovation, and modern urban living.

The fast-growing city of Milton Keynes provides an excellent location for this ground-breaking initiative. Its location at the mid-point of the Cambridge to Oxford 'varsity arc', a tradition of innovation going back to Bletchley Park in the 1940s, a thriving local economy and the local presence of four important universities, coupled with an ambitious city vision (MK 2050) make Milton Keynes an ideal venue for innovative HE developments. Through the capabilities and activities developed with and through the new university, MK can become an international leader in solutions to the challenges of 21st century urban living.

Portfolio learning

MK:IT will provide a wide portfolio of purposeful and progressive learning services for the whole range of learners, from school-leavers and undergraduates through to post-graduates and in-career professionals. These programmes will be framed around the kinds of challenge themes cited above, and built on the principles of practice-based *formation*, that is, the integration of cross-disciplinary learning with practical, real-world problem solving. Most programmes will be delivered through combinations of modern, technology-enhanced pedagogies with practical working experiences, for example through community- or industry-based projects, advanced apprenticeships, employer-sponsored programmes and in-career professional development. The diagram below illustrates the potential range of the MK:IT portfolio, and the choice of learning purposes, pathways and services that the new University will provide.

Figure 2: The portfolio of MK:IT learning services

This portfolio framework proposes a far wider view of the scope and nature of higher level education than conventional university models, which remain heavily concentrated on institution-based courses leading to academic degrees. The MK:IT approach incorporates these conventional models, albeit framed and delivered in more outwardly engaged terms, but extends far beyond them to promote and support the concepts of higher level learning as intrinsic and continuous dimensions of 21st century working lives.

There are many exciting examples of innovative learning and teaching models in each area of this framework, many of them – especially those focused on work-related and professional learning objectives – coming from private providers such as Pearson[1], Laureate[2] and Coursera[3]. Among the universities pioneering new approaches to aspects of the framework are Waterloo University in Canada[4], maintaining a co-operative education programme across five thousand large employers and SMEs, Aalborg University in Denmark[5] which is recognised internationally for leadership in problem- and project-based learning, and others like Olin[6], Purdue[7] and Babson[8], all in the USA, awhich embed student learning in community or business-based projects.

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[1] https://www.pearsonhighered.com/

[2] http://www.laureate.net/

[3] https://www.coursera.org/

[4] https://uwaterloo.ca/find-out-more/co-op

[5] http://www.en.aau.dk/

[6] http://www.olin.edu/

[7] https://engineering.purdue.edu/EPICS

[8] http://www.babson.edu/Pages/default.aspx

Universities which are diversifying their offers to address different learner markets in different modes tend to do so through group structures, enabling focus on the particular needs, conditions and stakeholders in different market sectors. A good example of this in the UK is Coventry University[9], which has established a separate University College to focus on work-related degree-level programmes, as well as separate operating units for international business, CPD and workforce development services.

Living Lab research

The business, civic and educational communities of Milton Keynes can provide both the setting and the participants for research and innovation projects. The city will itself become a living laboratory for developing and testing new thinking in global challenge themes, drawing in national and international academic and business partners with MK:IT acting as orchestrator (convening partners, shaping shared programmes and co-ordinating contributions). Involving local communities with academic research teams and other partners both fosters public engagement with the work of the University and also adds immediacy and relevance to the results.

Smart specialisation[10] in research and innovation in the selected challenge themes will position MK:IT and the city strongly for participation in national and international research strategies and funding programmes, and will also tap them in to international networks of universities, corporations and other smart cities engaged in the same fields. It entails very different approaches to research from conventional academic methods.

Examples of urban Living Lab projects can be seen in MIT's collaborative programmes[11] with universities and cities in Boston (USA), Aalto (Finland), Aachen (Germany) and Lisbon (Portugal), in areas ranging from personalised housing design to on-demand urban transportation. Another is the multi-partner Institute for Advanced Metropolitan Solutions in Amsterdam[12]. The MK:Smart programme[13] also embraces many of the features of Living Lab approaches, involving a number of institutional and business collaborators and already including the national Catapult centre for transport and mobility.

Learning partnerships

MK:IT will be committed to principles of openness, collaboration and partnership across its mission, working with academic and industry associates to embrace open learning (self-directed learning backed by best-in-class resources and approaches), open innovation (sharing knowledge and intellectual property from multiple sources) and open access (personalised lifelong learning pathways through schools, colleges, HE and work-based experiences).

These principles, running through the MK:IT learning portfolio and living lab innovations, provide the basis for developing a thriving talent and innovation ecosystem across Milton Keynes and beyond, in which employers, learning providers, public agencies and individuals engage together to articulate future-looking workforce capability needs, to develop the relevant skills and talents and to mobilise those talents through innovative business and public enterprises. These kinds of learning collaboration are by no means confined to higher education provision but can and should embrace schools, colleges and work-based development as stages in lifelong learning journeys.

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[9] http://wwwm.coventry.ac.uk/researchnet/cucv/Pages/Profile.aspx?profileID=515

[10] http://www.oecd.org/sti/inno/smartspecialisation.htm

[11] http://www.llga.org/

[12] http://www.ams-institute.org/home/

[13] http://www.mksmart.org/

The more successful MK:IT can be in creating a thriving talent ecosystem of this kind (illustrated in Figure 3), with the new University at its heart, the greater the attractiveness of the city to students, professionals and employers in knowledge-intensive businesses.

Figure 3: The Learning and Talent Ecosystem
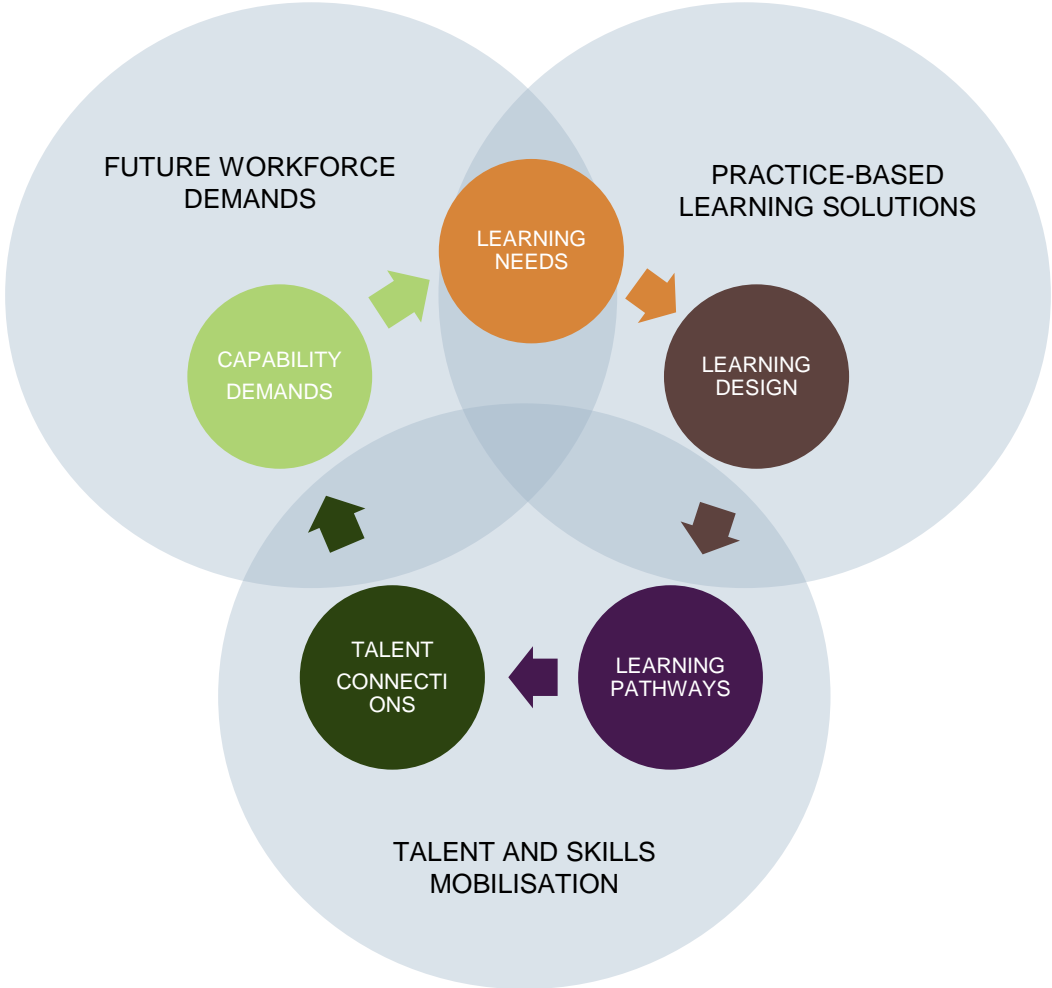
There are few, if any precedents for this kind of learning ecosystem in the UK, although several universities and local development partnerships are currently exploring the possibilities in the context of city and regional devolution deals. Successful models have been established in Europe, such as the 'triple helix' Chemelot partnership[14] between Maastricht University, the Limburg provincial government and industry partners, creating a world-leading innovation and education community in advanced chemicals. Further examples of university-civic innovation collaborations can be seen in other fast-growing, small cities in the EUniverCities network across Europe, from Aarhus in Denmark to Parma in Italy[15].

Creative place-making

Although its activities will spread across the whole city-region, and indeed far beyond, making full use of online and virtual models of engagement, MK:IT will have a strong physical presence at the heart of Milton Keynes. The university will become the centre of a vibrant and busy creative 'village' in the heart of the city, bringing together students, university staff and the wider community, including

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[14] http://www.chemelot.nl/?taal=en

[15] http://eunivercitiesnetwork.com/parma/

established businesses, creative start-ups and civic services, providing learning and innovation spaces alongside social and cultural venues and residential provision.

An iconic MK:IT building will have great value in symbolising the revolutionary vision of the new university, but of itself will not create the desired sense of place and shared creativity seen in some other cities with universities at their heart. This comes from a social dynamic built up over many years (think Cambridge or Boston). MK:IT will provide a shared focus for growing a diverse community of creative and talented people, which as Richard Florida[16] has shown is the key to effective place-making. Having large numbers of students living and studying in the heart of the city, rather than on out-of-town campuses, is central to creating this dynamic.

There are few UK examples of this dynamic being designed in to a new university development from the outset. Something similar is currently being planned in Northampton[17], with commercial, retail, leisure and residential developments around a new city centre university campus. A number of European examples are provided by the EUniverCities network[18] of 13 small cities and their local universities, working in 'tandem' on mutually-beneficial place-making developments.

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[16] https://en.wikipedia.org/wiki/Creative_class

[17] http://www.watersidecampus.info/

[18] http://eunivercitiesnetwork.com/#!lang=de

REALISING THE VISION

The need for bold thinking

The proposition outlined here offers a radical vision for a new and different model of higher education that will have international importance in redefining the relationships between universities, civic communities and working lives. Equally radical thinking will be needed to translate this vision into reality.

PRIDE, PLACE AND PHDs (continued)

The founders of MK:IT recognised that its unique mission depended on three things: partnerships involving the whole range of public and private capabilities needed to produce systemic innovations; people with the knowledge, skills and talents to translate possibilities into new realities; and participation of local communities in the co-development of social innovations intended to serve their needs.

All three conditions have been met and surpassed. In each area of its mission, MK:IT has become the focus for international networks of universities and innovative cities, all of them involving major global companies as well as local partners from education and industry. Through the novel integration of advanced learning programmes with research-based development projects, the Institute has attracted students and professionals from across the UK and overseas, who study and stay here to build their careers with our world-class employers. MK will soon have the highest concentration of PhDs for its population size outside of Oxford and Cambridge. It can also claim to have the highest levels of community involvement in shaping their futures, through MK:IT's Living Lab co-operative research and innovation programmes.

Many other places can call themselves university cities, by virtue of having universities located in their midst. But few can claim, as we can, that our whole city is a university, and that all of us are part of a new and exciting adventure in learning, innovation and place-making.

Founding sponsors and delivery partners

There have been few precedents for the establishment of a completely new university since the wave of 'post-Robbins' institutions (Warwick, Essex, Aston and others) established in the 1960s[19]. Since then, almost all so-called 'new' universities have pre-existed as former polytechnics and colleges, upgraded through government legislation. The current government is keen to encourage new providers to enter the HE market, and the latest white paper proposes reforms that will remove many of the regulatory constraints that have made this difficult in the past.[20]

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[19] https://www.timeshighereducation.com/features/robbins-50-years-later/2008287.article

[20] http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7399

It will be important that MK:IT soon becomes an autonomous and self-determining entity with its own brand identity. It must be able to respond rapidly and decisively in continuously shifting markets, while operating through a diverse variety of partnership and collaborative arrangements. For that to be achieved it will need committed and influential champions and sponsoring partners, able to provide leadership, credibility and development expertise to the nascent venture. These partners will certainly have to include at least one multi-faculty university to provide academic trust and authority (for example to accredit the early MK:IT degrees – although the latest government proposals could make this less critical). They should also include one or more major corporate sponsors to provide credibility with industry and employers, and civic and/or government representation to facilitate political and financial support. There would be real benefits if the initial sponsoring partners could include a well-known international university and/or corporation

The first requirement for progressing the concept of the MK:IT should be to convene a small Founders' Board of very senior individuals drawn from industry, academia and public service. The Group should have powers to raise funds and enter commercial contracts, with a time-limited mandate to oversee the establishment of the new university (analogous in some ways to the original MK Development Corporation). Their role would be to define the opening mission, activities and operating model for the new university, to recruit the first head of the Institute and other senior posts, to secure the necessary investment funds and to build local, national and international stakeholder enthusiasm for the project. The Founders' Board would act in effect as a shadow governing body for the nascent university, handing over their roles to a permanent governing body and management team as soon as they can be established.

There is a distinction to be drawn between the small group of sponsoring organisations leading the set-up of the new university, and the much wider community of operating partners who will help to design, deliver and assure the educational, research and other business activities of the Institute. Applying the principles of openness and partnership described here, the Institute will build up an international network of academic, business and industry partners to support delivery of services across the Learning Portfolio, to collaborate on Living Lab research projects, and to provide other services to MK:IT students and clients. Some of these arrangements may be quite specific, for example to licence learning resources (such as MOOCs) for particular programmes, or they may be wider ranging, for example to provide a common ICT platform for all MK:IT learning services.

One very important service that the nascent MK:IT will have to secure is for academic quality assurance, extending to the accreditation of degree awards in the years before the Institute is able to secure statutory Teaching and Research Degree Awarding Powers (TDAP and RDAP)[21] and to access research funders in its own right. There are well established precedents for quality assurance and accreditation arrangements of this kind, although MK:IT will need to confident of the reputational implications of its choice of partners.

Student recruitment and mix

Early discussions about MK:IT have suggested a recruitment target of 10,000 students. This would be huge increase on past experiences of HE recruitment in Milton Keynes, but nonetheless a relatively modest roll for a 'full' multi-disciplinary university. As a magnitude, a target of 10,000 full-time equivalents (FTE) should be sufficient to secure a critical mass of students and staffing, provided it is not spread too thinly across disciplines or focus (thematic) areas.

It is however unlikely that MK:IT could recruit to this level from the Milton Keynes catchment area, as the history of previous HE ventures – and the current experiences of UCMK – have shown. Nor would it be desirable to target student recruitment only on local schools and colleges, given the mission of the Institute to become a national and international flagship for new models of engaged HE services.

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[21] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/459815/BIS-15-525-degree-awarding-powers.pdf

The new university must aim to recruit a diverse mix of students and other learners with interests in the selected challenge areas, ranging from undergraduates to in-career professionals and coming from across the UK and overseas.

The 10,000 students target should therefore be interpreted as a proxy for the overall volume of learners to be engaged with the Institute in different ways and at different times. In practice, the number of full-time residential undergraduate or post-graduate student enrolments may be no more than a few thousand, with most of them on varieties of hybrid study-and-practice programmes. The total number of part-time and episodic learners engaging on other MK:IT programmes, for periods ranging from days to weeks during the year, can and should build to a multiple of 10,000.

Funding and sustainability

In stark contrast to other new universities established in the 1960s and since 1992, MK:IT will have to earn its keep from the outset, in a highly competitive HE market and with little prospect of recurrent government support, except via the student loans system or through potential research contracts.

As an indication, an established UK university with around 10,000 FTE students and a reasonable portfolio of research and other services would aim for a turnover of around £200m/year, staffing of around 1,000 (50:50 academic: supporting) and would aim to generate financial surpluses of between £15-20m/year. Over half of its revenues would come through student tuition fees, currently set at £9,000/year for UK and EU students and perhaps £15-20,000 for international students – who would make up around 15-20% of total enrolments.

These figures are clearly out of reach for MK:IT for some years, until it can build up its business portfolio and student numbers – and indeed, they are more than challenging for many established universities. This has significant implications for the funding requirements and business development plans of the new university. It will inevitably need to fund negative cash flows for a number of years before it can break even, on a business portfolio that will have to be built up carefully (emphasising the most accessible and lucrative initial markets) and to build towards self-sustaining critical mass as quickly as possible.

The UK market for part-time university study has seen steep falls in recent years, and employer-funded learning services have proved difficult to grow. This suggests that the initial business focus should be on services directed towards publicly-funded students (such as undergraduates, post-graduates and degree apprenticeships), employer-sponsored learners and international students.

Management and governance

MK:IT will be constituted and will work very differently from conventional universities, and this will be reflected in equally different management and governance structures, illustrated in Figure 4.

The new university will initially be organised around a number of cluster groups, each developed to address one of the challenge themes set by its opening mission. These groups will comprise a moving mix of resident and visiting academics, experts from partner organisations and students at all levels, and will undertake collaborative learning, research and innovation programmes in their respective focus areas. The university is likely to start with two or three such groups, and to add new groups over time as its remit and opportunities expand.

Figure 4: Outline Organisation Structure for MK:IT
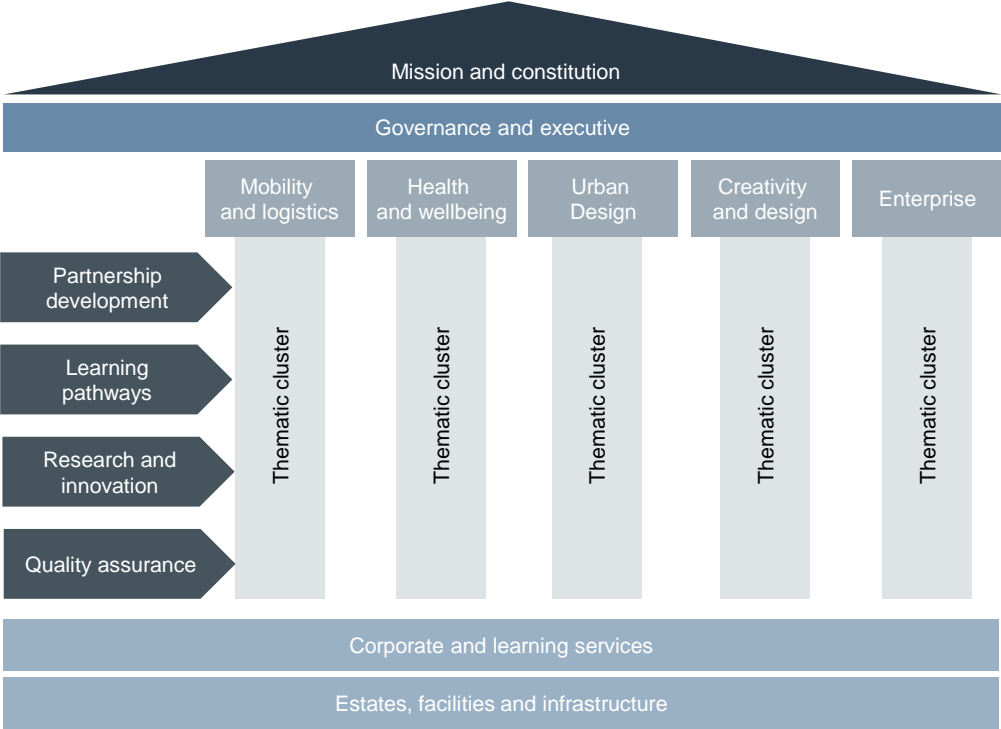
The work of the cluster groups will be aligned and supported by four cross-cutting functions, providing leadership and direction in partnership development, learning pathways, innovative solutions and quality assurance. These functions will embrace the traditional university counterparts of learning and teaching, research and business development, but with a focus on the collaborative relationships and challenges that will distinguish the Institute. In particular, the quality assurance function should be concerned with the broader fitness for purpose of the Institute's external services and engagement, and not only with academic standards

Institutional oversight and direction will come from a small executive team and supervising board, both of them combining industry and civic representation with academic leadership. In particular, the board should comprise a majority of external and independent non-executive members able to ensure the Institute's continued focus on its community-facing mission; they should be paid for their contributions to enable their commitment to this role.

Underpinning this organisation structure will be a range of corporate and learning services, including HR, Finance, Information and Student Services, and also by an estates and facilities capability.

Next steps?

Realising the vision for MK:IT will be a major undertaking, which will inevitably take several years to reach fruition in the form of enrolled students, active innovation projects and moving in to new facilities – although there may well be opportunities to pilot and test aspects of the proposition while permanent capabilities are being built up.

Figure 5 illustrates some of the key steps along the road towards opening the doors of the new university, starting with endorsement of the vision from the Commission and from the City Council, and then the establishment and empowerment (with initial resources and seed-corn funding) of the senior-level Founders' Board as described above.

Figure 5: Illustrative Road Map towards establishing the MK:IT
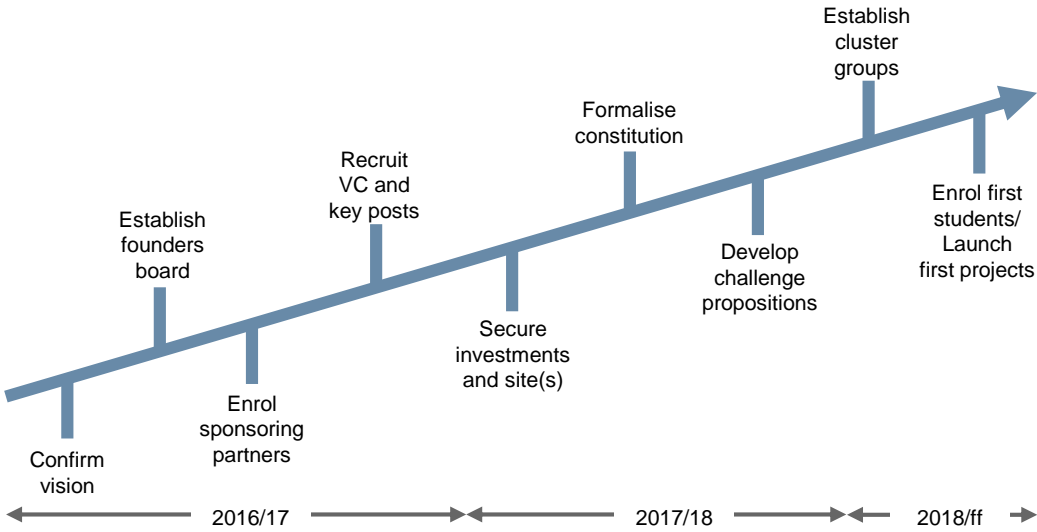
The work of the Founders' Board will then focus on promoting the vision, enrolling the support of key sponsoring partners, recruiting the first VC and senior development roles, and securing the necessary investments and premises to establish the Institute. These activities should then lead on to the more substantive development of the Institute's learning and innovation propositions, built around the selected initial challenge areas, formalising the constitution of the Institute, and progressing the establishment of the initial cluster groups. From these strong foundations, the first students can be enrolled and the first research and innovation projects can be launched.

This is an ambitious timetable for realising an audacious vision, but is feasible given the potential for building on proven precedents for the different aspects of the proposed model. It will moreover represent an imaginative and powerful response to the reforms of the higher education system that the government has committed to bringing about.

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