



UNIVERSITY OF
LINCOLN

THE PERMEABLE UNIVERSITY

*The purpose of universities in the
21st Century: a manifesto*

#C21stLab



Teaching
Excellence
Framework

The 21st Century Lab

The University of Lincoln’s 21st Century Lab is designed to open up thinking about the role higher education should play to respond to the extensive changes we are seeing across the world in our economies, our societies, our nations, and in our cultures.

In 2018 the Lab undertook interviews with leading figures across the world from different walks of life and different backgrounds. We produced a report drawing out their perceptions of the challenges of our age which highlighted that the 21st Century was producing a complex set of wicked problems which need to be urgently addressed for the sake of future generations.

Over the centuries our societies have been shaped by new patterns of work and new technologies and the present is no different. However, the speed of change and the connectivity between different aspects of change are creating a volatile and uncertain future.

Our nations’ economies are increasingly interdependent while at the same time deeply felt nationalisms are growing, the old determinants of power and control are being challenged and new powerhouses are emerging.

The impact of new communication tools and the growth of miscommunications are having a profound effect on what, and how, we gather information as well as how we interpret the world around us and how we understand ourselves.

Each one of these changes has significant implications for our world but it is the combination of them all and their interaction creating a high degree of uncertainty that requires our universities and the higher education sector to respond and address these wicked problems we face.

In the Lab we have worked to explore the role of higher education in this environment. This document is the result of deliberation and discussion with many key people in universities from across the world. At its heart the document is a manifesto for the 21st Century university and the 21st Century higher education system. It seeks to set out the relevance and significance of universities in supporting our societies at a time of significant upheaval and volatility.

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This manifesto is intended to encourage fresh thinking to create a strong, vibrant and relevant higher education sector for the 21st Century.

1. Summary and key recommendations

Developing a permeable university

Complex, interrelated and unpredictable: tuning in to the challenges of the 21st Century

The manifesto sets out a series of 10 interrelated grand challenges based on observations from a wide range of influential global thinkers on 21st Century society. This work is not intended to be predictive of the future but instead to illustrate the complex, interrelated and volatile nature of change in our world.

Our response to this changing environment is to set out how universities and the higher education sector can support their societies to make sense of the 21st Century. At any given moment universities have a role to play to shape, connect, understand and educate but their precise focus will alter depending on the circumstances and time in which they operate.

We suggest universities should adopt a more permeable approach to their activities. Higher education needs to embrace a more fluid, more contingent world, to create a more permeable relationship within their communities and to wider society.

Below we set out our recommendations for the purpose of universities in the 21st Century.

Key recommendations

Permeability is the new lens which should reframe the purpose of universities in the 21st Century:

- The permeable university removes barriers to interaction both within the institution and beyond it. Permeability should be the new lens which reframes the historic, core activities of universities; across organisational and national boundaries, between different groups and communities, technologies, and disciplines. This will require a rethinking at every level from the system and policy framework within which universities operate through to the governance of institutions and what they deliver.

Permeability is an approach, a method for redevelopment of the higher education environment, a way of doing which institutions, governing bodies and sector organisations can use to re-find purpose and values, to educate, to research and to engage more widely.

Delivering permeable education, research and engagement:

- Embrace students as central to the renewed community of scholars: The process of reflective learning needs to apply to the whole community of scholars, staff and students together. Students reinvigorate and refresh the community, and staff bring experience and history. Both bring wisdom from different standpoints. Sharing together and challenging each other creates a more robust university environment.

- Nurture lifelong connections between universities and graduates with continuous learning at the heart of the relationship: As they move on in their careers, graduates will need to repeatedly re-engage and contribute from their experiences beyond university to continue to reinvigorate institutions, creating a continuous learning loop. Create space for new adult learners as society changes where adults can re-find learning appropriate to their changed circumstances.
- Develop near-to-teaching research: There is value in the experience of discovery through research across the disciplines that has direct application in a world where graduates will have to gather knowledge, investigate, learn and adapt throughout their careers.
- Further the interdisciplinary/transdisciplinary project: The growing complexity and interrelatedness of the challenges that surround us mean that inter/trans disciplinarity needs to go further to enable research teams to come together with an eco-system approach that can embrace the dynamic aspect of research investigation. Bridge the arts/science divide and reconceptualise disciplines to meet 21st Century needs.
- Respond to an age of rapid, wide-spread opinion formation and amplified participation by connecting with wider society: A core contribution of the research process is to slow things down to answer the big, deep, long-term questions – this can seem particularly at odds with a rapidly changing 21st Century. Navigating this divide is tricky but essential and the approach has to include greater participation and connection to move beyond distrust in expertise to a world where different contributions are recognised, acknowledged, challenged and reformulated.

Governance for the permeable university

- Move beyond a singular structure: Governance in the 21st Century is complex and multifaceted. Expecting a single body to complete all aspects of oversight is no longer fit for purpose. Rather a family of inclusive governance structures relevant to specific needs is necessary. Ensure strong communication across each part of the structure with clear lines of responsibility and terms of reference, drawing in diverse voices, for a more appropriate framework in the current climate.
- Use full breadth of governance bodies to broaden representation: Boards in themselves cannot be representative of all communities but there needs to be appropriate debate and diversity threaded throughout the governance structures.

System changes to support the permeable university

- Ensure regulation systems and funding mechanisms are balanced so that there is a protected space for experimentation: The core of the university offer must continue to be quality benchmarked, supported by a robust regulatory system but we must also ensure that there is scope for universities to adapt, take risks and innovate.
- Regulators need to be clear about the values and purpose they seek to maintain the efficacy of the sector they oversee.
- Challenge-led research frameworks and funding: Strong partnerships between policy makers, societal interest groups and researchers to create robust thematic frameworks, using funding to effect policy and societal needs. Enhance assessment capability of interdisciplinary research findings.
- Ensure the wider public has a transparent understanding of how research funds are allocated and used: Involve different groups in identifying research questions with funders and work with a wider citizens' panel in assessment of research activity. In the current climate a strong focus on the big challenges facing society is a useful tool to drive interdisciplinary research to find more robust solutions.

2. Introduction: supporting change in our time

The scale and pace of change in the 21st Century requires a different vision for our universities. The principles established in 18th Century Europe set out the purpose of universities which many jurisdictions have followed, particularly in the West.¹ At the heart of this the core university activities; teaching and research, support students to become thinking world citizens and our societies to develop and grow.² We believe these principles still stand but need to adapt to reflect the world of the 21st Century.

Universities have always adapted to social change. Over time universities have changed their curriculum, invented new disciplines and driven change through new ideas. Today, across the world universities are again growing and changing with the development of their societies.

We set out 10, interrelated, global, grand challenges drawn from the contributors to *Thinking Ahead*, our first publication.³ These challenges have broad resonance with the United Nations' 17 sustainable development goals on poverty, health, equality, climate action and sustainability, but the challenges set out here are more specifically focused on societal change which affects the UN's ambitions for a better world. We have surveyed students and the wider public and found that the grand challenges we set out resonate with them.

In response to these challenges we argue that universities can provide a positive response to assist our societies.

In the manifesto we have created a simple framework based on the three core activities of universities; to educate, to research and to engage. We have then developed recommendations at three levels for the sector: the institutions themselves, their governance, and the higher education system where the universities operate. We are not seeking to determine what universities should do, but rather to suggest a new approach to the work of the sector; a way of working better between universities, communities and wider society.

We are aware that there is work already going on to meet the needs we identify in this manifesto; illustrated through the case studies we have included in the document. We recognise a number of other projects considering future models for different parts of the tertiary system. To name a few: the European Union funded programme on the Universities of the Future is considering how higher education institutions, businesses and public authorities cooperate within Industry 4.0.⁴ In the USA, MIT's task force for the Work of the Future has identified the changing nature of work and the role of technology in shaping our future lives.⁵ In the UK, the Independent Commission on the College of the Future is considering what we will want and need from colleges in 10 years' time.⁶ Our hope is that these projects will support the iteration of new ideas alongside this report.

As with our previous report our project is not future casting, we are working with the changes that we are already experiencing, which pose significant challenges for the delivery of tertiary education in the future.

This project concentrates on the value and values of higher education drawing out these core elements to establish the purpose of universities in the 21st Century.

Universities have supported positive societal change through their actions in the past and must now do so again. The next section sets out why we believe this is essential.



3. Interdependency: ten grand challenges for the 21st Century

The challenges set out below are interrelated. Each one is a challenge but it is not hierarchical. Together they create an even more unstable and uncertain future than we have seen for some time. Each works individually and together, with a mix of local and global influences shaping the particular experiences of citizens in different places.

Mitigating environmental and ecological damage:

There is considerable research on the increase in global warming negatively impacting our society. Ice losses are rapidly spreading deep into the interior of the Antarctic. The warming of the Southern Ocean is resulting in glaciers sliding into the sea increasingly rapidly, with ice now being lost five times faster than in the 1990s⁷. The decisions we make today will affect the nature of the eco-systems of our planet⁸. Growing pressure⁹ to act has resulted in a number of policy commitments across the world to reach net zero carbon emissions as one major solution to the variety of harms from our societies.¹⁰ We are losing our most precious resources such as water and we are polluting the air we breathe. We need to address a wide variety of issues related to climate change, and environmental degradation. The effects we are seeing are impacting societies differently, with poorer people and poorer nations being disproportionately affected.

Increasing inequality of wealth and income: Rising social inequality comes from unequal access to wealth (capital and assets) on the one hand and income (earned money) on the other. Since the 2008 financial crash, recovery has been uneven: countries such as the UK, US, Canada and Australia have seen an increase in income inequality while it has continued to decrease in countries like India and China. Wealth inequality is more universal as privileged groups have consolidated their control of assets and resources in a global market.¹¹ In many parts of the world a sense of inequity has been sharpened by these real inequalities.¹² Inequality in wealth and income leads to wider inequality in access to resources which will be exacerbated as new skills and knowledge are required with the extent of technological disruption.¹³

Civic disaffection: There is a wave of challenge to the structures of government and the instruments of social order. Examples include the Arab Spring in parts of the Middle East, the Umbrella Movement in Hong Kong and the rise of populism in the United States and Europe, including the UK. Changes in media technologies have amplified dissatisfaction and enhanced a desire for change leading to many single-issue campaigns, such as the powerful calls for a climate emergency across the world. A form of new people power has emerged: the immediacy of social media contrasts sharply with the slow

deliberation of government institutions, adding to a sense of disconnection from established civic institutions.¹⁴

Void of vision and foresight: The increasing pace of change and the expected speed of response does not leave time for reflection and there is constant pressure to move on to the next thing.¹⁵ This leads to short-termism and an inability to devise solutions needed to address deeply embedded societal issues.¹⁶ We need a system leadership approach, re-finding some form of moral leadership, promoting local collaboration and broader engagement across society, drawing in shared and diverse narratives to inform decision-making. Leadership can no longer be held by a small group, it must be shared across organisations where members take responsibility for their actions in agreed frameworks of accountability.¹⁷

Living in a global society: National economies are more interdependent than ever before. This creates opportunities but can also create considerable instability. Access to the opportunities that globalisation has to offer are unevenly distributed, with many feeling alienated beyond their immediate communities.¹⁸ Changes in work practices and production models have left many in insecure low paid employment, with many citizens feeling that they have lost control over their destinies to distant institutions run by strangers.¹⁹ For some states the response has been inward-looking nationalism, which threatens vital global collaboration to address challenges like cybersecurity, health pandemics, climate change and environmental sustainability, increased refugee vulnerability and migration, none of which any state can resolve alone.

Changing economic powers: In 2005 the combined output of emerging economies reached more than half of world GDP. Developing countries have a far greater influence on the performance of the advanced economies than is often discussed.²⁰ Many western businesses have parent companies from emerging economies and this process is increasing across the world. This shift in economic power is driving policy changes and diplomatic arrangements. As the United States moves away from leadership of a rules-based international order to focus on its own domestic concerns, other countries are stepping into the vacuum and shaping a new balance of power.²¹

Technological disruption: The transformation in information, nano, bio and neuro technologies is already creating significant disruption at unprecedented scale and pace. Learning to live and work with AI as part of our lives is vital if we are to benefit from these changes. Trends suggest the global stock of robots will multiply in the next few years, reaching as many as 20 million by 2030, with 14 million in China alone. At the same time estimates also suggest that a similar number of manufacturing jobs will be lost. The effects of these job losses will vary greatly across countries and regions, with a disproportionate toll on lower-skilled workers and on poorer local economies.²² In many places, the impact will aggravate social and economic stress in times when political polarisation is a worrying trend. As the OECD has highlighted, these changes mean that participation in higher education matters more than ever.²³

Identities and changing norms in society: On the one hand many of the changes underway promote a greater diversity of views, beliefs, groupings and movements, allowing people to connect in new ways valuing diversity.²⁴ On the other hand, we are seeing a retreat towards older social norms and beliefs in search of security. In some locales, people's chosen identities continue to incite violence and abuse. Despite access to more voices than ever before, there is a danger of narrowing rather than broadening one's gaze.²⁵ These tensions play out in different ways across the world and with several affecting both individual and group identity at any time.²⁶

Migration and mobility: The world is more mobile than ever before but mobility and migration is disproportionately and unequally spread. Voluntary migration is usually stimulated by economic factors, including the belief that another country offers better prospects. Forced migration is driven by environmental change and degradation, war and persecution of minorities. Increased mobility, while enabling skilled people to engage globally, results in an elite distanced from their own communities of origin. The ease of travel on the other hand means that health pandemics could spread faster than we could control and increased air travel is contributing to climate change. Within universities, knowledge has always been global.

International researchers are important to the community of scholars. International students are a valued part of the university community but are not always perceived positively by people living locally to the host institution.

Conflict and war: We see a greater degree of conflict across the world than for some time. Ideas and passion spread faster than ever and factions and groups work across countries and can be more powerful than some states. The rise and spread of asymmetric conflicts will continue with many more civilian deaths.²⁷ Increasingly countries are exporting their wars to other territories to play out tensions closer to home. Meanwhile, inter-state global tensions are increasing as some countries retreat from globalisation. Conflict and war is often triggered by access to resources, increasingly exacerbated by climate change, a fear of migrants and many of the other challenges set out in the challenges above. Conflict and war are moreover major contributors to environmental damage and climate change.

How the wider public perceives these challenges: While we believe these challenges are inter-related and amplify the effects of each in different ways, in gathering the views of students, alumni and the wider public, 73% considered environmental and ecological damage came out as the top challenge that will affect the life and the society in which they live, illustrating the heightened current awareness of this issue. But the other 21st Century challenges also triggered a strong reaction amongst the group, including: 60% highlighting the unequal share of wealth, 59% the negative impacts of globalisation, 58% the decline in economic strength in the UK, and 55% the issues of conflict, terrorism and war. The issues raised in our grand challenges resonate strongly with upcoming generations and pose both a challenge to our societies and an opportunity where universities may be able to help.

It's Complicated!
The 10 Grand Challenges for the 21st Century

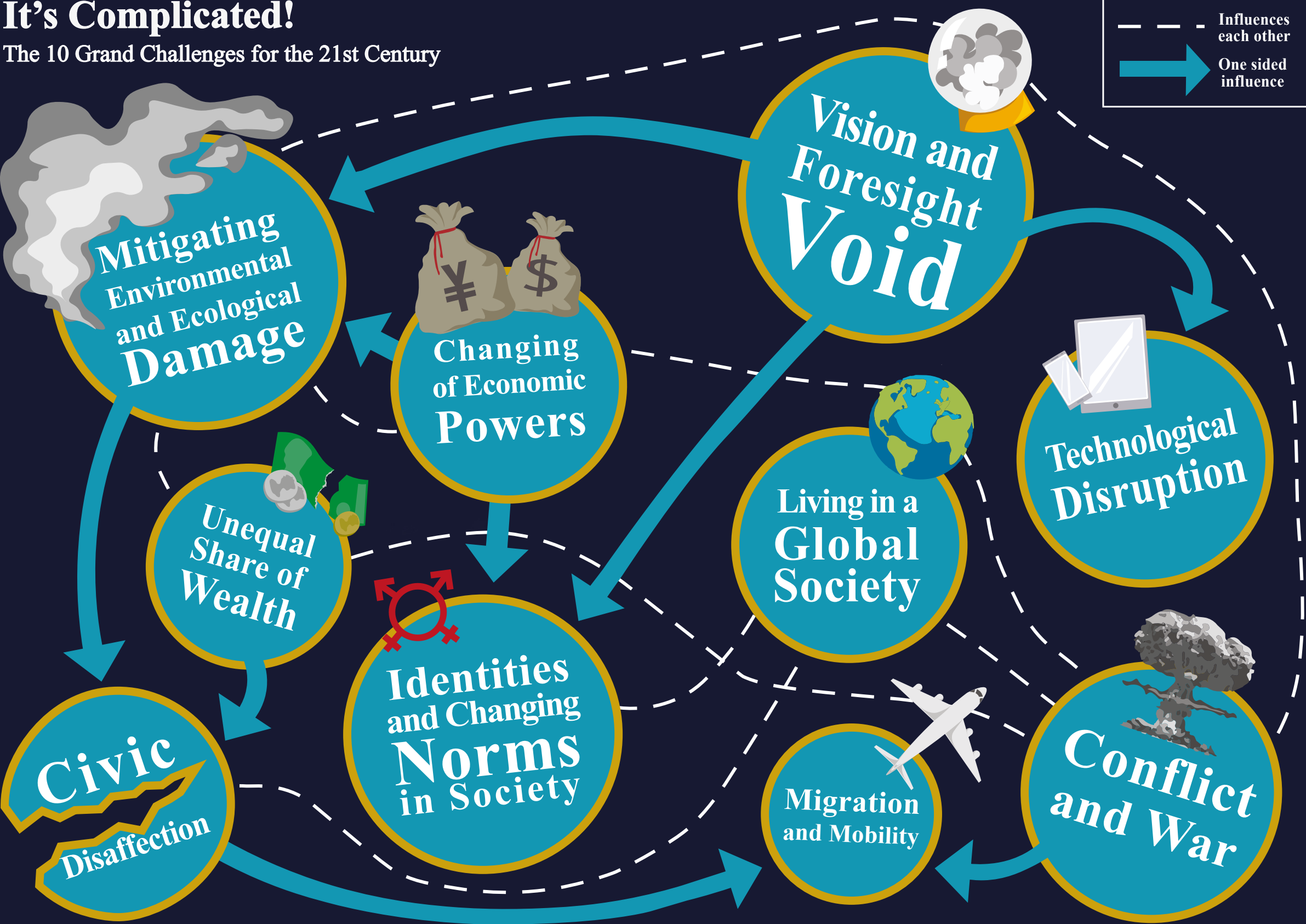


Illustration by Synnøve Skaaheim



Universities have strengths and opportunities enabling a positive response to the challenges but the sector also has weaknesses and blocks to overcome to support its societies effectively at this time of change.

Strengths	Opportunities	Weaknesses	Blocks
Extensive, deep knowledge communities with concentrated expertise in universities needed for a changing world.	Access to information for knowledge creation greater than ever using data analytics and deep machine learning. Social science methodologies could enable multidimensional relationships	The sector can be slow to change and may be reluctant to do so. Disciplinary silos can inhibit understanding of complex systems.	Experts and expertise are increasingly distrusted in parts of society. Universities have historically applied little emerging from their research in their own practice.
The sector has considerable experience of working with each other over long periods of time.	Universities can offer intellectual capital which will be vital in the future. A more educated and engaged community can provide new opportunities for partnerships.	Outmoded structures and silos that limit interaction beyond the institution.	Singular focus on university finances has limited scope for discussion on how universities can support positive societal change.
Globally connected through partnerships, research collaborations, international students/ alumni.	Growth in communication tools to support global collaboration. Increase in quality of collaborators as university systems across the world mature.	Poor access to knowledge on work being undertaken elsewhere – danger of duplication of research endeavours. Qualifications and credentials not always portable across borders.	Global connectivity is distrusted in many places but is central to the university project.
Continuous refreshing of university community through regular intake of new students.	Build on good practice in engaging students to refresh community of scholars and help to connect with new generations.	Barriers between core activities of universities limit opportunities to realise the full value of the student body.	Risk aversion embedded in governance structures inhibit the development of new approaches. Universities not fully representative of societies less able to attract and support more diverse student body.
Source of future leaders as graduates develop careers in various organisations.	A globally growing student body seeking to effect positive social change.	A narrow focus on ages and stages in education limits lifelong learning which is key to the future of societal development.	Alumni often increasingly distant from their institution over time, limiting opportunities for a continuous feedback loop between universities and society.

There is much enthusiasm in universities to support their societies and in the next section we set out an approach to address the blocks and weaknesses and maximise the opportunities and draw on the strengths of universities for the good of society. This will reinvigorate the purpose of universities and the higher education sector to support and enhance our societies through the sector’s work in educating, researching and engaging with the world.

4. Our response: a permeable university for the 21st Century

With the development of a fast-moving, information-driven and more educated society, the role of institutions is changing. Trusted organisations are now seen as distant and elite or possibly even failing. Our argument here is that institutions in the 21st Century will need to embrace a more fluid, more contingent and more permeable relationship to wider society than ever before, precisely because of the complexity, interrelationships and unpredictability of our times.

This requires greater involvement and interaction from the sector, a new purpose: what we call in this manifesto a new approach to university activity; 'The Permeable University'.

The permeable university will work with all sectors and stages of the education system. Permeability will support greater movement beyond the current clearly defined 'ages and stages' education. This more open approach to education will support the changes to the pattern of work we are seeing in the 21st Century and enable greater interaction between institutions, helping to support change and encourage adaptability.

Permeability will create learning spaces which can involve families, connecting education's role to the heart of society. We need to be alert to the signals in our localities and beyond if we are to play a role in helping our societies to adapt to a new world.²⁸

Permeability addresses the rise of popular movements and populism as it can work with ideas beyond those created by traditional scholars. It creates a space for dialogue on how to know, creating regular interaction and debate.

A permeable institution can work more effectively to challenge and respond to new emerging developments as it is able to horizon scan more quickly.

It supports internationalisation and decolonisation of learning drawing on different knowledges beyond the canon, creating a closer dialogue between communities and their organisations. For educational establishments such as universities, whose purpose is fundamentally

about the creation and exchange of knowledge, active engagement with wider society is even more important.

Our survey indicates that there is a hunger to know more about the roles universities play, and a permeable university will enable the wider public to access the knowledge produced in their universities more effectively.

Permeability can move us towards the vision of a multiversity as Clark Kerr, President of the University of California, expressed it in 1963. This idea was further drawn out in our publication *Thinking Ahead* by Andy Haldane, Chief Economist at the Bank of England, who described it as a "changed institution that is able to work across divides to support the lifelong re-skilling of the population, as well as the issues of uneven adoption of technology in the long tail by developing further the role of technology diffusion in their work with local businesses."²⁹

This addresses some of the challenges wrought by changes in technologies in the workplace, which will exacerbate unequal shares of income and wealth.³⁰

Clark Kerr described the role of leadership in the institution as being about navigation rather than being a giant.³¹ Permeable leadership enables the community of scholars; navigating them through the range of perspectives and ideas within the community.

The permeable university seeks to remove barriers and blocks to interaction, both within the institution and all around it.

Leadership does not reside solely in any one group of individuals but is about a grown-up dialogue about the values and activities of the institution with shared responsibility creating a common vision for future action.

This kind of system leadership encourages participation rather than just representation, to create an environment which accommodates diverse professional perspectives and social needs. Governance must also be adapted so that it can support this approach across the institution.

Hence permeability works both internally in the institution and externally in its engagements with society and within the education sector. Because universities can create environments for global and local perspectives to be debated, they can, if they engage, develop greater understanding where truths can be tested and explored and view-points safely exchanged to enhance useful knowledge.

Permeability is about ongoing, long-term interaction and mutually respectful activity. Beyond the interest in the important civic role, the 21st Century grand challenges demonstrate the multiple ways in which universities can make a positive impact at a local, national and global level.

Permeability is a new lens reframing the historic core activities of universities: to educate, to research and to engage. In the following sections we set out how a more permeable approach can render these activities fit for the 21st Century.

5. Educate: developing citizens of the future

Permeable education requires re-thinking what and how we teach. Our current students bring with them valuable experience and perspectives which will develop during their time at university and beyond. In our survey of students and alumni, over three quarters considered course knowledge, critical thinking or the ability to find information and evidence among the most valuable skills and abilities gained at university. Critical thinking was particularly valued by those who engaged with research whilst at university. These skills are central to university learning but in the 21st Century we need to ensure they are given a central role in course design and delivery.

Delivering permeable education

Embrace students as part of a renewed community of scholars: Historically universities always saw themselves as communities of scholars; academics and students. Over time this has been eroded but in the permeable university the community of scholars must include students and all of the university community to be effective.

Leadership in universities is of necessity dispersed: with shared responsibilities across different groups of staff and students to draw out the best ideas and to debate how we can address the considerable challenges facing our world today.³² This diversity of experience will enhance the community: *“It’s not enough to simply include people at the table, but to “amplify everyone’s voices, clear barriers ... and appreciate each other for our unique backgrounds”.”*³³

72% of students and alumni consider one of various people skills / abilities among the most valuable they gained at university.

Building personal relationships, engaging with different opinions and learning to network professionally are particularly valued by the students and alumni most likely to recommend their institution.

The process of reflective learning needs to apply to the whole community of scholars, staff and students together.³⁴ Students come to university with a wealth of experiences and knowledge and need to be embraced as central to this community. While the academy shares disciplinary knowledge with its students, students need to be recognised for being the experts in their learning.³⁵

Provide opportunities for trans- inter- and multi-disciplinary learning: In a world where repeatable tasks are automated the ability to act with a significant degree of originality and creativity will be essential. These skills are difficult to programme even with a very adept learning algorithm. This is likely to require drawing on different methods, approaches and knowledge.³⁶

Learning beyond any one discipline will enable greater capacity for continued learning throughout life – a vital skill in an ever-changing world. For example, the Royal Academy of Engineering defines six engineering habits of mind which, taken together, could be used across a range of disciplines. (Systems thinking, Adapting, Problem-finding, Creative problem-solving, Visualising, Improving).³⁷ Increasingly, while we do need knowledge acquisition, we need graduates who can adapt and learn for themselves, understanding how to acquire and develop knowledge as our lives change.

Permeability between disciplines, although grounded in each area’s core knowledge and methods, will support inter/multi/trans-disciplinary working at all levels of study to ensure graduates understand how to approach challenges in their futures. This type of learning requires students to work together to explore challenging questions, drawing on a range of techniques to seek solutions. Permeable teaching encourages learning to work with others, exploring ideas together, questioning assumptions, and problem solving. It is about active and iterative learning, encouraging creativity and play to experiment and refine. These are skills often used in the research process and could form part of education practice at all levels of student work.^{38 39}

Beyond the university, graduates with these skills will have a lot to offer global institutions as they seek to tackle many of the issues highlighted in our 10 challenges. In particular, we need to value the range of disciplinary approaches: arts, humanities and social science as much as science and engineering, if we are to tackle all the grand challenges we face.

Permeability in practice

Problem-orientated project learning, Roskilde University, Denmark

At Roskilde University in Denmark, students work on inter-disciplinary projects within a framework of what they call problem-oriented project learning. Students work with carefully selected problems that require them to apply domain-specific and domain-general knowledge, self-directed learning strategies, and team participation skills. There is a strong emphasis on the students defining problems of their own choice, as well as on aligning study with research. Roskilde’s aim is that its students will: learn to work across disciplines and think outside the box; apply scientific methods to solve the problems of the surrounding worlds; identify and solve problems independently; manage projects and collaborate with each other.

Permeability in practice

Project-based learning, Maastricht University, The Netherlands

Maastricht University has used problem-based learning (PBL) since its foundation in 1974, and it is now applied in all faculties. The University has also developed related ways of collaborating with external partners in a ‘Knowledge Axis’ to support the local economy. This approach is a fundamental component of learning and teaching and all curricula are developed with a team approach by staff who are committed to the model. The initial development of the PBL approach is labour intensive and much staff development in PBL was required in the early days and is still mandatory. One aim of PBL is to train students for global careers, since inter-cultural competencies are developed by the curriculum and the way it is used.⁴⁰

Reduce boundaries between modes and levels of study

The permeable university should see education as a whole ecosystem with less defined boundaries than were developed in the 20th Century.

The divide between school/tertiary and higher education should become more fluid, with learning less defined by age and more by need in relation to a student’s life stage and context, including a focus on lifelong learning. This would have considerable implications for the process of accreditation, standards and recognition of prior learning that will need to focus more on ability and propensity to learn than staged qualifications.

There is significant distrust and challenge in some parts of the world to fixed points of assessment as reliable markers of attainment from different parts of society; business, the wider public, even different parts of the education sector which needs to be resolved. We should enhance partnerships between other educational providers to share and to learn. This could either create new entities, mixed economy institutions or dual sector universities.

In the changing world of the 21st Century we support a move away from a heavily prescribed and examined system (exactly the things that can be automated), to recognise knowledge and skills that are more tacit, expressive and developmental.

As higher educators we also need to explore the growing range of educational options developing across the world, for example, on-demand learning offered in multiple modes, a move away from degrees as the only form of credential offered, towards a more mixed offering of degrees plus shorter cycle qualifications and credentials.⁴¹

Universities need to explore how they work with different forms of credentialing such as ‘badged’ micro-credentials and different accreditors beyond the academy. In our survey of students and alumni, more importance was placed on the ability to be adaptable by younger age groups: 33% of 18-34s vs 19% of those over 35.

Permeability in practice

Micro-credentials to support graduate employment, University of East London, UK

UEL implemented their Developing Professional Fitness and Mental Wealth portfolio of modules in 2019. The modules aim to take a holistic approach to support graduate employment. They have micro-credentials attached and focus on topics such as developing the emotional, social, physical and cultural intelligence and digital proficiency of students. In addition, UEL has recruited 22 Mental Wealth Institutional Champions that are challenging and supporting pedagogical innovation and applied practice in support of their students' employment preparedness.

Nurture lifelong association between universities, graduates and their employers with continuous learning in all directions: The permeable university will provide for lifelong learning needs, responding to changing life and work roles. Effective relationships between universities, business, social organisations and graduates will help universities to stay in tune with changing needs and experiences. In the UK, the 2018 CBI Education and Skills Annual Report found significant evidence for the pace of change in the labour market, with 60% of businesses reporting that the introduction of new technologies required retraining of employees to take up new posts.⁴²

Many universities work with organisations to offer work placements: sometimes these placements are compulsory for the completion of a course. But as the world of employment changes and becomes more complex there is a need to move beyond the traditional work placements to create a long-term and permeable relationship between the university and relevant employers. Building these partnerships to become more permeable will instil in students the idea that links between university and work are ongoing and fluid. This is something which universities should continue to pursue once their students graduate. As they move on in their careers, graduates will need to repeatedly re-engage and contribute from their experience out in the world, creating a continuous learning loop.⁴³ Over time individuals could build a mosaic of qualifications, which would have clear implications for the structure of universities.⁴⁴

59% of current students and 44% of alumni are considering additional university education. This is less so for the wider population who feel universities are less relevant to them but when asked would like to know more.

The proportion of students and alumni considering additional study is 1.6 times greater among those who engaged with research during their time at university.

Permeability in practice

Integrated innovation to create impact, Carnegie Mellon University, USA

The Integrated Innovation Institute breaks down the silos that impede innovation based on the belief that impactful solutions can be built by uniting the disciplines of engineering, design, and business. The Institute runs a range of courses from the University's Silicon Valley Campus which seek a more for-purpose philosophy. For example, a key learning outcome from the product management course is the importance of building impactful companies and products and the course includes student project work with a selected company, often focussed on the societal impact, for example social aids for the elderly. The multi-disciplinary Application of Artificial Intelligence course supports students to analyse why and how AI can have a variety of societal and business impacts and also includes project work directed at a social purpose such as depression detection for new mothers.

Equip students to play active roles as citizens of 21st Century society:

Curricula in universities should draw on a range of different methods and knowledge to equip students as citizens of the future. There are significant geo-political shifts taking place across the world and we need to think about what that means for university students: not only what languages they will need to speak but also what cultures they will need to understand. Universities should work hard to create opportunities through their global partnerships to help students understand the outside world.⁴⁵ Technology can bring people together around a common goal helping students to learn about asynchronous working with people in different time zones, a vital 21st Century skill.

Many universities across the world have now embedded teaching about the UN Sustainable Development Goals to support an interdisciplinary knowledge base for their graduates and to support their future roles as citizens and leaders on a local, national and global scale.⁴⁶ The decolonisation movement is shifting the balance of the canon of knowledge.



University of Lincoln alumna, Imogen Napper, National Geographic Sky Ocean Rescue Scholar and environmental campaigner

Permeability in practice

Embedding indigenous and sustainability knowledge across the curriculum, Macquarie University, Australia

As part of developing a new student-centred curriculum structure at Macquarie, to be implemented in 2020, the university is developing a programme of indigenous and sustainability (based on the UN's sustainability goals) knowledge and understanding to be embedded across core areas for every student. The work is engaging with departments across the university to identify how this will be put into practice across the institution. For example, Psychology has completed an audit across all units to identify how Aboriginal perspectives are already being used. In Law they are developing a series of indigenous case studies to use across their courses.⁴⁷

Permeability in practice

Bachelor of Humanities, Innovation and Technology, La Trobe University, Australia

La Trobe University has launched Australia's first Bachelor of Humanities, Innovation and Technology, which will combine humanities and business disciplines and give students the skills that are required to understand and analyse emerging technologies such as Artificial Intelligence. The course will produce graduates who can use analytical tools to investigate emerging technologies and their human consequences, and will equip them to utilise new technologies and also consider complex societal and ethical questions that are raised by their use. The course has been developed in response to industry needs for graduates trained in problem-solving across humanities, business and technology who have a range of skills including critical thinking, complex and ethical problem solving, data analysis and interpretation skills. Topics within the Bachelor of Humanities, Innovation and Technology include ethical global citizenship, data-based critical thinking, cyber law and policy, and economics for a changing world.



Governance to support permeable education

Academic governance: rethinking the community of scholars: All universities have some form of academic governance which is located in a set of principles based on the centrality of the role of the community of scholars, but in some cases these have been undermined.⁴⁸ In the 21st Century there is a need for a wider set of permeable relationships in academic governance. The community of scholars should remain central to the oversight of the education provision in any university but the idea of a more permeable community of scholars should be considered. This extended community of scholars creates a broader and more robust governance structure for education within a university.

If students are a vital part of that community, then why not alumni who have had the opportunity to reflect on their learning while in the wider world? Their experience would bring different skills to the debate on academic rigour and standards.

An ages and stages approach is too limiting in a changing society. Education needs to become an eco-system to provide insights into other forms of learning, helping people to learn as they grow and their circumstances change. The community of scholars in any university should engage with local schools and other parts of the tertiary system to create a more seamless education landscape.

University administration professionals should also be embraced as part of the community of scholars whether these be colleagues working to support student welfare, academic quality or learning and teaching development. It is no longer acceptable or sensible to see these vital perspectives left out of the decision-making processes.

System changes to support permeable education

Greater flexibility to encourage cross-country learning: Different higher education systems engage with curricula in universities and other sites of higher education differently but crucially systems should recognise each other and support equivalence to allow for cross-cultural and cross-country learning. Higher education systems at national and international levels need to engage with the changes we are seeing in society and embrace new approaches and standards for a different world. As educational sectors across the world mature it is important to enable greater sharing between systems and institutions than ever before.

Clear strategies at the heart of government for the development of graduates: The 2019 *OECD Education at a Glance* highlighted “As countries struggle to respond to economic, environmental and social transformations – including technological advances, climate change and migration – intellectual capital has become the most valuable asset of our time. The core of intellectual capital is knowledge, and the development and transfer of knowledge is the primary mission of higher education.”⁴⁹

Despite significant expansion in educational attainment over the past decade the benefits of investing in higher education across OECD countries remain clear with strong labour market indicators for the value of a degree. Those with a tertiary level of educational attainment have been better shielded from the risks of unemployment.⁵⁰ On average they have an employment rate about 9 percentage points higher than for those with upper secondary education only, and they earn on average 57% more.⁵¹

Ensure regulation systems are balanced so that there is a protected space for experimentation: The core of the university offer must continue to be quality supported by a robust regulatory system but we must also ensure that there is scope for universities to adapt. The use of narrowly targeted outcome measures can work against this especially when they are tied to funding streams. Pots of funding to support new approaches and collaboration across institutions can also be effective ways of supporting new forms of learning.⁵² There is scope to work more closely with accrediting bodies to build greater flexibility into accredited courses and age levels. There is a shared agenda as accrediting bodies also consider the changes occurring in the 21st Century and how they need to adapt.⁵³

6. Research: connected partnerships to support discovery and understanding

In the 21st Century, the development of new knowledge is vital to address the wicked problems and grand challenges we face. Researchers and research groups are more dispersed across society and increasingly we have become aware that communities beyond the academy have knowledge and understanding that we need to bring into the research process to enable real change for the better. The speed of change in society and the range of different sites of knowledge creation suggests a more permeable approach to research methodologies. There are considerable societal benefits if universities are able to get this right.

Delivering permeable education

Permeability between research and teaching: near-to-teaching research: Curricula need to draw on near-to-teaching research. In a rapidly changing world students need to learn about new discoveries as they emerge and learn about the research methods used. It is through these methodological approaches used in research that graduates will continue to learn beyond the completion of their studies. Research projects should be built into all learning, offering students opportunities throughout their studies to engage with the process of research.

Greater connection between research and teaching can help to prepare our students for a future in which the inventions from our research and innovation work are at play.⁵⁴ The *Made Smarter Review*'s analysis identified under-leveraged innovation assets as one of the reasons preventing the UK from adapting to the challenge of industrial digitalisation.⁵⁵ Universities can respond to this challenge not just by boosting the 'Development' part of Research and Development but also by feeding back into their own curriculum so that they are preparing students for the world that our research and innovation are creating. In the other direction, students can bring their own agendas and research questions into the mix and can act as advocates for research activity in wider society.

30% of students and alumni learn about academic research through talks/seminars. 18% would like to have learned about research taking place, but said that they did not get the opportunity.

Permeability in practice



Students as producers of knowledge, University of Lincoln, UK
The Undergraduate

Research Opportunities Scheme (UROS) embodies the principle of students as producers of knowledge not consumers of information presented to them by their lecturers. Since its inception in 2010, the scheme has grown to include nearly half of all undergraduates at the University in some way. Applications are invited for stand-alone projects, or for larger-scale research work, that could be completed between an undergraduate student or student group working with a member of academic staff. Successful projects are awarded a student bursary of up to £1,000, enabling students to work collaboratively on their research during the summer break. Students taking part in the scheme are required to produce a blog report and a poster containing the research findings to present at the annual UROS Exhibition Showcase. Projects often contribute beyond UROS, with many of them supporting aspects of larger research projects, conference presentations and scholarly articles and are co-authored by the staff/student partnership.

Connect with social movements and draw society into the discovery process: A core contribution of research is to take the time needed to gain real insights to answer the big, deep, long-term questions. This can seem particularly at odds with a 21st Century where responses are immediate and heartfelt, leading the view in some parts of the world that people have had enough of experts.⁵⁶ Permeable research seeks to address this challenge.

Changing power relations⁵⁷ in social movements creates the ability to land a concept or idea often spreading globally in a matter of days but if such ideas are to be adopted more permanently they need to be tested through the ongoing and slower work of forming relationships, building stakeholders and moving to a broader, in-depth understanding which can have more longevity.

The current narrative often positions expertise in opposition to populist ideas but in an age of amplified participation we need to work with our communities on the research we undertake. Citizen science is one form of active participation worth building further, across the disciplines. Research can and must enhance all our lives, creating strong alignment between research and the public.⁵⁸ There are many more sites of knowledge creation, not just in universities. Knowledge development requires more interaction beyond the academy.⁵⁹

Expanding the role of knowledge exchange professionals can build on the research translation work they already undertake. We need people that are absorbed in their research more than ever.⁶⁰ 'Translators'⁶¹ are therefore important in supporting research development. We need to adapt to new modes of communication, and to understand how ideas spread and are adopted in society in a changing world.⁶² It is important to move beyond a culture of telling, to a culture of participation, to enabling dialogue with our research.

Universities can provide a unique space to bring different groups together from all sections of society. Living Labs are an example of how this can operate in practice and are increasing in popularity. As a concept they aim to establish research partnerships which connect academic activities of the institution with community partners. Essentially, they flip the idea of the lab from "the lab is my world" to "the world is my lab".⁶³ Any such approach needs to be based on the mutual respect between different partners, communities and their researchers or else it will perpetuate the current levels of distrust of experts.⁶⁴

Permeability in practice

The African Living Lab

The African Living Lab ISEG/UNIDAF is a consortium of organisations supporting technology, competence and know-how transfer to the benefit of the African universities, enterprises and organisations. Unlike the previous examples, The African Living Lab takes an active part in the development of knowledge for urban and rural African populations, often confronted with numerous economic and social difficulties. The main focus fields include: promoting digital communities and cities, sustainable development and environment durability, training, e-learning and capacity building for young people, e-health and telemedicine.⁶⁵

Twice as many alumni who engaged with research display a strong likelihood to recommend university to friends and family compared to those who did not engage.

The wider public is particularly keen to understand the range of research universities undertake and how it relates to their lives.



Further the interdisciplinary/transdisciplinary project: Universities are increasingly working across disciplinary boundaries to address wicked research questions which cannot be solved by any one approach to discovery. For example, in the UK more than 50% of funded research is now collaborative.⁶⁶ Increasingly calls such as the Global Challenge funds in the UK and Horizon 2020 in the EU actively encourage cross-disciplinary working.

Institutions evaluate their research much more thematically than ever before, meaning that research activity is taking account of breadth as well as depth in focus more consistently. There is a much greater understanding from research that solutions are more complex and we can no longer simply find a silver-bullet solution. One response to this is the use of themes or missions to direct innovation and channel research strengths to solve a range of critical problems.⁶⁷ This is particularly important when looking at the grand challenges set out at the beginning of this document: no one discipline can affect the change required to solve these problems. Inter/transdisciplinarity is vital for our futures.

This growing knowledge of complexity and inter-relatedness means that the project for inter/trans-disciplinarity needs to go further to enable research teams to come together with more of an eco-system approach that can embrace the dynamic aspect of research investigation. Permeability in research can produce a more osmotic interaction between different groups of researchers. This concept of the eco-system would include a range of different players beyond the academy that have knowledge and experience relevant to the particular questions at play.

Permeability in practice

Industrial Doctoral School for Research and Innovation, Umeå University, Sweden

Umeå formed an Industrial Graduate School for Research and Innovation (IDS) in 2008. IDS starts a new round of 12 new projects/doctoral candidates every other year. IDS accepts projects from all scientific fields. Each project is chosen in a competitive process, as are the doctoral candidates. Each project has to be generated and led in collaboration between the supervisor and an external, non-academic partner. The partner might be a company, a non-profit, governmental agency or other type of organisation. IDS projects are financed by the University and the partner. Participating in IDS means that PhD candidates are part of an interdisciplinary group enrolled in a set of courses over two years to develop their generic skills and prepare them to work outside academia within their field of expertise.⁶⁸

Permeability in practice

Mission-Orientated Innovation Network, UCL, London, UK

The Institute for Innovation and Public Purpose is built on the ethos that finding solutions to global challenges requires purposeful organisations to collaborate in fundamentally new ways – across state, businesses and civil society. Within this the concept of Mission-Orientated Innovation Policy seeks to foster dynamic engagement across society on the key challenges that a country faces. Cross-sector and interdisciplinary working, citizen mobilisation and support for the arts alongside STEM disciplines form a core part of the approach. “Societal missions are complex, difficult to define and must be co-defined by many stakeholders. At a disciplinary level there is a need to combine understandings of sociology, politics, economics and technology to address the ills of society, as well as to make the conscious decision to point innovation towards them. This is exactly what a well-designed mission can achieve.”⁶⁹

Advance the open access agenda and draw stronger connections between research findings and the world that citizens are experiencing:

Universities have a role to play to both create new knowledge and communicate, engage and build understanding of it. They have to be system leaders working across the spectrum of relevant interested parties to think through the wider implications of the changes the new discoveries and understandings will bring about.⁷⁰ Our research also has a critical role to play to give warnings about how the future may unfold, for example in relation to climate change, civic distrust or conflict and war. As such it is vital that we find new ways to break through the perceived barrier of expertise.⁷¹ There are an increasing number of researchers with careers that span across the research/industry divide that can support our endeavours here.

Open access of research findings needs to be advanced, such as the work of the League of European Research Universities (LERU). LERU has been active in setting the direction of open access since 2011. However, there is more to do and there are a number of different options being developed across the world. Using technology to advance the open access agenda could also help to encourage further global collaborations and avoid duplication of research endeavours.

A university education leads to considerable interest in engaging with academic research – 92% among those exposed to research whilst at university. Even with no exposure, 70% still show interest.

Encourage greater global mobility and connection:

Global collaborations are crucial to addressing some of the challenges our societies face, working across different jurisdictions, different institutions and different disciplines. Research has always been global in intent and globalisation has brought many more researchers into the system. This is drawn out in the *Smith Review of future frameworks for international collaboration on research and innovation*.⁷² There is more to do: for example, several emerging economies have been very intentional about sending their best young talent out to leading research institutions in different countries, not just to study for a PhD but to undertake their early research career there. It is a very intentional policy to diversify the talent pool, offering incentives to entice the researchers back at a later stage.⁷³

The role of knowledge or science diplomacy is well acknowledged as a means of soft global power in that working together on research projects can build trust and networks between countries, improving their overall relations. Permeability would support more collaborative and genuinely win-win relationships. The report, *Knowledge Diplomacy in Action*, praises initiatives such as the Australia-India Strategic Research Fund, which has put considerable funds into research projects in

areas of importance to both countries, including agriculture, food and water security, and marine sciences, creating a partnership of equals: both governments fund the research, and priorities are decided by four different agencies, two in each country. Our connections into regions around the world will become ever more important as we adapt to changing centres of economic power.⁷⁴



Governance to support permeable research

Introduce different layers to the oversight and regulation of research: Research governance in institutions is too focused on researchers as self-governing. While we would not want to argue that there are significant problems in the system, it is outmoded. A more permeable approach to governance would recognise different layers of oversight and regulation of research: a more systems approach.

Identify new methods to engage society in research development: The opportunities that the information revolution provides are enormous. Involving social actors through social media to understand wider concerns could help determine which research questions could be researched and evaluated not only to communicate the outcomes of research.⁷⁵ Pop-up interest groups create a forum for specific questions between the public and researchers and should be encouraged through the process of research bidding and research planning.

System changes to support permeable research
At system level the approach to stimulate and support great research continues to be the most effective approach to driving research quality. Co-regulation between institutions and government, but also including public involvement, with accountability and interdependence is the most successful way of driving creativity.

Challenge-led research funding: In several countries the use of a focus on big challenges facing society rather than on individual disciplinary funding, such as the Grand Challenges Fund in the UK, countries aligning research funding with the UN sustainability goals and EU system calls such as Horizon 2020 have been useful drivers of interdisciplinary research. However, there is a need to enhance assessment capability of interdisciplinary research findings.

Encourage greater public and community understanding of and involvement in research: Involve different groups in identifying research questions with funders and researchers. Assessment of research activity should include engagement with a wider citizens' panel.

Regulation to support international collaboration: Drawing on the Royal Society's response to the Smith Review three ingredients are needed to support international collaboration: mobility (researchers need to be able to move frequently across borders); money (the ability to move funding across borders); and common mechanisms (cross-country partnership that goes beyond bilateral agreements).⁷⁶ Regulators need to set out how best to oversee the use of public research funds having consulted with the sector, government and the wider public.

Cross-government approaches to support innovation: Policy to support increased innovation stemming from publicly funded research has also developed significantly over recent years. For example, in Australia the government launched the National Innovation and Science Agenda (NISA) and has reviewed its R&D tax arrangements.⁷⁷ These policies will need to adapt in light of 21st Century changes. Technological innovation happens much faster and at a smaller scale than in the past; the old methods of translating university research to commercial outcomes are likely to be outpaced. Greater permeability at all levels of the system will be vital to support the rapid stimulation of ideas and their translation to commercial outcomes in this context.

7. Engage: moving beyond traditional engagement to create a more osmotic, permeable relationship between institutions and society

On the face of it the engagement activities of the university, including their civic responsibilities, innovation and knowledge exchange, and their role in culture and leisure should be the living example of permeable connection. However, as these practices have become less recognised by institutions and their regulatory systems a more reductive approach has prevailed. The permeability lens can demonstrate how to move beyond a traditional view of engagement towards a more two-way, osmotic partnership approach.

Beyond engagement to permeability

Broaden understanding of civic activities to reassert role in wider society: Historically and across the globe there has always been a recognition that universities offer their region economic and social benefits. However, this role as civic contributor has waxed and waned depending on changing policy and the internal politics of particular institutions. Now there has been a revival of the concept of engagement within place. This re-engagement has been sparked from a concern around the growing distrust of elites and experts in society. Context is all important in these discussions in terms of the relationship of the university to its surrounding community.

In the UK the recently published report of the Civic University Commission, *Truly Civic*, mapped out a breadth of university activities that can be classed as civic including: cultural assets, knowledge exchange, health workforce development, student volunteering, widening participation, and their role as an employer. Public survey work conducted for the Commission found that the public wanted to localise their national and international activities by recruiting local students, by ensuring that research had local impact, and by holding open lectures and events.⁷⁸ New analysis suggests: "... we need to move towards an approach that is rooted in the language of communities, with...interactions within and between those communities"⁷⁹. In our survey over a third of respondents consider that the purpose of universities is to create a stronger / broader society, but the survey also indicated that there is a fragmented understanding about the different ways universities work with other institutions and society.

Our premise in this manifesto is that we need to move beyond traditional civic engagement to a more permeable relationship between the institution and wider society.

Permeability in practice

UN@75, an example from outside the tertiary sector

As part of its celebrations for its 75th Anniversary, the United Nations will be initiating dialogues on the role of global partnership to achieve a just, peaceful and sustainable future. Dialogues throughout 2020 will elicit answers to three questions from people in all regions and walks of life, especially young people: What is the world we want to see for our children and grandchildren in 2045? Where is the world heading if current trends continue? How can we achieve the world we want? Dialogues will take three forms: UN Convened Dialogues, Global Citizen Consultations and Partner-Led Dialogues hosted by national governments, parliaments, global civil society networks, academia and think tanks, philanthropic and business communities and the Bretton Woods Institutions (IMF and World Bank).⁸⁰

Support cultural and social integration: Universities have a lot to offer towards generating a new conversation and a new way of working in a globalised world with multiple, fractured identities.⁸¹ The civic disaffection grand challenge is related to the sense that people are no longer connected to progress.

Because universities are sites of internationalism, bringing together many cultures and nationalities, they should play an active role in creating spaces for global understanding not just within their own communities of scholars but also within their wider local communities. Universities could offer a real environment to develop better understanding and respect between peoples through working more proactively with their communities.



Link knowledge exchange endeavours with societal role: Innovation is now acknowledged as an engagement activity.⁸³ Knowledge circulation is perhaps a better way of understanding the permeable university's activities in society. In the civic space new models of innovation and spin-out should be considered. New ideas such as 'pre-distribution' might be trialled which would compensate for the loss of jobs after the fact. Another possible idea could be for those who share their personal medical data to get a royalty payment from pharmaceutical inventions based on that data and so on.⁸⁴

Our knowledge exchange activities and societal role could be better connected by building on the work we do with third sector and government. Many activities are

not recognised as knowledge exchange or innovation within universities or by policy makers and funders.

The US tradition of service education can be re-conceptualised in the 21st Century to foster community relations and responsibilities. It is less about doing to the community, rather it would be learning from and being responsive to those communities. Service education can be replaced by whole systems leadership where different elements of the community teach students about communities. This approach will teach students to work with local communities to engender a better understanding of place. This form of learning would build forms of capital necessary in the 21st Century: environmental capital, technological capital, and new forms of cultural and social capital along with a greater appreciation and understanding of local democracy.

80% of alumni believe universities can play a role in improving the organisations where they work.

Alumni who engaged with research whilst at university see particular opportunities to improve their organisation through access to university research in areas of technology, innovation and analytics / data science.

Permeability in practice

Design against Crime Research Centre, University of the Arts, London, UK

Design Against Crime is a practice-led design research project that emerged at Central Saint Martins (CSM). It was founded by Lorraine Gamman as an 'initiative' in 1999, and continues to flourish. The project involves delivering responsive design for social change in diverse ways. Often participatory processes involving many stakeholders and duty holders, as well as users, are applied by project teams to create design briefs that are 'fit for purpose' and appropriate to stakeholder needs according to context. This responsiveness doesn't stop with co-created design briefs. Whilst 'designers' deliver actual designed outputs, the Centre iterates prototypes with experts and other stakeholders, and then subject designs to user and abuser real-world testing.

Connect global and local roles: The global and local roles of universities are often in tension with each other. We are interested in how this can be re-drawn to gain value from universities' role as global institutions in a local setting and equally, enabling learning at a local level to be applied globally.

Universities have increasingly complex and diverse jurisdictions due to recruitment patterns, campuses overseas, exchange programmes and research collaborations. Staying connected in this environment is undoubtedly complicated yet it is possible to think locally in different settings. It doesn't have to be about geo-politics, it can (and often should) be very community based wherever the location.⁸⁵ This could be especially beneficial for areas where local people have not seen the benefits of global connections but have and are seeing their livelihood disappear. It is only through working with local organisations and local people to address this feeling of being left behind and made vulnerable that universities can become relevant for our communities again.

In our interconnected world, communities are not mono-cultural and working with different cultural approaches universities need to be humble in seeking to understand as well as debate.

Permeability in practice

Lincoln Cultural and Arts Partnership (LCAP), University of Lincoln, UK

LCAP brings together the local authorities, arts and cultural organisations, business leaders, the tourism board, schools in the city, third sector voluntary organisations and the University to plan and discuss future ambitions for arts and cultural activities in the city of Lincoln. The University provides a development worker to support the partnership, bid for funds for festivals and events and to co-ordinate activities. Growing from an initial idea the group has co-ordinated themed activities from the celebration of Magna Carta through to successful bids for three-year arts programmes bringing world-leading artists to the city to produce work, and interact with local people and students at the University. Whilst initiated and overseen by the University the partnership has developed a life of its own and city leaders now work together on a wide variety of city-based issues and activities.



The interplay with arts, culture and sports in the community: Universities have always overseen public spaces for cultural pursuits and managed archives and museums that are open to the public. They also have considerable resources and expertise both in the cultural and arts worlds and in providing sports facilities and the understanding of sporting and exercise activities, alongside all these sectors' contributions to wider society. Through the knowledge base within the university and the convening power which universities can provide, we can work together with the health communities and the cultural, arts and sports sectors to enhance well-being and enable better life chances for all.

Universities' ability to offer spaces to convene and bring together relevant players within the sectors to share and offer greater opportunities for their communities is a real strength, but this role requires commitment from leaders within universities to spend time working with others on what is sometimes felt to be peripheral to their core activities. The arts, cultural and sporting activities are not peripheral to universities but are integral to our role as educators, as researchers and as members of our communities. We therefore have a responsibility to work across our activities with other providers in our communities. In our survey almost half of students and alumni think universities should prioritise businesses and schools / colleges across their external partnerships, a third think healthcare providers and local government should be prioritised and a quarter believe the voluntary sector and cultural / arts providers should be prioritised.

Permeability across different layers of governance

Governance has several different functions in universities and in the 21st Century the focus on one body for complete oversight of the range of complex activities and connections which universities now represent is not appropriate. Perhaps more relevant would be to understand governance as a number of different groups and organisations, what we might call a Family of Governance. Sitting at the centre would be the oversight board or council which takes decisions informed by other relevant parts of their family.

This more permeable approach to governance would include both internal groups such as the community of scholars, and external groups and communities of interest. Several of these have been discussed in the education and research sections of this document and should be seen as part of the family along with the wider community groups discussed below.

The oversight board or council: Increasingly oversight bodies, whatever they are called, are being asked to undertake more responsibilities than ever. Boards of universities are under scrutiny for their attention, not only to the financial sustainability and direction of the institution, but also for its ethics, quality, student welfare and access. Assurance between the board and the executive and the community of scholars requires a different approach, perhaps more permeable, where governors and members of the academy are able to work together on specific topics where appropriate. Perhaps there is also a need for greater clarity of requirements for board members and more professional training and approaches to oversight than has been the case until now.

Use full breadth of governance bodies to broaden representation: Boards are looking to ensure they have a diverse range of experience and background represented on their committees and main board. While this is all appropriate, in a 21st Century university with the range of complex activities there is a real need for different layers and types of governance. Boards do need to be representative of communities but tokenism is not valuable if universities are to be relevant to the wider society. There needs to be appropriate engagement threaded throughout the governance structures. Students and alumni commented that the ideal university governing board, for students and alumni, includes university staff 53%, students 48%, university

leadership 42%, and alumni 41%. Many would also like to see included: local community, and organisations 32%, schools and colleges 31%, business interests 30% and local government 24%. The following are a set of more permeable ideas for governance to enhance the wider public's responses to their universities.

Creating space on an academic common: A key concept in universities has been a suggestion that the community of scholars operates in an 'academic common' where ideas are shared and debated on an equal basis. What if that idea was properly extended to take on a real notion of a 'common' space for all regionally to engage in discussing and debating the purpose of the university in its region? The approach to creating that debate and discussion would need to be meaningful but highlighting that knowledge, the core function of a university, should not be owned by one group but should be shared in common. This approach is one that needs a revival and support. The academic common could be a vehicle for enabling that process.



Pop-up communities of interest: Working with specific communities with an interest in particular matters of concern as and when they occur. Universities should look ahead and be mindful of their impact and also of changes in their communities to ensure a timely and appropriate response. Working with social media platforms universities could test ideas with their communities, detailing issues for specific audiences to ensure engagement when activities could have impacts on and for the community in question.

System changes to support permeable engagement

National systems supporting local systems:

Engagement would seem to necessitate an especially nuanced and adaptive approach that will not always be easily measurable at a system level. We need to work with policy makers to help develop systems that don't work against the approaches which may work best at a local level.⁸⁶ As the engagement activities of universities become more important, governments may wish to consider which activities they would wish to incentivise, ensuring that regulation for other activities do not provide a perverse incentive against institutions working for their communities.⁸⁷

Actively encourage and promote collaboration between community organisations and university activities: Support for innovative initiatives for local collaboration to enhance places and local people's lives in any higher education provider's region can enable dialogue and debate on issues and local concerns.

Collaborating national systems: Higher education systems leaders should engage internationally and support institutions to engage internationally to share knowledge and to facilitate greater understanding. A number of global university networks are already working to make change collectively rather than through government or OECD initiatives. Examples include the Talloires Declaration Group, Ashoka U, or the work of the Association of Commonwealth Universities to mobilise universities around the UN Sustainable Development Goals. We should build on such initiatives to ensure we are inclusive in our approaches always being aware of the complexity of nation and international activity.

Drawing on universities' wider policy interventions: There is a growing recognition that governments need to step up their role and support society to adapt⁸⁸. Whether this is in the commercial sphere or health and care arena these policies can cover support for individuals to retrain and find new employment, to help shape the economy towards future opportunities, for example by providing incentives for small and medium-sized enterprises (SMEs) and entrepreneurship to move into these spaces. Core university activities should work with these endeavours and higher education systems should actively encourage and support their involvement for the benefit of society.



8. Developing the manifesto

The work to develop this manifesto has taken several stages. We have deliberately sought to be permeable in our approach, working with a wide variety of groups and interests in dialogue to expand our thinking. Building on our initial publication from our Lab, *Thinking Ahead*,⁸⁹ which set out contributions about the challenges and opportunities of the 21st Century from a range of leaders from different sectors across the world, the shape of the manifesto was devised. We re-engaged with this group in the final stages of the development of the document to get their views on the role of higher education in the current climate.

In developing the manifesto, we drew on members of the university community and higher education policy specialists from different countries who share some similarities in the development of their higher education systems; the UK, Australia, South Africa, Canada, the USA and Ireland. We have been conscious that this does create a particular perspective on the 21st Century and does not reflect a fully global view. We therefore wish this manifesto to be a document for the start of a debate rather than any final statement of intent.

We are immensely grateful to our reference group for their generosity in commenting on drafts, in attending dialogue discussions and in their interest in this project. We could not have done this without their help. The names of our reference group are at the end of this section.

We have also engaged with the UK student body and UK graduates by commissioning a survey⁹⁰ as well as running a number of in-depth focus groups, and conducting two ‘vox pop’ events with members of the general public who had not attended a university before. All these views are also represented in the manifesto. We have taken up speaking opportunities with sector representative groups across the world, to help refine our ideas further.

We conducted a review of relevant literature. These are captured in the end notes of this document and the insights gained are woven into the text in our manifesto. We have set out some ideas for the purpose of universities and their interrelationship with changing society in this document and we hope it will stimulate further discussion beyond this contribution.

We worked with an illustrator who captured some of our discussions. We are very grateful to Synnøve Skaaheim for her illumination of the interconnections between our 10 grand challenges.

The manifesto is at the end of the day the product of our thinking and our discussions. We hope it is a useful starting point for colleagues in different environments to take forward within their own contexts, to stimulate further thought and engender better dialogue between communities, policy makers and universities.

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We have benefitted enormously from our reference group although we accept full responsibility for the views expressed and conclusions reached throughout the manifesto.

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The 21st Century is creating profound changes across our globe, in our economies, our societies, our nations and our cultures. The aim of #C21stLab is to provoke new thinking from within the higher education sector and beyond.

We hope that you will be inspired, challenged, and stimulated by the 21st Century Lab but most of all we hope that you will engage with it.

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