Executive summary

Part 1 Introduction

In October 2016, Carlos Moedas, the European Commissioner for Research and Innovation, stated that research impact should be one of three "core values" for Europe's research funding programmes, next to excellence and openness, and that his hope was to develop a "more sophisticated approach" to impact.

Over the last decade and more, the discussion of universities' impact on society, and the impact of research in particular, has gained importance. It is, to a varying extent, embedded in policies referring to universities' contributions to the knowledge society, solving global, societal challenges, building an open and inclusive European Research Area, and more. LERU expects this trend to intensify even more in the near future.

In this paper, LERU reflects on the consequences of these societal developments on research and research impact, and how and why the concept of impact has changed in recent times. It analyses the current context in which societal impact is discussed at LERU universities and beyond, how this impact is pursued as a high-level strategy at LERU universities, and how the current understanding of impact and its explicit recognition inside and outside of the university has significant consequences for the entire research ecosystem, including universities, researchers, funders, governments, private and public stakeholders, the public at large etc.

Part 2 Universities' Triple Mission

Since the 19th century universities' *raison d'être* has been to achieve societal impact through high quality education and research. The combination of the latter two is unique for universities and guarantees a fertile environment for creating new knowledge and educating tomorrow's problem solvers.

Universities' societal impact has come to the forefront of higher education and research policy due to dramatic changes related to globalisation, intensifying global competition and related socio-economic developments. The world has become so dependent on new and reliable knowledge and a highly educated workforce, that governments have intensified their explicit demands for societal impact from universities in general, and from research in particular.

European universities find themselves now at the crossroads of international academic competition and local, national or European policy demands. Regarding research, it is expected that it is academically excellent, globally competitive, and at the same time relevant for societal challenges. For current evaluation systems, the challenge is to find ways to assess and value both aspects.

Part 3 Societal Impact

With the recognition of academic research being part of a wider process of innovation (both social and technological), policies based on a sharp distinction between 'academic' and 'applied' research are no longer adequate. This has been recognised in the scientific literature from the 1990s onward and has become increasingly apparent in research policies at the national and European level. To induce changes in, for example, health, climate change and the migration challenge, academic research from a wide range of disciplines is needed, but solutions require a wider societal input, for which researchers need to collaborate with other experts and work in inter-, multi- or transdisciplinary contexts – which is frequently referred to as the co-production of knowledge.

In such open, non-linear and networked systems, academic knowledge should be seen as a dynamic part of a wider process of knowledge production in which stakeholders bring in their own expertise, knowledge and insight. Societal impact is thus the outcome of the creative encounter of these stakeholders and their contributions to a common goal. The collaboration should start right from the design phase of a research project and last throughout its course. The traditional prevalence of uniform, linear models of knowledge production and impact assessment, focusing on easily quantifiable output and direct economic benefit, is a tide that has started to turn, albeit perhaps too slowly or unevenly. It

is reassuring to LERU that governments and policy makers (begin to) realise that these models do not suffice to capture the very societal impact they want, and that, at worst, they may jeopardise fundamental scientific characteristics, such as unpredictability, experimentation, sufficient time-span and even failure.

Part 4 Comprehensive Assessment

LERU universities are pro-active in developing more meaningful and robust approaches to impact, recognising that there are multiple pathways to impact, that one-size approaches will not fit all circumstances and different sorts of research will generate different sorts of impact. Evidence of this change can be found in universities' new strategic plans, in their support for research projects in which, in line with the productive interactions model, societal stakeholders are involved from the start and throughout the process, in the way in which they recruit and promote researchers, and more. They do this in response to, and/or to actively help shape policies by governments and funders, who are developing or revamping their own approaches to impact (cf. REF in the UK, SEP in the Netherlands, etc.).

To determine research impact in this new context, a new approach for evaluation is necessary, one which more adequately reviews the direct and indirect interactions between researchers and stakeholders. Consequently, traditional mechanisms will come under (even) more scrutiny. Two such mechanisms, bibliometrics and peer review (each with their own pros and cons), will need changes to remain fit-for-purpose and meaningful in the research ecosystem. In a number of countries, we see the emergence of evaluative systems allowing for a wider form of evaluation that takes societal impact into account. Also in the literature, new qualitative and quantitative measurements are being developed, for example regarding the use of social media, or wider forms of peer review.

New evaluation procedures need to have the capacity to assess quality and relevance in a non-linear, and often serendipitous environment. Procedures need to be flexible, process-oriented and able to review the different contributions of partners and the productive interactions between them. These new evaluative arrangements will differ per discipline, accounting for variation in production, communication and context. In this paper we refer specifically to the SIAMPI approach of productive interactions and the impact pathways developed in the UK and French contexts.

Part 5 Conclusions

LERU universities are committed to demonstrating the vital role of universities in contributing to society, in terms of education and training, the production and dissemination of new knowledge, and the sustained engagement with societal stakeholders within the national and international challenges they face. To demonstrate societal impact, therefore, is an integral part of what LERU universities do and what they are about.

Societal impact always has been a core task of LERU universities (and universities in general), and it will remain so in the future, because ultimately it is what universities are for, even when the context and framework in which impact is understood may change over time.

The principal tenets of this paper are that (1) knowledge production is not a linear process starting with basic research and ending up with applications, but instead progresses in increasingly open and collaborative ways, and that (2) innovation in society is not only the result of scientific and/or technological progress, but to a large extent the outcome of an iterative process of interaction between scientific and other social domains and its stakeholders. In this process, research and innovation are recognised to take place in a network in which different partners with diverse expertise and knowledge collaborate on the basis of a joint agenda.

As a result, we argue, competition or comparison should no longer be seen as the main (or only) drivers in the production of knowledge, and should make way for productive interaction between stakeholders and the formulation of common goals and joint achievement of results.

The LERU universities are committed to this agenda and keen to engage with others in a debate on impact at the EU and international level. It is vital for all of us, for the sake of science and for the sake of society.

Part 6 Recommendations

Recommendations for universities:

- Universities should fully embrace the societal impact agenda, safe in the knowledge that it is fully compatible with their historical fundamental missions of knowledge creation and transmission.

- Universities should continuously seek to support and promote societal impact as a dynamic, open and networked process in a culture of sustained engagement and co-production of knowledge.

- Universities should engage with others across the broad spectrum of the research ecosystem, including governments, research funders, the private sector, civil society and society at large, so as to foster a better understanding of impact, to develop future-oriented policies and implement innovative practices based on the concept of impact described in this paper.

- Universities should, as a consequence, develop open, explicit and transparent reward systems that include the value of all kinds of impact, reward it and take it into account for individual promotion. They should avoid (inadvertently) creating or following perverse incentive systems.

LERU and the LERU universities are committed to this agenda and keen to engage with others in a debate on impact at the EU and international level.

Recommendations for others:

LERU urges governments, policy makers and funders, at the EU, national and other levels, to:

- recognise and endorse the view of impact as a dynamic, open and networked process in a culture of sustained engagement and co-production of knowledge,

- temper their expectations when it comes to the question of predicting the outcome(s) of grant applications, since the production of knowledge is non-linear and full of unpredictabilities,

- support and incentivise universities in their endeavours to embrace this broad impact agenda,

- engage with universities in a dialogue to develop sensible impact policies, and

- translate the ideas and recommendations put forward in this paper into innovative approaches and initiatives.