

Efficiency, Effectiveness and **Value for Money** at Universities

A **USTREAM** REPORT

By Thomas Estermann
and Veronika Kupriyanova

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USTREAM
project

Universities for
Strategic,
Efficient &
Autonomous
Management

European University Association asbl

Avenue de l'Yser 24

Rue du Rhône 114

1040 Brussels

Case postale 3174

Belgium

1211 Geneva 3, Switzerland

+32 (0) 2 230 55 44

+41 22 552 02 96

www.eua.eu · info@eua.eu

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Thomas Estermann

Director, Governance, Funding and Public Policy Development
European University Association

¹ Please see the Appendices for a complete list of the project supporters.

Introduction

Since the economic downturn that followed the 2008 financial crisis, Europe's policy makers and higher education institutions have been increasingly interested in the topics of efficiency and effectiveness in the academic context. Their growing attention was triggered by an increased focus on achieving value for money in terms of public expenditure, changing funding, governance and accountability frameworks, as well as by growing competition between higher education institutions and the evolving student body.

Against this background, the USTREAM project² partners set themselves an ambitious task to explore the concept of efficiency in a university context, to analyse the key drivers, enabling conditions and barriers to efficiency at universities, and to map system and institutional efforts to foster efficiency, effectiveness and value for money across Europe. The ultimate goal was to share good practices and to draft recommendations for European and national policy makers and institutional leaders.

This has been challenging from the outset. Although efficiency is important for all systems and institutions, the way in which it is understood in Europe varies not only across national borders, but also between different institutions, organisations and individuals. Efficiency can have a negative connotation for various stakeholders, as it is associated with the budget cuts and layoffs witnessed in response to the financial crisis.

Furthermore, it has also become quite clear that efficiency cannot be separated from effectiveness and value for money as university missions are much broader and much more complex than corporate businesses. Similarly, as quality is one of the key factors in higher education, efficiency must be closely linked to quality. In this spirit, special attention has been paid to some of the qualitative attributes of efficiency, leading to peer exchange and recommendations for improvement, rather than the quantitative measures or indicators more typically associated with purely economic efficiency.

This report provides a summary of key lessons, conclusions and considerations regarding efficiency, effectiveness and value for money in the university context learned from the USTREAM project. These findings are formulated in view of Europe's great diversity of higher education systems, frameworks and institutions, based on the insights and evidence collected throughout the USTREAM project between 2016 and 2019. The key lessons are supported by the outcomes of the major project activities: the institutional survey³ and a series of project events including three site visits⁴, three peer learning seminars⁵, three national policy dialogues⁶, two EUA Funding Forums⁷, and multiple stakeholder and expert consultations⁸ as well as feedback from the University Efficiency Hub.

This summary publication is complemented by more detailed reports, which focus on different elements of the USTREAM project presented in the following publications:

- **An analytical paper** introducing USTREAM's multifaceted approach to efficiency, effectiveness and value for money. It explores efficiency at system, sector and institutional levels in the context of operational, professional and support services (operational efficiency); research, teaching and learning (efficiency in academic matters); and university steering (efficiency in strategic governance).⁹

2 USTREAM (Universities for Strategic, Efficient and Autonomous Management) is a three-and-a-half-year project carried out by the European University Association (EUA), the Irish Universities Association (IUA), Universities UK (UUK) and the Central European University (CEU) co-funded by the Erasmus+ programme of the European Union: www.eua.eu/101-projects/607-ustream.html

3 The USTREAM survey was conducted in winter 2016/17. In total, 69 higher education institutions from 21 EU countries submitted their feedback to the questionnaire.

4 The USTREAM partners undertook three site visits to Austria (May 2017), Poland (July 2017) and Flanders, Belgium (September 2017).

5 USTREAM peer learning seminar 1: "Policy frameworks for efficiency and effectiveness" (June 2017, London); USTREAM peer learning seminar 2: "National and institutional approaches to delivering efficiency" (December 2017, Dublin); USTREAM peer learning seminar 3: "Efficiency, leadership and governance" (April 2018, Brussels).

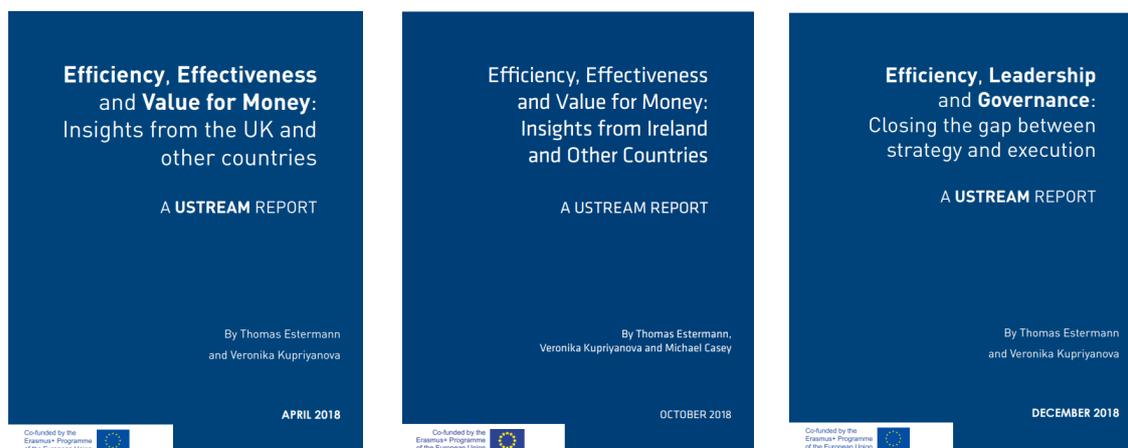
6 USTREAM national policy dialogues on efficiency and effectiveness of higher education in Latvia (May 2018, Riga) and in Lithuania (June 2018, Kaunas); Effizienz und Effektivität an Hochschulen: Österreich im internationalen Vergleich (June 2018, Graz).

7 3rd EUA Funding Forum "Efficient universities: value for society" (October 2016, Porto); 4th EUA Funding Forum "Frameworks that empower, universities that deliver" (September 2018, Barcelona).

8 For example, EUA consultations with its collective members, national university associations.

9 Kupriyanova V., Estermann T., Sabic N. (2018) Efficiency of Universities: Drivers, Enablers and Limitations. In: Curaj A., Deca L., Pricopie R. (eds) European Higher Education Area: The Impact of Past and Future Policies. Springer, Cham. URL: https://link.springer.com/chapter/10.1007/978-3-319-77407-7_36

- **Three analytical reports** summarising the discussions on various angles of efficiency at the USTREAM peer learning seminars held in London ([Policy frameworks for efficiency and effectiveness](#), June 2017), Dublin ([National and institutional approaches to delivering efficiency](#), December 2017) and Brussels ([Efficiency, leadership and governance](#), April 2018).¹⁰



- **The University Efficiency Hub** www.unity.eu allows Europe's university practitioners and policy makers to share knowledge and hands-on experience concerning efficiency, effectiveness and value for money in the field of higher education and research. The portal provides background data on the system-level framework conditions for efficiency, effectiveness and value for money and provides access to a database of good practices that can be consulted at various levels and in different university settings. It also allows higher education institutions to self-evaluate their internal structures and share efficiency and effectiveness practices.
- **Ad hoc reports** drafted in response to the sector's specific interest in procurement and mergers and related efficiency gains.¹¹ These reports are based on the results of interviews and site visits as well as dedicated desk research.



¹⁰ Thomas Estermann and Veronika Kupriyanova (2018). Efficiency, Effectiveness and Value for Money: Insights from the UK and Other Countries. URL: <https://eua.eu/resources/publications/320:efficiency,-effectiveness-and-value-for-money-insights-from-the-uk-and-other-countries-a-ustream-report.html>

Thomas Estermann, Veronika Kupriyanova and Michael Casey (2018). Efficiency, Effectiveness and Value for Money: Insights from Ireland and Other Countries. URL: <https://eua.eu/resources/publications/756:efficiency,-effectiveness-and-value-for-money-insights-from-ireland-and-other-countries.html>

Thomas Estermann and Veronika Kupriyanova (2018). Efficiency, Leadership and Governance: Closing the Gap between Strategy and Execution. URL: <https://eua.eu/resources/publications/800:efficiency,-leadership-and-governance-closing-the-gap-between-strategy-and-execution.html>

¹¹ Thomas Estermann and Veronika Kupriyanova (2018). A Comparative Analysis of Public Procurement Frameworks and Practices in Universities in Portugal and Selected EU Member States. URL: <https://eua.eu/resources/publications/806:a-comparative-analysis-of-public-procurement-frameworks-and-practices-in-universities-in-portugal-and-selected-eu-member-states.html>

EUA University Briefing (2019). University Mergers in Europe. URL: <https://eua.eu/resources/publications/828:university-mergers-in-europe.html>

The structure of this publication reflects the USTREAM approach to the topic, described in more detail in the first chapter.

This report opens with a short summary of key messages supported by the main project findings. These messages are explained in more detail in the subsequent chapters, which support a set of points for policy makers and institutional leaders to consider in order to make further progress in the related areas.

The first chapter looks at various definitions of efficiency and sets out the analytical framework developed by the USTREAM partners, in order to provide a flexible, objective concept that can be applied by various stakeholders, including policy makers, institutions and institutional leaders, networks and associations as well as higher education policy and higher education management researchers.

The second chapter focuses on key messages and considerations for national and EU policy makers. These relate to the optimal frameworks enabling university efficiency and effectiveness at system level. It provides a brief overview of the key drivers, enablers and barriers to efficiency at higher education institutions, and presents some lessons from various initiatives and reforms implemented at national and EU level to optimise the higher education framework and make it more supportive of autonomous, efficient and strategic universities.

The third chapter reviews developments and takeaways at sector level, paying special attention to cross-institutional and sector partnerships and collaboration as a countertrend to competition.

The fourth chapter explores key challenges facing institutional leaders in their quest to make higher education institutions more strategic, agile and efficient in the context of the global and local pressures they now face. It puts forward a few considerations for institutional leaders and senior staff responsible for designing and implementing efficiency strategies in various fields, including strategic governance, professional services and academic matters.

The report concludes with a few remarks about the importance of coherent joint action at all levels of higher education and in all university settings.

This publication includes a selection of efficiency, effectiveness and value for money good practices at different levels and in various university contexts, featured in boxes. Further examples can be found on the University Efficiency Hub (www.inefficiency.eua.eu) and in the other USTREAM reports listed above.

Welcome to the University Efficiency Hub

This online portal allows university practitioners and policy makers across Europe to share knowledge and hands-on experience of efficiency, effectiveness and value for money in the field of higher education.

- Learn more about efficiency frameworks**
Find out about efficiency framework conditions and policy trends in different countries across Europe
- Discover good practices**
Learn what's being done to enhance efficiency in the university context and share your good practices
- Evaluate where you stand**
Take an online test to evaluate your institution's efficiency and find ways to move forward

Nine key messages for efficient universities

Key message 1:

Higher education actors interpret efficiency in many different ways, but efficiency, effectiveness and value for money are inextricably intertwined and equally important, as the purely economic idea of efficiency is too narrow for the complex mission of universities.

Key message 2:

An objective, flexible methodological framework that can be used for both theoretical efficiency considerations and practical efficiency guidance involves the convergence of activities by policy makers, higher education institutions and their partnerships at various levels (system, sector and institutional) and in different areas (strategic, operational and academic).

Key message 3:

Universities need sustainable, adequate public funding to be able to invest in the capacities and capabilities (for example, human resources and tools) required to achieve economy, efficiency, effectiveness, quality and value for money.

Key message 4:

Universities must be autonomous and able to independently shape their governance structures within agreed accountability frameworks in order to be able to react more effectively to external challenges, address social and economic needs, and manage resources in a more strategic, efficient and effective way.

Key message 5:

The low success rates and high costs of participating in EU funding programmes for research, innovation and higher education undermine participating universities' long-term financial sustainability. Essential simplification of the EU funding landscape needs to be re-focused on beneficiaries' practices and processes that foster synergies between EU and national policies and funding schemes.

Key message 6:

Sharing tangible and intangible resources is an important driver for university collaboration at times of financial and staffing pressure. Efficiency considerations need to be integrated more holistically into the goals of cross-institutional partnerships.

Key message 7:

The university sector needs to take ownership of and shape national efficiency agendas to ensure the development of optimal higher education frameworks.

Key message 8:

The institutional efficiency agenda depends on university leaders' ability to approach this topic strategically and operationally, to secure internal support, and to mobilise resources to invest in modern capabilities and skilled staff in order to reap the benefits of efficient and effective university management.

Key message 9:

Efficiency is the collective responsibility of all higher education stakeholders. Efficient and effective universities and frameworks can only be achieved through continuous policy dialogue and the joint action of policy makers, universities and their networks.

1. Towards a more coherent understanding of efficiency in higher education

Key message 1: Higher education actors interpret efficiency in many different ways, but efficiency, effectiveness and value for money are inextricably intertwined and equally important, as the purely economic idea of efficiency is too narrow for the complex mission of universities.

1.1. STATE OF PLAY¹²

The results of USTREAM desk research on the concept of efficiency are echoed by the findings of the institutional survey¹³ and expert consultations. They indicate that despite growing concerns about efficiency in higher education, there is still limited conceptual, methodological and policy clarity in this field. This seems to be due to several factors.

First, applying the concept of efficiency to the higher education context is generally problematic due to the unique nature of the university mission, given its socio-economic goal, and the variety of institutions, financing methods, and beneficiaries involved.¹⁴

Second, the level of interest in and understanding of efficiency varies significantly between higher education systems, institutions and departments. Different perceptions of efficiency reflect 'internal' and 'external' diversity: institutions have different cultures, histories, frameworks and ways of providing teaching, research and services.¹⁵

The results of the USTREAM survey confirm the diverse nature of efficiency approaches across systems, institutions and individuals. When asked how their institution understands efficiency, two-thirds of respondents defined it in relation to either **resource management** or some form of input-output measure. Less than one fifth of respondents understood efficiency in terms of **value for money**.

The ways in which three universities from Austria, the Czech Republic and the United Kingdom defined efficiency are set out below:

"Providing services in teaching and research with a minimum of input to get the best, or at least appropriate, results"
Austria

"We perceive efficiency as a managerial approach, which enables us to get more and better output using existing resources"
The Czech Republic

"Efficiency is understood as the process of achieving the best possible results considering the results available, in order to fulfil the needs of the stakeholders and continuously improve the organisation's performance"
The United Kingdom

12 For more details, see Kupriyanova V., Estermann T., Sabic N. (2018) Efficiency of Universities: Drivers, Enablers and Limitations. In: Curaj A., Deca L., Pricopie R. (eds) European Higher Education Area: The Impact of Past and Future Policies. Springer, Cham. URL: https://link.springer.com/chapter/10.1007/978-3-319-77407-7_36

13 In total, 69 higher education institutions in 21 European countries participated in the USTREAM online survey in winter 2016/17.

14 Sadlak, J. (1978). Efficiency in higher education – concepts and problems. Higher Education, 7(2), 213–220.

15 Sybille Reichert (2009). Institutional Diversity in European Higher Education. URL: <https://eua.eu/resources/publications/407:institutional-diversity-in-european-higher-education-tensions-and-challenges-for-policy-makers-and-institutional-leaders.html>

Such varied current theoretical and practical approaches can be roughly divided into two groups:

1. Resource-based approaches, focused on operational productivity and the extent to which an activity achieves its goal, while minimising resource use
2. Value-based approaches, emphasising the outcomes achieved for end users (including students, employers, the local community and society as a whole,) in comparison with the cost of a product or service

The first group of definitions stresses the comparison between inputs and outputs. The second group accommodates a broader set of definitions that focus on both the intangible and tangible effects of efficiency in terms of the potential impact experienced by a broad range of actors over different periods.

The value-based approach was taken forward in the UK with the establishment of the Modernisation and Efficiency Task Group. Set up in 2011 by Universities UK, it carried out extensive sector and key public and private sector stakeholder consultations to explore what drives efficiency in this sector.

Value for money incorporates three elements: **economy** (reducing input costs), **efficiency** (getting more output for the same or less input) and **effectiveness** (getting better at achieving objectives). In other words, value for money is defined as the achievement of economy, efficiency and effectiveness in the acquisition and use of university resources to meet university objectives.¹⁶

Various examples show that all three elements: economy, efficiency and effectiveness, are equally important in the higher education context. While, for instance, costs can be reduced by closing facilities or the campus at a certain time of year, such measures are not necessarily effective as they could disrupt achievement of the university's goals. Equally, universities may be highly efficient in terms of their operations but still face constraints in terms of student dropout or graduate readiness for the labour market.

In the university context, effectiveness is closely linked to the **quality** of research, teaching, learning and other outcomes as well as their supporting processes. Quality Assurance (QA) processes (including external and internal QA mechanisms, and other complementary tools like benchmarking, excellence initiatives, key performance indicators and rankings) play an important role in enhancing quality.¹⁷

1.2. USTREAM APPROACH TO EFFICIENCY IN HIGHER EDUCATION

Key message 2: An objective, flexible methodological framework that can be used for both theoretical efficiency considerations and practical efficiency guidance involves the convergence of activities by policy makers, higher education institutions and their partnerships at various levels (system, sector and institutional) and in different areas (strategic, operational and academic).

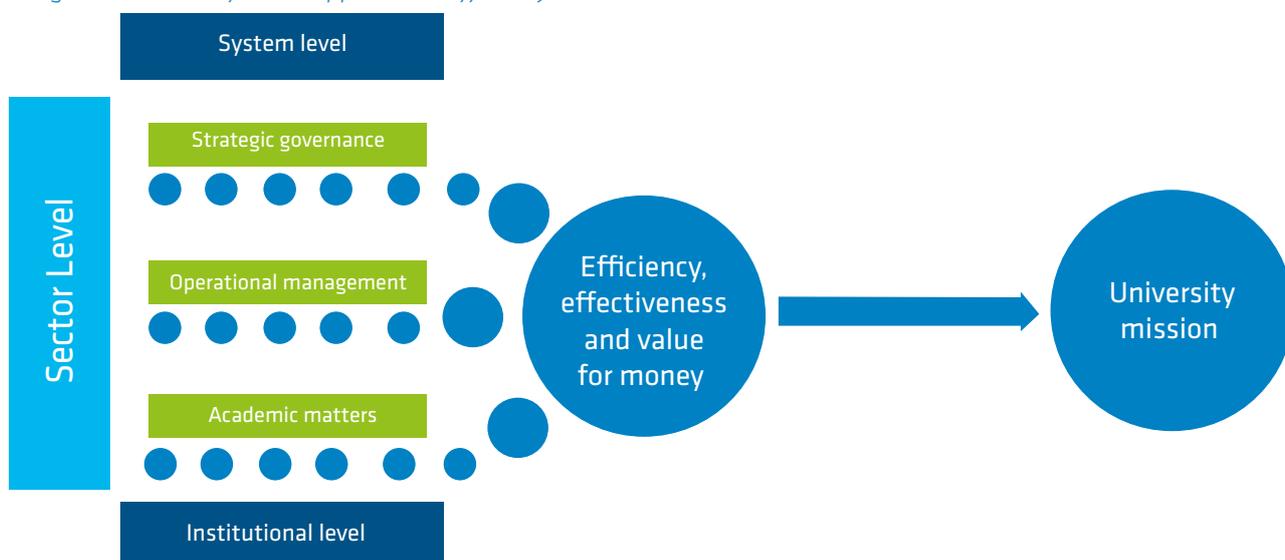
Considering the broad variety of interpretations and the transversal nature of efficiency, USTREAM partners decided to work with a broader and therefore more flexible and neutral framework, instead of adding another definition to the debate. This framework aims to piece together the multiple higher education levels and areas in which efficiency can be fostered and enhanced.

¹⁶ Universities UK (2015). Efficiency, Effectiveness and Value for Money. URL: www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/efficiency-effectiveness-and-value-for-money.aspx

¹⁷ For more details, see Anna Gover and Tia Loukkola (2015). Enhancing Quality: From Policy to Practice. URL: www.eua.eu/downloads/publications/enhancing%20quality%20from%20policy%20to%20practice%20equip%20publication%20final.pdf

Figure 1 provides a schematic overview of the USTREAM approach to efficiency based on three higher education levels (system, sector and institution) and three university work areas (strategic, operational and academic). Multiple efficiency, effectiveness and value for money activities implemented at these levels and areas foster the achievement of university missions and goals.

Figure 1. The multifaceted approach to efficiency



In the USTREAM approach, efficiency is connected to effectiveness to emphasise the importance of university missions and goals and to value for money to stress the consideration of university accountability to major stakeholders.

Table 1 shows a few examples of efficiency measures undertaken at different levels and in different university areas. Although some of these actions may involve several levels or areas, they have been assigned to one group for the sake of clarity and coherence.

Table 1. Examples of efficiency measures pursued at various levels and in different areas

Level / area	Operational area	Academic area	Strategic governance area
System level	Land use Estate ownership VAT regulations	QA processes Programme certification	University autonomy legislation Funding modalities
Sector level	Joint procurement Shared services	Shared research assets Shared staff	Exchange of practices Peer learning Benchmarking Joint staff development programmes
Institutional level	Space optimisation Centralised procurement Asset sharing within institution	Research profiling Rationalisation of the academic offer Learning analytics Technology enhanced learning	Leadership development Value for money reports Efficiency culture Strategy planning

Operational efficiency is driven by the need to streamline business processes and optimise resource use. It combines a broad range of activities that support day-to-day university operations, including facility and space management, procurement, finances, HR management and student support services. Operational efficiency measures can result in internal re-structuring, or institutions sharing resources.

Academic efficiency embraces processes that relate to how university teaching and research are organised. Academic efficiency activities include streamlining the course programme and using learning analytics to support student lifecycle and research profiling. The issue of academic efficiency arises at all levels of the institution, including the faculties and departments, and concerns all of the individuals involved in research and teaching. Institutional measures in this area can include the definitions of teaching load, class sizes, and research output requirements.

Strategic governance efficiency results in activities that underpin performance management and institutional development; accountability and the stewardship of institutional capital; an institutional efficiency culture based on leadership and staff engagement, investment in skills, technology and capacity-building; internal and external communication, the engagement of governing bodies and integrated reporting. Most strategic governance activities are long-term and support institution-wide development.

The following chapters explore efficiency related activities at different levels.

2. Frameworks enabling university efficiency, effectiveness and value for money

2.1. FOSTERING EFFICIENCY AT NATIONAL LEVEL

2.1.1. Key challenges and policy messages

As shown throughout the project, universities' ability to act strategically and efficiently can be facilitated by appropriate government policies. Governments are not only the primary higher education funders in almost all European systems, they also play a crucial role in setting the incentives, objectives and quality standards for the higher education system as a whole.

Here, the key challenge for policy makers lies in the development of an 'optimum context'. This encompassing framework allows universities and other higher education institutions to be more efficient and effective. Such a fundamental task involves finding the right balance between autonomy and accountability, efficiency and quality, equity and effectiveness, trust and control, change and continuity, diversity and standardisation, output and input focus, top-down and bottom-up approach.

While every system has its own mix, **three fundamental principles** seem to be key to establishing frameworks that enable universities to become more strategic, efficient and effective:

- a. Sustainable and adequate funding
- b. Sufficient organisational, financial, staffing and academic autonomy
- c. Flexible governance

Funding

Key message 3: Universities need sustainable, adequate public funding to be able to invest in the capacities and capabilities (for example, human resources and tools) required to achieve economy, efficiency, effectiveness, quality and value for money.

USTREAM survey feedback points to the fact that economic pressure has been one of the key drivers pushing institutional efficiency to the front of the university agenda in many European higher education systems.¹⁸ The financial crisis led to the growing expectation that, like other public bodies, public universities should contribute to budget savings and demonstrate significant efficiency gains.

However, tighter budgets do not necessarily result in increased university efficiency or performance. In fact, public university funding cuts in many systems (Figure 2) produced a negative impact in the medium and long term, missing opportunities to build on competitive advantages to hire staff, invest in modern infrastructure and improve the quality of learning and teaching, and research. Similarly, insufficient funding increases that often fail to match rapid developments in the higher education sector, such as growing student numbers (Figure 3), put both university budgets and performance under pressure.¹⁹

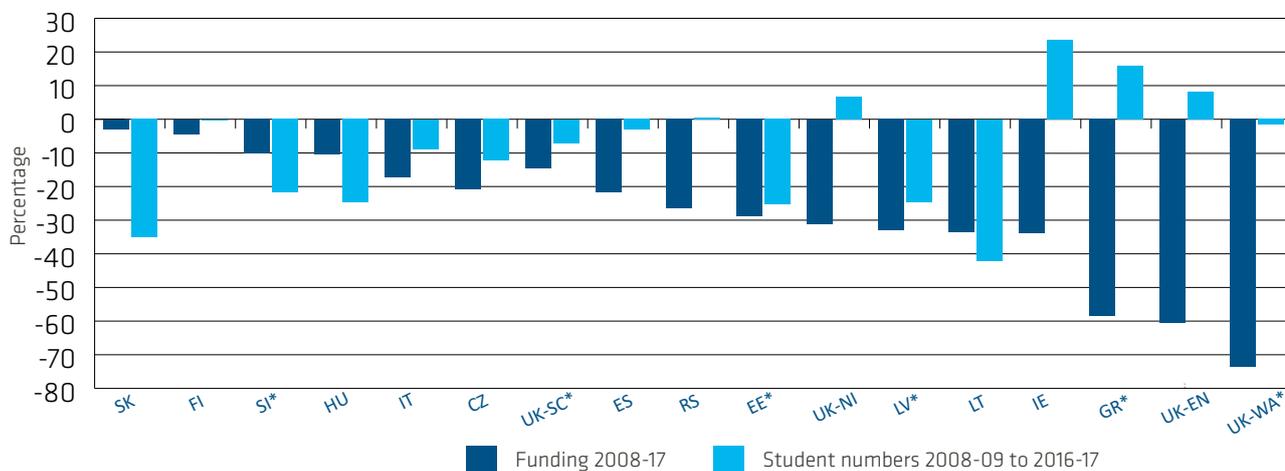
USTREAM consultations show that it is important for policy makers to evaluate potential efficiency gains and negative long-term effects carefully, and to note the limitations of such measures. Such limitations may relate to the replicability and transferability of efficiency measures that can only be implemented once, and whose saving or optimisation potential deplete in the longer term.

¹⁸ The higher education institutions surveyed by the USTREAM project identified budget cuts or decreasing resources (81%), followed by new institutional approaches (71%) and national or regional reforms (64%) as the key drivers of efficiency by (n=69).

¹⁹ Thomas Estermann, Enora Bennetot Pruvot and Valentina Lisi (2018). EUA Public Funding Observatory Report 2018. URL: https://eua.eu/downloads/publications/eua%20pfo%202018%20report_14%20march%202019_final.pdf

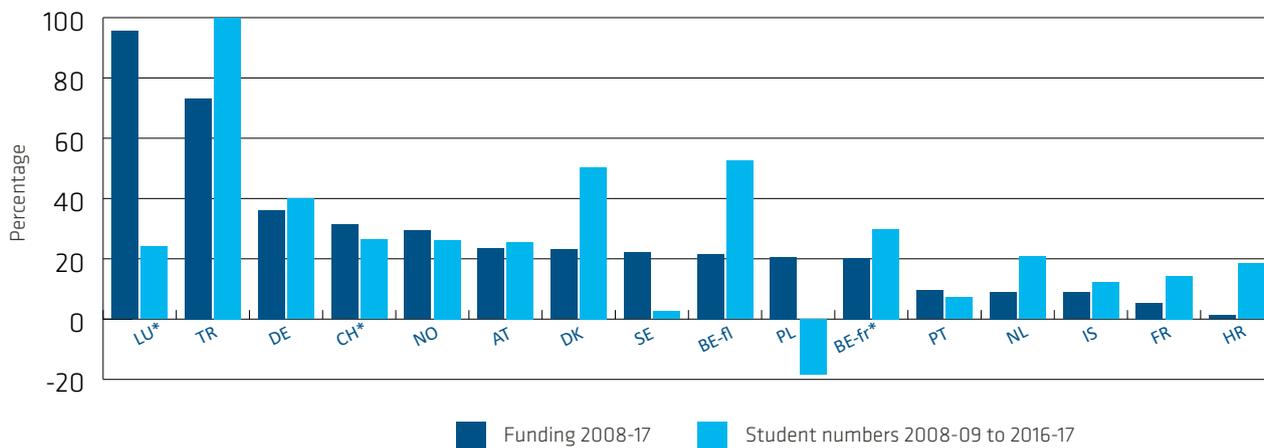
Approaches adopted by some policy makers to drive efficiency through reduced funding may deliver short-term savings, but most of these measures generally have a negative impact on long-term sustainability. Higher education systems in which there is a broad consensus on the most suitable approaches to efficiency show that incentives are more effective than imposing top-down measures on higher education institutions when it comes to driving efficiency.

Figure 2. Systems that decreased university public funding between 2008 and 2017



* Shorter time frames, for more details see EUA Public Funding Observatory 2018. URL: <https://eua.eu/101-projects/586-public-funding-observatory.html>

Figure 3. Systems that increased university public funding between 2008 and 2017

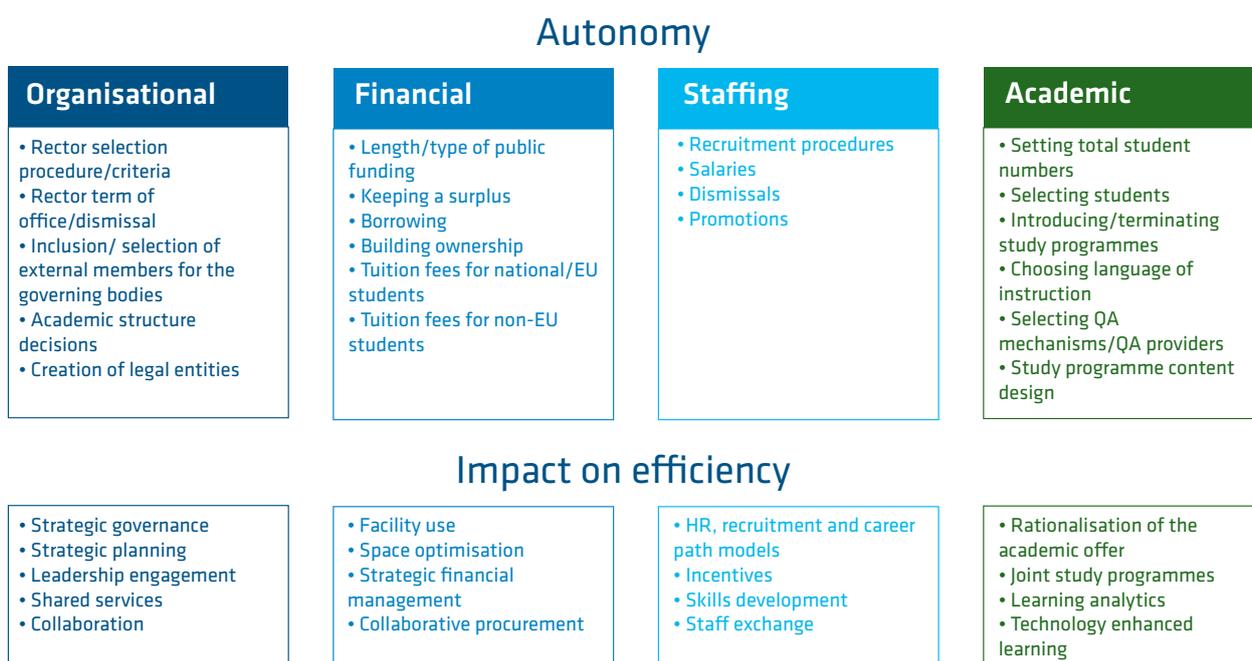


* Shorter time frames, for more details see EUA Public Funding Observatory 2018. URL: <https://eua.eu/101-projects/586-public-funding-observatory.html>

Key message 4: Universities must be autonomous and able to independently shape their governance structures within agreed accountability frameworks in order to be able to react more effectively to external challenges, address social and economic needs, and manage resources in a more strategic, efficient and effective way.

Autonomy is another key efficiency driver and enabler. Figure 4 demonstrates how various dimensions of autonomy allow universities to act efficiently. For example, improved financial and staffing autonomy allows institutions to pursue new sources of income, optimise governance and management models, and to be more responsive to internal and external changes. A higher degree of organisational and staffing autonomy also allows universities to cooperate better (through activities including shared services, collaborative procurement, research and teaching partnerships), to hire and retain the skilled staff needed to implement strategic efficiency and institutional development programmes, and also to divest staff where appropriate.

Figure 4. Impact of university autonomy on efficiency



Conversely, public funding cuts and an unfavourable economic context may lead to, for example, increased control of public university activities and ultimately less efficiency. For example, recent financial pressures on the Irish higher education system had a negative impact on some elements of institutional (particularly staffing) autonomy. This in turn had a big impact on higher education institutions' ability to attract and retain the right staff to ensure quality research, teaching and learning.²⁰ Furthermore, changing Irish public procurement legislation affected universities' financial autonomy, namely their ability to follow their own rules for lower value contracts, which may have increased the related workload and waiting times.²¹

²⁰ While universities in Ireland are theoretically free to hire and promote senior academic and administrative staff, the moratorium set by the Employment Control Framework applies. Universities' capacity to set salaries and dismiss staff was reduced by the collective agreements established by the government and trade unions. For more details, see the EUA Autonomy Scorecard, URL: www.university-autonomy.eu/countries/ireland

²¹ For more details, see Thomas Estermann and Veronika Kupriyanova (2018). A Comparative Analysis of Public Procurement Frameworks and Practices in Universities in Portugal and Selected EU Member States. URL: <https://eua.eu/resources/publications/806:a-comparative-analysis-of-public-procurement-frameworks-and-practices-in-universities-in-portugal-and-selected-eu-member-states.html>

Accountability is another important element of the autonomy debate and an efficiency driver. Its evolution is pushing universities to find new, more efficient and effective ways of delivering their mission and communicating the efficient use of resources to funders and other socioeconomic players including employers, students, and taxpayers. Such communication can be carried out in the form of, for example, value for money or intellectual capital reports.

Policy makers also establish the accountability framework when defining appropriate governance frameworks. For example, governments establish rules on the inclusion of a range of external members on university governing bodies, define fit-for-purpose QA processes and establish ways for universities to deliver and report on policy priorities (for example through performance agreements in Austria or compacts in Ireland). All these issues are directly relevant when it comes to university efficiency, effectiveness and value for money, which should be part of system accountability frameworks.

Governance and university steering

Governance is a key factor in enhanced university performance at both system level- where it ensures a productive relationship with public authorities and an enabling regulatory framework- and at institutional level, where it facilitates the selection of adequate internal governance models and the search for efficient ways to include a diverse community in institutional decision-making.

Co-creation of knowledge is increasingly important in the light of open innovation and intense collaborations between the various players in the innovation space. Universities can play a unique role in this field. They contribute to regional capacity building and competitiveness by delivering evidence that stimulates business and public innovation and by producing flexible, highly skilled graduates, facilitating entrepreneurship and knowledge dissemination. They also often provide the international talent pipelines needed to nourish and sustain a local or regional innovation ecosystem.²²

In this context, including external members on university governing bodies is important for accountability, social outreach and enhanced connections with other economic sectors. This contributes to universities' ability to develop a strategic profile in an increasingly competitive environment.²³ External stakeholders generally work in industry and in business, and are therefore not 'knowledge customers' (which is defined as the situation in which the university transfers ideas that will then be applied) but rather partners in a common journey.

Yet universities' ability to strategically populate their governing bodies may be limited in different, potentially cumulative ways: most European higher education systems still prescribe the form of governing bodies; regulations may limit their size and also affect their composition.

Regulations regarding the composition rules for governing bodies of European universities also vary significantly. Some systems make explicit profile requirements for senate and/or board members (or their equivalents); others impose restrictions while universities are given significant freedom in other cases.²⁴

By fostering organisational autonomy, policy makers allow universities to adapt their governance structures to ensure efficient decision-making processes and connections to the innovation ecosystem through the inclusion of relevant external stakeholders.

22 For more details, see Sybille Reichert (2019). The Role of Universities in Regional Innovation Ecosystems. URL: <https://eua.eu/events/76-eua-focus-group.html>

23 Ibid.

24 For more details, see Bennetot Pruvot E. and Estermann T. (2018) University Governance: Autonomy, Structures and Inclusiveness. In: Curaj A., Deca L., Pricopie R. (eds) European Higher Education Area: The Impact of Past and Future Policies. Springer, Cham. URL: https://link.springer.com/chapter/10.1007/978-3-319-77407-7_37

2.1.2. Considerations for national policy makers

Policy makers can pursue a broad range of measures to foster the efficiency of the entire higher education system and of individual institutions.

Based on what USTREAM has learned from consulting national funders and the higher education sector, and EUA's work on the enabling frameworks for efficiency and effectiveness at higher education institutions, the following set of principles is proposed for policy makers' consideration and accompanied by examples of priority actions.

Principles	Priority actions
<i>Defining a national higher education vision and framework with priorities and targets including efficiency and effectiveness</i>	<ul style="list-style-type: none"> ➔ Draft a comprehensive vision of efficiency based on realistic expectations of the outcomes and different assessment methods, following on from lessons learned about what does and does not work in higher education ➔ Link the efficiency agenda to achievement of the university's goals and missions, to ensure that short-term efficiency gains complement and do not undermine long-term effectiveness ➔ Maintain strategic dialogue about performance and value for money with higher education institutions and stakeholders to ensure greater acceptance of the efficiency agenda, to promote peer learning, foresight and benchmarking and to hold universities to account for efficient resource use
<i>Increasing the efficiency of the university funding allocation model</i>	<ul style="list-style-type: none"> ➔ Provide sustainable and adequate core funding for higher education institutions to ensure effective implementation of their responsibilities ➔ Expand funding horizons to enhance predictability and strategic planning to allow institutions to implement long-term efficiency and effectiveness measures ➔ Ensure balanced use of block grant funding, adequate funding formula, performance-based funding or funding for excellence schemes²⁵
<i>Improving the university regulatory framework by enhancing organisational, financial, staffing and academic autonomy²⁶</i>	<ul style="list-style-type: none"> ➔ Unlock potential efficiency by increasing university autonomy and allowing universities to decide which efficiency measures to apply and how to use the resources saved ➔ Support universities in the transition to increased autonomy with specific incentives, resources and training as part of a holistic framework encompassing organisational, financial, staffing and academic dimensions conducive to efficiency
<i>Refining the governance framework and clarifying the responsibilities and roles of all higher education stakeholders (for example, regulatory, funding and controlling bodies, institutions and employers)</i>	<ul style="list-style-type: none"> ➔ Within an overall governance and accountability framework, allow universities (as self-governing bodies) to choose the most appropriate internal governance model to foster accountability, transparency, efficiency and effectiveness, and support university leaders' and governors' capacity to manage change
<i>Streamlining the higher education landscape, for example, through institutional consolidations and mergers, university profiling and strategic positioning, and the development of regional clusters²⁷</i>	<ul style="list-style-type: none"> ➔ Develop the regulatory framework covering all types of higher education institutions and fostering sector-level collaborations, synergies and cross-institutional partnerships ➔ Explore higher education landscape optimisation approaches with the sector and, if necessary, propose, incentivise and fund consolidation options that meet the needs of the parties involved

25 For more details, see the DEFINE project. URL: <https://eua.eu/101-projects/552-define.html>

26 For more details, see the EUA Autonomy Scorecard. URL: www.university-autonomy.eu

27 For more details, see the DEFINE project. URL: <https://eua.eu/101-projects/552-define.html>, and the University Mergers Tool. URL: www.university-mergers.eu

Principles	Priority actions
<i>Raising higher education institutions' efficiency, change management and organisational innovation capacities</i>	<ul style="list-style-type: none"> ➡ Reward efficiency gains by allocating dedicated funds to incentivise and enable universities to develop efficiency generating capacities and capabilities and improve all institutional processes ➡ Establish mechanisms, bodies or services that enhance efficiency in specific areas (for example, public procurement and real estate management)

The following boxes provide three specific examples of how efficiency is addressed in the higher education context by policy makers in Austria, Ireland and Poland. Further examples and cases can be found in the University Efficiency Hub (www.efficiency.eua.eu).

➡ Box 1. Strategic approach to efficiency and effectiveness of higher education in Austria

Efficiency has been on Austrian policy makers' and higher education institutions' radar since 2008, and it has been addressed through various institution and system level initiatives. Public universities receive most of their funding as a block grant based on three-year performance agreements with the government, which include efficiency related goals and actions. The government defined a specific efficiency target (representing savings of around €300 million) to be achieved by the sector through structural, staff, infrastructure or other efficiency measures in the 2016-2018 performance agreement. As a result of a consultation, it was agreed that the efficiency gains calculation should also consider the growing number of studies/students.

A new funding model was introduced and implemented in the 2019-2021 performance agreement. Its objectives include more efficient resource use and improved teaching capacity planning. Additional resources allocated under the 2019-2021 performance agreements are designed to improve study conditions, reduce dropout rates and make the learning and teaching mission more effective.

The National University Development Plan sets out further activities to optimise the Austrian higher education landscape. The 2019-2024 plan indicates that universities should continue to improve efficiency by consolidating areas of strength, in order to release resources for new initiatives, and thereby increase international visibility and competitiveness, for example, through partnerships, more clearly defined institutional profiles and priority setting.

➡ Box 2. Poland's new autonomy and governance framework

Poland has embarked on a new path where efficient and effective development of higher education is directly linked to greater institutional autonomy and more efficient governance. Policy makers supported this change with a new, comprehensive, higher education reform. This reform established the principles of de-bureaucratisation, selective deregulation, good practice, participation and dialogue. It is set out in a new Higher Education and Science Law Act known as 'Act 2.0,' which came into force on 1 October 2018 and consolidated four previous laws: the Law Act on Higher Education (2005), Act on the Principles of Financing Science (2010), Act on Scientific Degrees and Titles (2010), and Act on Student Loans and Credits (1998).

The main drivers for the reform and its key pillars are directly related to university autonomy, strategic governance, leadership, management and operational efficiency. In the context of the reform, this mostly involves reductions in the administrative and legislative burden, greater organisational and financial autonomy and a shift towards a more strategic university governance model. The new law particularly foresees greater opportunities for higher education institutions to determine their internal governance and organisational structures - universities will be able to develop and adopt more tailored institutional statutes. It also significantly strengthens the role of the rector, who takes on some of the senate and faculty decision-making powers.

Under a new funding model, funds will be awarded to universities, instead of, as previously, to their organisational units (for example faculties). Universities will receive one combined subsidy for teaching and research instead of two separate allocations and are free to internally allocate the respective grant shares in a more flexible way. Dedicated funding schemes were introduced to support excellence initiatives and emerging world-class universities.

Act 2.0 is expected to offer more room for managerial decisions, create new dynamics and stimulate innovation and entrepreneurship. With this new approach, the government hopes to encourage and stimulate more business partnerships, more innovation and greater entrepreneurship, while maintaining an academic ethos. While the impact of the new reform is yet to be seen, this Polish experience shows that efficiency can be part of a broader strategic framework based on broad dialogue involving all of the relevant stakeholders and consolidated sector efforts.

➔ Box 3. The Irish higher education efficiency agenda

Public sector reform to improve efficiency and effectiveness has been an Irish national priority for the last decade. The Irish government has pursued a comprehensive efficiency agenda, encompassing national funding and governance framework reform, reconfiguration of the national higher education system and the introduction of specific mechanisms to foster efficiency in higher education.

Since 2011 the National Strategy for Higher Education to 2030 has guided the development of a more coherent funding and governance system that strikes a balance between state control and institutional autonomy. The reform process established a new performance framework system (2014) and a new governance framework (2016).

The governance framework gave 'good will' governance a clearer foundation. It aimed to improve responsibilities and support accountability based on a shared understanding of roles by all of the higher education stakeholders, including regulatory, funding and controlling bodies, institutions and employers.

The strategic performance framework was designed to promote a more responsive higher education system with greater accountability for public investment and to guide universities towards demonstrating value for money by delivering national policy objectives. To achieve this, universities have to sign institutional performance compacts, which are agreed with the Higher Education Authority (HEA) as part of an annual strategic dialogue. The strategic performance framework is supported by a reformed higher education funding allocation model, which aims to incentivise actions in key strategic areas and combines basic funding with more performance-based funding tools.

Specific efficiency and effectiveness targets and indicators have been integrated into national higher education performance frameworks since 2014 (for example, the level of efficiency gains achieved through shared services, external service delivery models, property management and centralised procurement, development of regional clusters, higher education institution cooperation programmes and shared modules).

However, this agenda was implemented against the challenging background of a significantly reduced public higher education budget that coincided with a substantial growth in student numbers. This placed Irish universities under significant pressure, forcing them to implement a wide range of efficiency measures to ensure long-term financial sustainability.

2.2. EFFICIENCIES AND SYNERGIES AT EU LEVEL

2.2.1. Efficiency as part of the European higher education and research agenda

USTREAM partners looked at the European framework and policy priorities for university efficiency and effectiveness in the European Higher Education Area (EHEA) and the European Research Area as part of the analysis carried out for this project. This analysis was supported by EUA's work on EU higher education and research funding mechanisms²⁸, European Standards and Guidelines for Quality Assurance²⁹ and the Bologna Process³⁰ as well as Open Science³¹ and Smart Specialisation.³²

Higher education efficiency and effectiveness are addressed in the EU strategy for education and training until 2020 as well as the **Renewed Agenda for Higher Education** (key priority "Supporting effective and efficient higher education systems").³³ Recognising the importance of this topic, the European Commission has initiated a review of higher education funding, incentive and reward structures in cooperation with the OECD, to build on the EU member state peer counselling programme on higher education incentive design and funding.

In the broader context of the Bologna Process, efficiency and, particularly, effectiveness are addressed through the three-cycle system (bachelor's/master's/PhD), quality assurance and the recognition of qualifications and periods of study. Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) provide the common framework for quality assurance in the EHEA.³⁴

The new flagship initiative of the EHEA: **European Universities**, promotes the idea of inter-university campuses that provide European curriculum and degrees with embedded student and staff mobility between partner institutions. The key aim of the initiative is to reinforce and structure cooperation by establishing university networks and fostering joint study programme delivery via distance learning tools.

European level efficiency and effectiveness priorities in research are defined as part of the **European Research Area** (ERA) framework. The ERA aims to promote "effective national research systems", "optimal transnational cooperation and competition, including 'jointly addressing grand challenges' and 'research infrastructures'", as well as "optimal circulation, access to and transfer of scientific knowledge, including "'knowledge circulation' and 'open access'".³⁵ The ERA roadmap is implemented through appropriate measures in ERA national action plans and strategies.

Furthermore, EU policies for **Open Access** to research publications and data set out under the EU Framework Programmes for Research and Innovation, the FAIR data principles (Findable, Accessible, Interoperable and Reusable) and the creation of the European Open Science Cloud support more efficient and effective sharing of the knowledge generated by European universities.

Finally, under the EU Cohesion Policy, the bottom-up approach of **smart specialisation** unites universities, businesses, public authorities and civil society around various regional development priorities. Smart specialisation is an enabling condition for regions to obtain funding from the European Structural and Investment Funds. This prerequisite is designed to allocate funds more efficiently and to reinforce synergies between the different EU, national and regional policies and funds.³⁶

28 For more details, see EUA campaign "Sufficient, Sustainable and Simple EU Funding for Universities". URL: <https://eua.eu/resources/campaigns/8-eu-funding-for-universities.html> and Thomas Estermann and Valentina Lisi (2018). Accepting University Accounting Practices under Horizon Europe: A Compendium of National and Institutional Cases. URL: <https://eua.eu/resources/publications/750:accepting-university-accounting-practices-under-horizon-europe-a-compendium-of-national-and-institutional-cases.html>

29 For more details, see <https://eua.eu/issues/22:quality-assurance.html>

30 For more details, see <https://eua.eu/issues/10:bologna-process.html>

31 For more details, see <https://eua.eu/issues/21:open-science.html>

32 For more details, see <https://eua.eu/component/tags/tag/32-smart-specialisation.html>

33 For more details, see <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0247&from=DA>

34 In 2014 the Bologna Follow-Up Group (BFUG) endorsed a revised version of the ESG, which was formally approved by the EHEA Ministerial Conference in May 2015. For more details, see Anna Gover and Tia Loukkola (2015). Enhancing Quality: From Policy to Practice. URL: www.eua.eu/downloads/publications/enhancing%20quality%20from%20policy%20to%20practice%20equip%20publication%20final.pdf

35 URL: https://ec.europa.eu/info/research-and-innovation/strategy/era_en

36 URL: <https://eua.eu/issues/23:european-innovation-ecosystems.html>

2.2.2. Efficiency of European funding schemes and simplification

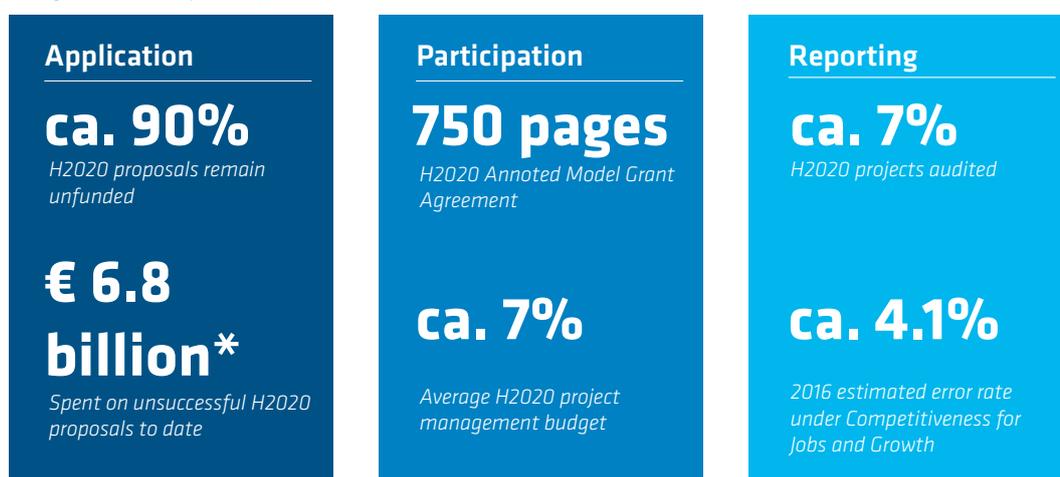
Key message 5: The low success rates and high costs of participating in EU funding programmes for research, innovation and higher education undermine participating universities' long-term financial sustainability. Essential simplification of the EU funding landscape needs to be re-focused on beneficiaries' practices and processes that foster synergies between EU and national policies and funding schemes.

Universities obtain higher education, research and innovation project funding from various EU sources. The EU Framework Programme for Research and Innovation (Horizon 2020/Horizon Europe) and Erasmus+ are the most relevant and demanded instruments for academic research and teaching in Europe.

However, the overall efficiency of the EU funding landscape is currently challenged by fragmentation and rising participation costs, including the co-funding commitments incurred by beneficiaries at all levels. This is, for instance, reflected in declining Horizon 2020 success rates caused by oversubscription and increased awareness of the cost of preparing high-quality yet unsuccessful proposals (Figure 5).

In this context, there is a growing need for more impactful simplification, which can be understood as the achievement of a coherent set of rules that consider the diversity of actions and beneficiaries covered by the programme, and that ensure both quality processes and effective resource use.³⁷

Figure 5. Example inefficiencies embedded in Horizon 2020



*EUA calculations based on European Commission's [Horizon 2020 Monitoring flash \(September 2018\)](#) data.

Furthermore, an effective multi-level governance system is essential to minimise loss of investment between financial periods or gaps in funding instruments for the higher education, research and innovation value chain in the long term. This would entail better policy alignment at local, regional, national and European level.

³⁷ For more details, see EUA analyses of EU funding mechanisms:

"Ambitious funding for excellent research in Europe post-2020" (May 2017). URL: <https://eua.eu/resources/publications/344:ambitious-funding-for-excellent-research-in-europe-post-2020.html>

"From Vision to Action: What EUA proposes for the Next Framework Programme for Research and Innovation (FP9)" (November 2017). URL: <https://eua.eu/resources/publications/345:from-vision-to-action-what-eua-proposes-for-the-next-framework-programme-for-research-and-innovation-fp9.html>

"Taking simplification of EU Funding to the next level" (February 2018). URL: <https://eua.eu/resources/publications/339:taking-simplification-of-eu-funding-to-the-next-level-the-university-perspective.html>

"Where the EU should invest in the future - EUA recommendations for the post-2020 Multiannual Financial Framework and related funding programmes" (March 2018). URL: <https://eua.eu/resources/publications/334:where-the-eu-should-invest-in-the-future-eua-recommendations-for-the-post-2020-multiannual-financial-framework-and-related-funding-programmes.html>

2.2.3. Considerations for national and EU policy makers

Based on the lessons from this project, the following points are proposed for consideration by EU and national policy makers:

Principles	Priority actions
<i>Raising higher education institutions' capacity to participate in EU funded programmes</i>	<ul style="list-style-type: none"> ➔ Raising higher education institutions' capacity to participate in EU funded programmes
<i>Enhancing the efficient use of public resources for higher education and research in Europe</i>	<ul style="list-style-type: none"> ➔ Streamline national and EU funding priorities to ensure complementarity, coherence and synergies at all levels ➔ Align national and EU funding mechanisms and rules to foster efficiencies and create opportunities to channel resources back to universities' core higher education and research mission ➔ Continue to simplify where it matters most and build an efficient, predictable and flexible funding system based on trust, expanding opportunities to use institutional management and accounting practices

3. Partnerships for efficiency, effectiveness and value for money

3.1. KEY CHALLENGES AND POLICY MESSAGES

USTREAM analysis of the key drivers for change in higher education, more specifically for institutional efficiency, reveals the importance of evolving, tighter and more demanding funding models, higher stakeholder and student expectations, and new opportunities and challenges of technology, among other issues. Importantly, these drivers also include the intensifying competition for limited resources, talented staff, students and reputation between universities and other teaching and research providers (Figure 6).

Responding to these challenges and leading change requires universities to address efficiency and effectiveness in multiple contexts. Universities must offer new definitions of teaching and research success, by nurturing new ambitions and new social relevance, and by finding new, more efficient ways to deliver their mission.

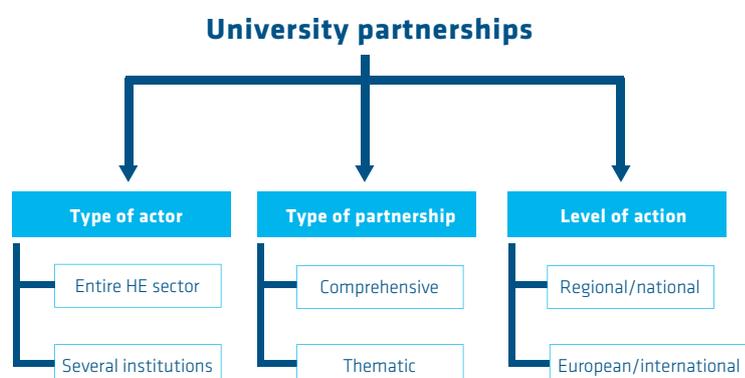
Figure 6. Drivers of change and the higher education sector's response



One way to address these challenges is to explore novel forms of collaboration that pave the way for 'co-opetition' (competitive cooperation). USTREAM analysis shows that university partnerships are highly diverse and cover collaborations at different levels and between various types of actors (Figure 7), so they offer multiple opportunities for efficiency. University partnerships can be discussed from several efficiency perspectives that are addressed in this chapter as:

- **Partnerships designed specifically to achieve efficiency** in specific areas or fields (for example, operational efficiency achieved by means of collaborative procurement or asset sharing).
- **Partnerships generating value for money** while pursuing other teaching and learning or research goals.

Figure 7. University partnerships by type and level of action



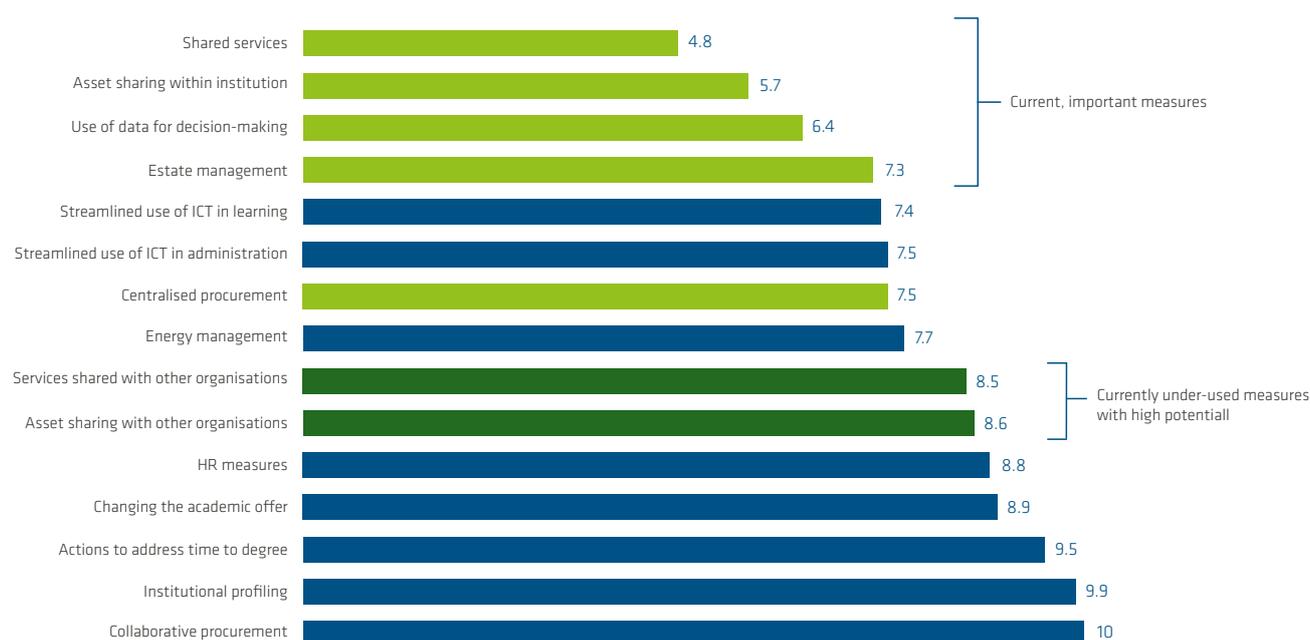
Cross-institutional partnerships

Key message 6: Sharing tangible and intangible resources is an important driver for university collaboration at times of financial and staffing pressure. Efficiency considerations need to be integrated more holistically into the goals of cross-institutional partnerships.

Cross-institutional partnerships are formed by two or more higher education institutions or units in order to jointly pursue common research, educational or other goals.

USTREAM survey feedback shows that university practitioners perceive cross-institutional collaborations as one of the most important ways to achieve greater efficiency. However, cross-institutional efficiency measures like asset or service sharing have still only been implemented by a few universities (Figure 8). This points to an untapped source of potential efficiency.

Figure 8. Top 15 most important efficiency measures



The numbers show the average rank of each measure, which is the sum of numbers assigned to the measure (= "rank") divided by the number of institutions where that measure was implemented. Lower numbers indicate that the measure was, on average, given more importance than measures with a higher average score. For example, "shared services" has an average rank of 4.8, which suggests that it was perceived to be relatively more important than "HR measures", which has an average rank of 8.8.

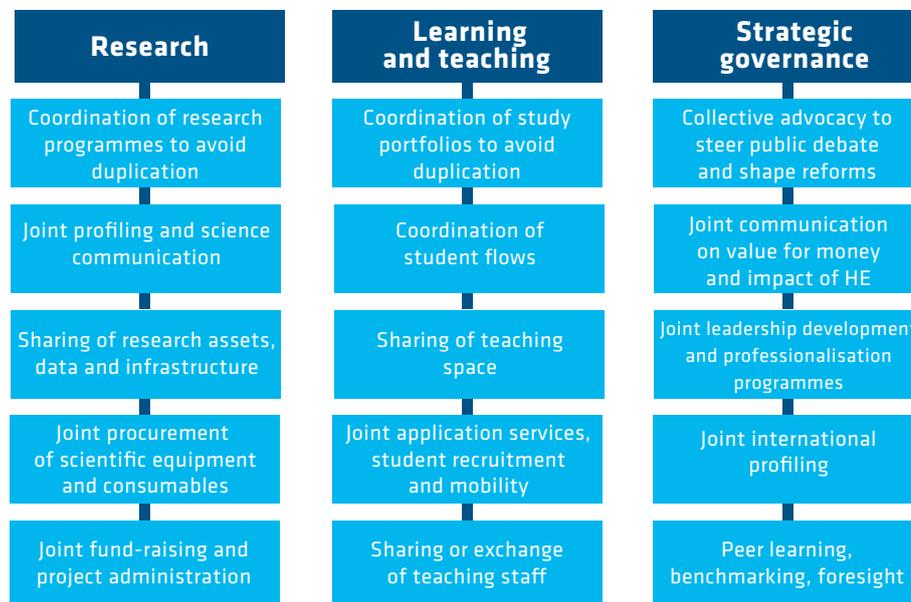
- The most frequently used efficiency measures perceived as being important
- Less common efficiency measures perceived as being important

Previous studies also show that universities tend to enter into partnerships to achieve their primary research and education goals³⁸, but do not address the potential to generate efficiencies and effectiveness per se. In some cases, education and research partnerships fail to consider the impact on operational processes and efficiency considerations.

³⁸ See, for instance, JRC Science for Policy Report: Karvounarakis, A., Subramaniam, S., Hristov, H., Ojala, T., Jonkers, K., Huisman, J., Goenaga, X., Mapping of European Transnational Collaborative Partnerships in Higher Education, X., Publications Office of the European Union, Luxembourg, 2018. URL: http://publications.jrc.ec.europa.eu/repository/bitstream/JRC111663/mapping_of_etcp_in_he.pdf

Multiple gains and synergies can indeed be achieved through university partnerships or networks driven by a common interest in jointly improving the quality of academic and management processes and delivering value for money. USTREAM partners identified specific examples of efficiency generating measures that can be included in comprehensive or more focused partnerships (Figure 9). Further examples are available on the University Efficiency Hub (www.unity.eu).

Figure 9. Examples of efficiency considerations for research, education and strategic governance partnerships



Sector-level partnerships

Key message 7: The university sector needs to take ownership of and shape national efficiency agendas to ensure the development of optimal higher education frameworks.

Sector-level partnerships are broad collaborations between all or almost all of a given type of higher education institution (for example, all of the technology universities in a higher education system) that are concluded in order to work together on common strategic or technical topics. Such partnerships are often delivered through national university associations, which allow higher education institutions to speak to policy makers, funders and other key stakeholders with one voice.

Figure 10. Examples of sector collaborations that foster efficiency and effectiveness



Such sector partnerships provide added value through the ability to jointly develop optimal higher education policy frameworks, steer public debate and engage in national priority setting and reforms. They also allow institutions to share services, good practice and experience.

Figure 10 presents examples of sector level collaborations that provide added value for efficiency at the sector level. Boxes 4 to 6 discuss a few cases in more detail.

➔ Box 4. Joint communication and advocacy: funding campaigns, impact studies and value for money reports in Flanders (Belgium), Ireland and the UK

British universities maintain a dialogue with the Government and other stakeholders and jointly communicate about the value for money they generate and sustainable investment in teaching and research quality through robust resource management. The sector issued a series of reports on national higher education efficiency and effectiveness and several impact studies to steer the debate and ensure these topics remain a government priority (*The Impact of Universities on the UK Economy*, 2014; *Why Invest in Universities*, 2015).

In Ireland, the higher education sector closely collaborates with the Irish Business and Employers Confederation to communicate value for money to funders by demonstrating employers' satisfaction with graduate outcomes. The **Irish Universities Association** (IUA) developed the Save Our Spark campaign calling for meaningful higher education funding reform, as recommended by a Government-appointed expert group. The campaign seeks to raise awareness of the crisis and encourage people to sign a petition urging their local TD or Senator to act now. The IUA also commissioned a rigorous socio-economic impact assessment of the Irish university sector from an independent economic research consultancy (*Delivering for Ireland: An Impact Assessment of Irish Universities*, 2019).

Belgian universities, represented by **VLIR** and **CRef**, issued a brochure showcasing how they use European research funds to create impact. Together with other partners, the sector wrote to Belgian Prime Minister to underline the importance of placing research, innovation and education at the heart of new EU programmes. VLIR also commissioned an impact study to quantify the economic contribution generated by five Flemish universities (*The Economic Contribution of the Flemish Universities*, 2017).

One of the observations from USTREAM partner consultations with EUA collective members: the national university associations, is that steering public policy debate on higher education efficiency and effectiveness is becoming a sector-level priority in a growing number of systems, although such actions involve different responses and actions.

Two USTREAM partners – Universities UK and the Irish Universities Association, have taken a proactive approach to shaping the national policy reform process. Their experience shows that leading the efficiency and effectiveness agenda by drafting and communicating the sectors' views along with evidence of the gains and outcomes achieved supports the development of a more enabling policy framework, which is more in keeping with the sector's expectations of efficiency.³⁹

The Irish experience also features several good examples of how sector partnerships can deliver academic efficiencies through successful initiatives, such as the introduction of central student applications and admissions processes, a national survey of student engagement, and the joint enhancement of teaching and learning practices through the systematic and systemic exchange of best practices and shared support schemes.⁴⁰

39 For more details, see Thomas Estermann and Veronika Kupriyanova (2018). Efficiency, Effectiveness and Value for Money: Insights from the UK and Other Countries. URL: <https://eua.eu/resources/publications/320:efficiency.-effectiveness-and-value-for-money-insights-from-the-uk-and-other-countries-a-ustream-report.html> and Thomas Estermann, Veronika Kupriyanova and Michael Casey (2018). Efficiency, Effectiveness and Value for Money: Insights from Ireland and Other Countries. URL: <https://eua.eu/resources/publications/756:efficiency.-effectiveness-and-value-for-money-insights-from-ireland-and-other-countries.html>

40 Ibid.

➔ **Box 5. Joint leadership development programmes in Norway, Sweden and the UK and selected European initiatives**

Universities can generate efficiencies by jointly offering management and academic staff capacity-building and training programmes, for example, leadership development programmes. Several universities or the entire sector can pool the resources and expertise needed for such programmes, and also engage in cross-institutional peer learning, benchmarking and networking. National rectors' conferences design and run this kind of programme in countries like Norway, Sweden and the UK.

The **Association of Swedish Higher Education Institutions** runs its Leadership and Organisational Development programme to serve senior executives at Swedish higher education institutions. Network members meet once a year and undertake study visits to foreign institutions. They also engage in common training and certification courses.

Universities Norway established a strategic objective to “further develop and strengthen leadership training for member institutions in conjunction with institutions' own research management and institutional leadership programmes”. One such leadership programme: Dean School, is offered to university and university college deans, as well as department heads at the largest institutions. This programme is designed to enhance participants' skills and to develop their leadership role.

Universities UK and GuildHE set up a company – AdvanceHE (previously known as the Leadership Foundation for Higher Education) to jointly develop and improve the management, governance and leadership skills of existing and future higher education leaders in the United Kingdom.

Pan-European leadership training for senior university managers can be offered in formats like the Residential School Programmes run by **HUMANE** (Heads of University Management and Administration Network in Europe), international professional development programmes aimed at developing senior higher education service manager careers. Examples of cross-border leadership training programmes include the **U4 Academic Leadership programme**, offered by the European University Network of Ghent University, University of Göttingen, University of Groningen, and Uppsala University. The U4 Academic Leadership programme trains top-level university management executives, allowing university leaders (in academia and administration) to enhance their leadership skills and learn more about university management in an increasingly complex context.

➔ **Box 6. Joint university action at European level: European University Association (EUA)**

EUA is an important actor helping universities to pool knowledge and efforts at European level. The Association is actively involved in promoting better funding conditions for higher education and research. Its “EU funding for universities” campaign aims to improve conditions for university funding at European level. The campaign focuses on achieving a decision in the EU's post-2020 Multiannual Financial Framework favourable to investment in higher education, research and innovation. EUA is specifically advocating for higher 9th Framework Programme (Horizon Europe) and Erasmus+ programme budgets. Activities in this campaign focus on two areas: (a) the critical value of investment in research, education and innovation at EU and national levels and (b) the need to enhance efficiency and effectiveness, notably by implementing impactful simplification.

EUA also promotes university involvement in such important topics as smart specialisation and Open Science through its Expert Groups on Research and Innovation Strategies for Smart Specialisation and on Science 2.0/ Open Science as well as the EUA High-Level Group on Big Deals, comprising university leaders and scientific publishing specialists. The EUA Learning and Teaching Steering Committee shapes the learning and teaching agenda, using peer learning and benchmarking to enhance the quality and relevance of higher education provision.

3.2. CONSIDERATIONS FOR HIGHER EDUCATION LEADERS

Principles	Priority actions for sector partnerships
<i>Developing an optimum higher education policy framework</i>	<ul style="list-style-type: none"> ➔ Take responsibility for the national and European higher education efficiency agenda, by drafting a common approach to efficiency, effectiveness and value for money, articulating the sector's vision of objectives, priorities and enablers, and channelling and communicating this vision into national and European reform processes ➔ Support peer exchange and learning to pave the way to more efficient and effective cross-institutional partnerships
Principles	Priority actions for cross-institutional partnerships
<i>Developing effective and efficient partnerships</i>	<ul style="list-style-type: none"> ➔ Explore a broad variety of partnership pathways and ensure efficiency and effectiveness are taken into account in cross-institutional partnerships to achieve shared research, teaching and operational goals

4. Strategic, efficient and autonomous universities

4.1. KEY CHALLENGES AND POLICY MESSAGES

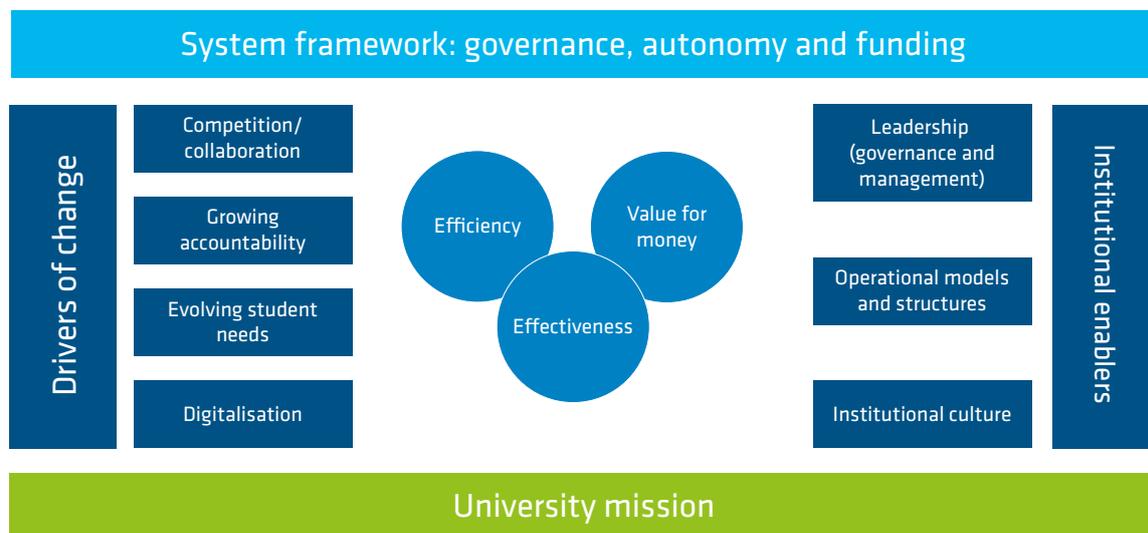
Key message 8: The institutional efficiency agenda depends on university leaders' ability to approach this topic strategically and operationally, to secure internal support, and to mobilise resources to invest in modern capabilities and skilled staff in order to reap the benefits of efficient and effective university management.

The USTREAM project shows that many efficiency measures are currently pursued at institutional level. This trend reflects the fact that institutions have to deal with fast-changing regulatory frameworks, unstable or unfavourable political climates, digitalisation, new forms of competition and collaboration, and rapidly transforming student, social and economic needs. In this context, institutional leaders must find new and efficient ways to deliver their university's mission while ensuring long-term sustainability.

USTREAM survey results show that the successful implementation of efficiency measures largely depends on institutional leaders' commitment. They play a key role in supporting and driving efficient university operations. In most cases, rectors or vice-rectors are responsible for the design and strategic planning of efficiency measures (74%), although this task may also be carried out by a head of administration (55%) or governing bodies (41%). Further relevant actors include deans, vice-deans, heads of department, and faculty, strategic planning office and management teams.

In addition, a supportive institutional culture and adequate organisational models and structures are among the key enablers of institutional efficiency (Figure 11).

Figure 11. Key change management and efficiency drivers and enablers



Leaders can find taking the institutional efficiency agenda forward quite challenging. They need to offer a clear **vision** and transversally integrate efficiency, effectiveness and value for money into strategic frameworks in a coherent, meaningful way. Senior leaders' conclusions at the USTREAM peer learning seminar in Brussels show that it can be difficult to set out such a strategic vision, as university strategies are already often crowded with goals. Additionally, various institutional actors tend to have specific concerns, for example, about efficiency's potential impact on teaching and research quality, or fears about potential changes to work culture or staff layoffs as a result of consolidations, restructuring or rationalisation.⁴¹

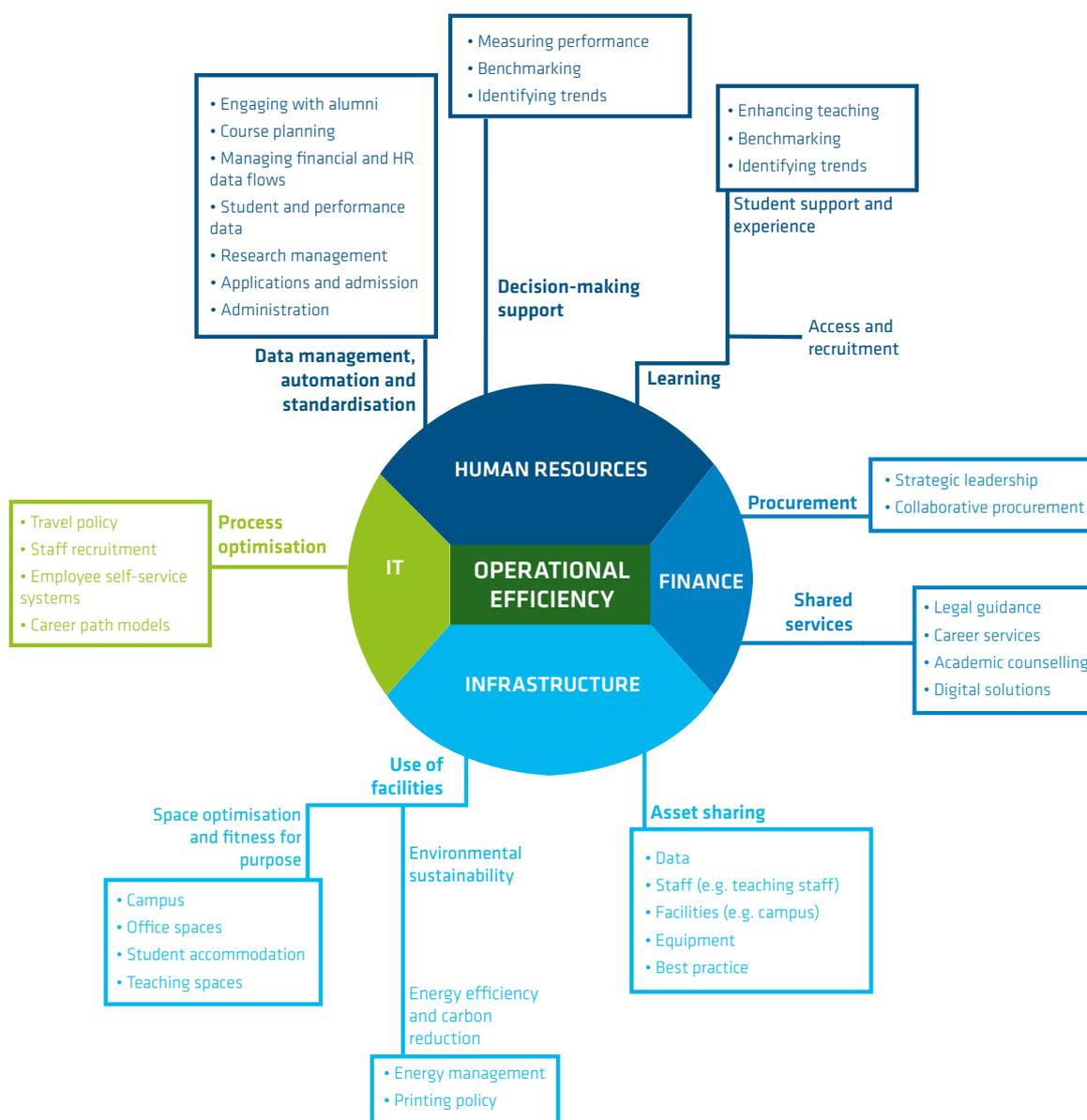
41 For more details, see Thomas Estermann and Veronika Kupriyanova (2018). Efficiency, Leadership and Governance: Closing the Gap between Strategy and Execution. URL: <https://eua.eu/resources/publications/800:efficiency,-leadership-and-governance-closing-the-gap-between-strategy-and-execution.html>

Furthermore, in times of public budget cuts, ministries often expect universities to provide the same services to the same (if not higher) standards and for less money. These expectations are bound to generate tension, as universities are, by definition, expert organisations and do not follow the same economic rules as for-profit organisations: faculty members need freedom to be creative and time for research and are, in most cases, intrinsically motivated.⁴²

Higher education efficiency and effectiveness actions therefore need to be carefully evaluated in context to avoid any negative impact on quality or excellence. Evidence collected by the USTREAM project has shown that university missions can be pursued in an efficient and effective way, without undermining quality and excellence. Furthermore, various actions that support this delivery can also enhance quality.

European universities demonstrate a high level of maturity and diversity in terms of operational efficiency and apply a broad variety of practices to enhance professional and support services (Figure 12). However, efficiency in learning and teaching, research and innovation is less explored and has some untapped potential. Quality concerns may be one reason why efficiency is more commonly applied to operational services than academic matters.

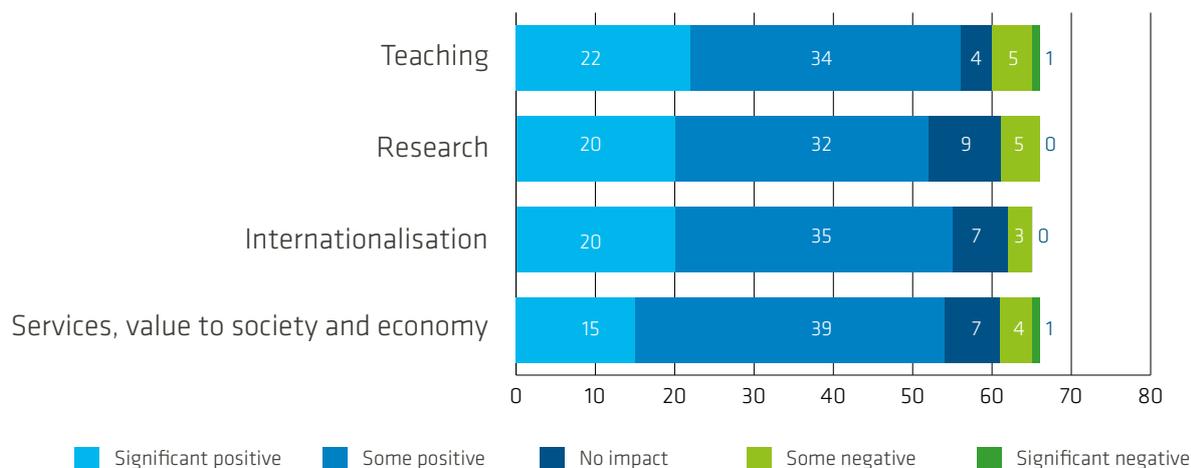
Figure 12. A variety of operational efficiency measures and areas of application



42 For more details, see EUA Expert Voices, Edeltraud Hanappi-Egger “The Triple E: Efficiency, Effectiveness and “Economisation”: Moving beyond carrot and stick”, December 2018. URL: <https://eua.eu/resources/expert-voices/60:the-triple-e-efficiency-effectiveness-and-%E2%80%9Ceconomisation%E2%80%9D-moving-beyond-carrot-and-stick.html>

The USTREAM survey has shown that efficiency measures can have a positive impact on all areas of university work. In total, 82.51% of all responses identify efficiency measures as having a significantly or some positive impact on various fields (Figure 13).

Figure 13. Impact of efficiency measures in various areas



Further qualitative analysis revealed efficiency-oriented initiatives' potential to both improve the quality of academic processes and release resources for the university's main missions. For example, activities aimed at streamlining the student lifecycle through digitalisation, use of data and learning analytics tools help enhance student engagement and reduce dropout. Box 7 shows how this was implemented at Nottingham Trent University.

Furthermore, USTREAM partner discussions with the Quality Assurance community about efficiency show that fostering greater and more innovative use of student peer-learning, mentoring, placements and off-campus training opportunities help universities to organise the study process more flexibly and efficiently while ensuring a quality student experience and learning outcomes. This conclusion echoes the European Principles for the enhancement of teaching developed by the EFFECT project⁴³ as well as the findings of the EQUIP project.⁴⁴

Leaders also play a key role in implementing the efficiency agenda, as they need to secure the support of key internal actors, including governing board members, and to mobilise resources to develop efficiency related capabilities and staff skills.

Various approaches can be taken to structuring institutional efficiency actions. Typically, central administration (particularly finance departments) plays a key role in implementation (Table 2). While most institutions do not see the establishment of a dedicated office as a common way to deliver efficiency, several examples such as the University College Dublin's Agile initiative show that this tactic can be highly effective, particularly when it comes to developing an enabling institutional culture and overcoming inertia (Box 8).

43 The European Forum for Enhanced Collaboration in Teaching (EFFECT) project. URL: <https://eua.eu/101-projects/560-effect.html>

44 Enhancing Quality through Innovative Policy & Practice (EQUIP) project. URL: <https://eua.eu/101-projects/569-equip.html>

Table 2. Perceived importance of institutional units in implementing efficiency strategy

	Not at all or slightly important	Moderately important	Very or extremely important
Central administration/operations	5%	11%	85%
Finance department	5%	18%	76%
Faculties or departments	2%	26%	71%
HR department	6%	25%	68%
Dedicated office, entity or working group	17%	25%	58%

The USTREAM project reveals that institutional inertia is indeed one of the major barriers to efficiency (Table 3). Leaders need to act as role models and ‘efficiency ambassadors’ to promote an efficiency culture that raises cost awareness and rewards individual performance and achievement. They also need to ensure effective communication channels are established to transparently relay information about key goals and specific outcomes.

Table 3. Perceived importance of barriers to implementing efficiency measures

	Not at all or slightly important	Moderately important	Very or extremely important
Institutional culture / reluctance to change	8%	20%	72%
Financial constraints	18%	22%	59%
Concerns over quality	18%	27%	55%
Lack of expertise or qualified staff to implement the measures	21%	34%	45%
Legal barriers	43%	19%	38%
Technical obstacles	31%	34%	34%

Efficiency may have a negative connotation for some internal actors, so leaders need to combine transversal skills including: emotional intelligence, agility and the ability to engage with people with more specific knowledge of efficiency and effectiveness peer practices and experiences, and a broad awareness of what does and does not work in a university context, in order to communicate effectively on this topic. Leaders also need to rely on comprehensive integrated dataflows pointing to what needs to be done and showing whether targets have been met or need to be reviewed.

For example, a reporting model based on internal datasets that track research applications and awards, student records, publications and human resources, fosters data-driven performance management and establishes a review process for research performance, teaching quality and educational analytics. Such models can incorporate other publicly available data for external benchmarking.

4.2. CONSIDERATIONS FOR INSTITUTIONS AND THEIR LEADERS

The following considerations are based on USTREAM lessons about institutional efficiency enablers and proposed for institutional leaders:

Principles	Priority actions for institutional leaders
<i>Providing a coherent strategic framework for efficiency at institutional level</i>	<ul style="list-style-type: none"> ➤ Develop a clear long-term vision of efficiency, effectiveness and value for money ➤ Include a balanced, strategic perception of efficiency, emphasising the added value of being more efficient and effective for delivering the main institution missions
<i>Ensuring effective implementation of the efficiency agenda</i>	<ul style="list-style-type: none"> ➤ Align the senior leadership team with the respective efficiency goals, objectives and implementation approach, and engage other relevant actors, including staff, students and governing body members in their implementation ➤ Define clear responsibilities and resources to support the implementation of the vision and identify specific areas and internal projects in which efficiency savings will be invested ➤ Explore the opportunities arising in various organisational and academic settings, and prioritise efficiency measures that are sustainable in the long term ➤ Develop a communications and engagement strategy that includes various feedback loops to address internal actors' concerns and report externally on the value of efficiency and effectiveness
<i>Developing efficiency capacity and capability</i>	<ul style="list-style-type: none"> ➤ Support leadership and management governance and innovation management capacity, through training and support for younger leaders (for example, mentorship and incentives) and senior managers (top management programmes and access to professional networks) ➤ Invest in comprehensive integrated data systems and other tools to support efficient and informed decision-making ➤ Create synergies and organisational overlaps between the finance, research and teaching communities by fostering dialogue and exchanging ideas on efficiency and effectiveness
<i>Making efficiency part of the institutional culture</i>	<ul style="list-style-type: none"> ➤ Foster a culture of continuous improvement and efficiency at all levels by rewarding the measures or initiatives staff identify and implement to raise awareness and inspire ➤ Build staff capacity to innovate at work ➤ Drive institutional change and efficiency through pilots and lean management

➔ Box 7. Learning analytics at Nottingham Trent University

Nottingham Trent University (NTU) runs one of the most prominent learning analytics initiatives in the UK. The institution-wide rollout of the NTU Student Dashboard facilitating dialogue between students, their personal tutors and support staff has seen widespread uptake, positive impacts on student engagement, and a change in organisational culture towards a more data driven approach across the University's work. The initiative was awarded the 2014 Times Higher Education award for Outstanding Student Support.

The NTU Student Dashboard measures students' engagement with their course. The University has found engagement to be a stronger predictor of success than background characteristics. Engagement scores are calculated from VLE access, library usage, card swipes and assignment submissions. Tutors are prompted to contact students when their engagement drops off. The provision of the Dashboard has helped build better relations between students and personal tutors. The Dashboard positively affects behaviour: tutors discuss engagement with their students and some learners find that seeing their own engagement is a positive spur to stay engaged. The Dashboard has been developed to achieve key institutional academic objectives; the project is delivered by a project team comprising academics, students, educational developers, IT staff and the developers. Transparency and a close partnership approach has been critical to the success of the initiative, and has reduced ethical concerns about the use of student data. The provision of the Dashboard is now expected by staff and students, and the project has helped to extend the culture of data-driven decision making across the University.

Source: Jisc (2016). Learning Analytics in Higher Education: A review of UK and international practice. Case Study I. Predictive Analytics at Nottingham Trent University. URL: www.jisc.ac.uk/reports/learning-analytics-in-higher-education

➔ Box 8. University College Dublin's agile approach to efficiency and effectiveness

In 2015 University College Dublin (UCD) introduced a university-wide initiative to support its strategic objective of increasing the agility and effectiveness of university procedures. UCD Agile was created as a dedicated unit which delivers both the theory and good practice for increasing efficiency and effectiveness. It uses Lean methodology to focus on customers and value, and to ensure customer-focused and effective processes and systems. As part of this 'culture shift', the University is developing a 'community of practice' model to support its process enhancement community.

Over 400 staff have been through training, including over 20 'green belt' projects. The following are two concrete examples that showcase the initiative's initial successes:

Enhancing staff recruitment

- 1000 campaigns a year, 17,000+ applicants, 300+ 'hiring managers'
- Goals: reduce timelines, streamline processes, save resources, improve customer satisfaction
- Outcome: deep analysis, process simplified, 500 support hours saved, customer satisfaction increased

Module reading lists – Library resources

- 4,000+ active modules, 800+ academics, all students
- Goals: increase academic engagement, simplify the process, improve value for students
- Outcome: 50% increase in engagement, simplified process, more flexible timelines, improved academic staff engagement, more efficient library response, more effective resource provision for students

Source: Presentation by Michael Sinnott, Director of UCD Agile, Ireland

5. Tying it all together

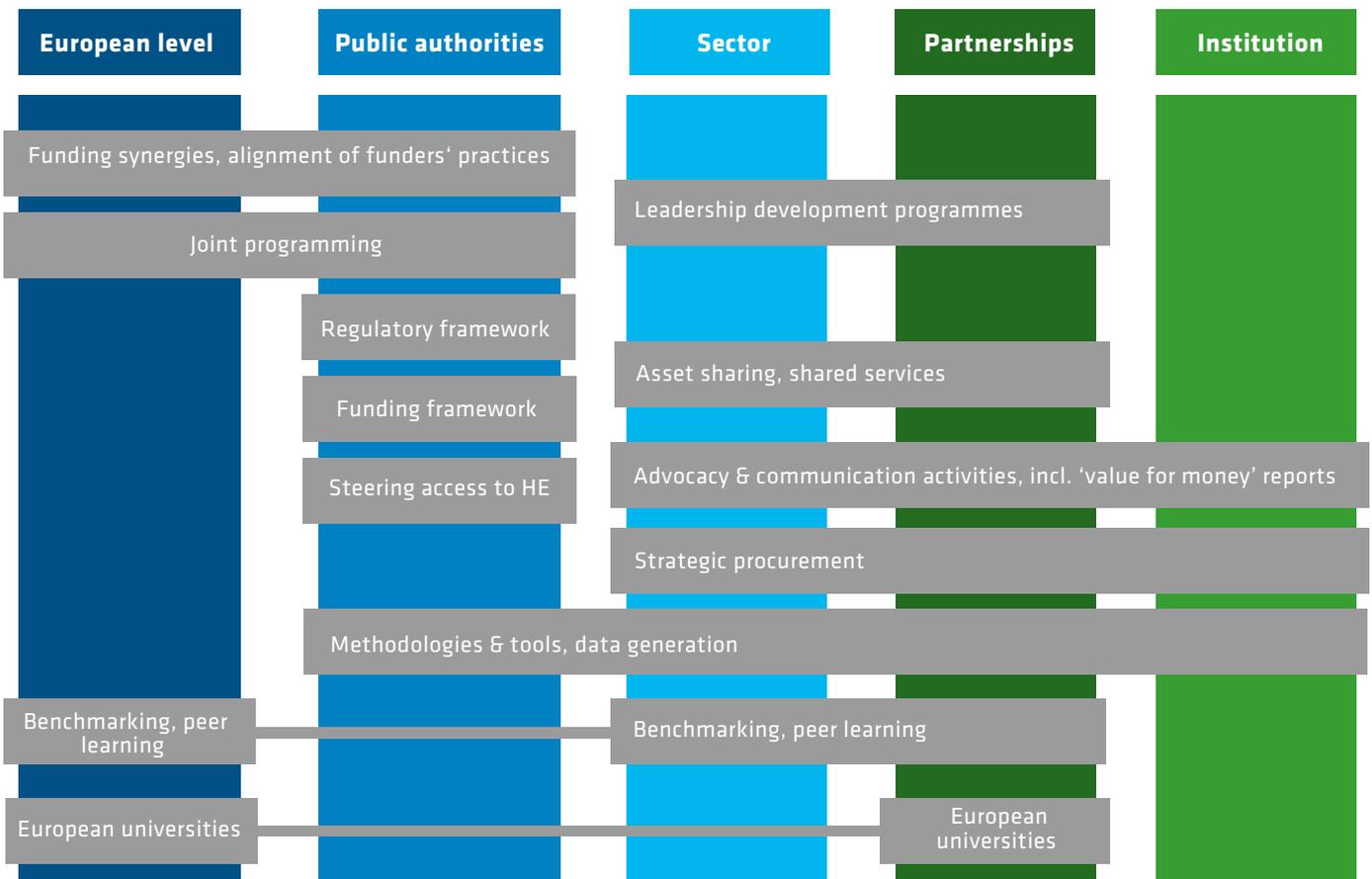
Key message 9: Efficiency is a collective responsibility of all higher education stakeholders. Efficient and effective universities and frameworks can only be achieved through a continuing policy dialogue and a joint action of policy makers, universities and their networks.

While efficiency has become an important higher education policy discourse topic in the changing funding context, its implementation has so far been marked by varied achievement on different levels and in various settings. Certain areas in which efficiency considerations can be applied in a more traditional, economic way, such as professional services, have come a long way. However, core academic areas have seen greater caution due to the potential impact on quality and the ability to deliver key teaching and research goals.

Yet new realities dictate the need to establish sustainable and meaningful ways to tie efficiency and effectiveness to the achievement of the core university mission. This needs to be carried out without compromising quality and excellence. USTREAM project findings have shown that these goals are not necessarily contradictory or opposed. A careful and sensible approach to identifying the appropriate areas and actions can in fact lead to improved quality and excellence.

Coordinated policy dialogue and joint action between all higher education institutions and stakeholders linking current efforts and previous work to foster efficiency and effectiveness, are the foundation for successful implementation of the efficiency agenda. This also requires making the right decisions, being realistic about what can be achieved, and a clear understanding of where the limits of efficiency and effectiveness lie. Figure 14 presents a few examples of how different actors and actions can be linked.

Figure 14. Interdependent efficiency actions at system, sector and institutional levels



While it is up to policy makers to establish the enabling frameworks that provide incentives for institutions to enhance efficiency, the higher education sector and universities themselves must shape the efficiency agenda. They need to set goals that are fit-for-purpose in a higher education context and raise awareness about potential bottlenecks in terms of autonomy, funding or governance that hamper their ability to make progress. To achieve this, institutions must build and share their knowledge of what does and does not work through the exchange of good practice, development of common methodologies and approaches as well as joint capacity-building activities at sector level.

It is hoped that the dissemination and application of USTREAM project results and resources will help further improve the development and implementation of qualitative efficiency and effectiveness in Europe's higher education sector.

Appendices

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6.2. LIST OF PROJECT SUPPORTERS

USTREAM Steering Committee members

- Jamie Arrowsmith, Assistant Director, Universities UK International
- Enora Bennetot Pruvot, Deputy Director of Governance, Funding and Public Policy Development, European University Association
- Michael Casey, Director Finance & Operations, Irish Universities Association
- Thomas Estermann, Director of Governance, Funding and Public Policy Development, European University Association
- Esa Hämäläinen, Director of Administration, University of Helsinki
- Max Hastings, Policy Researcher, Universities UK
- Julia Iwinska, Director of Strategic Planning, Central European University
- Veronika Kupriyanova, Policy & Project Officer, Governance, Funding and Public Policy Development, European University Association
- Agnes Leyrer, Academic Cooperations Officer, Central European University
- Liviu Matei, Provost, Central European University
- Lewis Purser, Director Learning & Teaching and Academic Affairs, Irish Universities Association

External QA advisors

- Sabine Herlitschka, CEO, Infineon Technologies Austria
- Roberta Moscon, Administrative Officer, University of Trento

Event speakers

- Susanna Barta, journalist, Italy
- Andrew Brownlee, Head of System Funding, Higher Education Authority, Ireland
- Alison Campbell, Director, Knowledge Transfer Ireland
- Ben Calvert, Pro Vice Chancellor, University of South Wales, UK
- Chris Cobb, Pro-Vice Chancellor, University of London, UK
- Diarmuid Collins, Chief Financial Officer/Bursar, University College Cork, Ireland
- Ned Costello, CEO, Irish Universities Association, Ireland
- Ian Creagh, Strategy Consultant, HUMANE
- Ian Diamond, Principal and Vice-Chancellor, University of Aberdeen, UK
- Sebastião Feye de Azevedo, Rector, University of Porto, Portugal
- Mark Glynn, Head of the Teaching Placement Unit, Dublin City University
- Edeltraud Hanappi-Egger, Rector, Vienna University of Economics and Business, Austria
- Sue Holmes, Director of Estates & Facilities, Oxford Brookes University, UK
- Alison Johns, Chief Executive, Leadership Foundation for Higher Education, UK
- Paul Johnstone, Head of Analytics, University of Warrick, UK
- Evelyn Kelleher, Clinical Education Centre Coordinator, Dublin City University, Ireland
- Daire Keogh, Deputy President, Dublin City University, Ireland
- Eduardo Marçal Grilo, Chairman of the Council and Former Trustee, University of Aveiro and Calouste Gulbenkian Foundation, Portugal
- Mary Mitchell O'Connor T.D, Minister for Higher Education, Ireland
- Sarah Moore, Chairperson, the National Forum for the Enhancement of Teaching and Learning, Ireland
- Suvi Nenonen, Adjunct Professor, Tampere University of Technology, Finland
- Philip Nolan, President, Maynooth University, Ireland
- Nicky Old, Director of Communications and External Relations, Universities UK
- Nick Petford, Vice-chancellor, University of Northampton and Chair, Procurement UK
- Ian Powling, Digital Programmes Lead, Universities UK
- Patrick Prendergast, Provost and President, Trinity College Dublin, Ireland

- Paul Quinn, Chief Executive, Office of Government Procurement, Ireland
- Bob Rabone, Chief Financial Officer, University of Sheffield, UK
- Mark Rogers, Registrar and Deputy President, University College Dublin, Ireland
- Theo Schuyt, Professor, Free University Amsterdam, the Netherlands
- Michael Sinnott, Director of Agile, University College Dublin, Ireland
- Jeroen Vanden Berghe, Chief Logistics Administrator of Ghent University, Belgium
- Christian Vranek, Cultural Management Expert, Culture Creates Value, Austria
- Paul Woodgates, Senior European Partner, PA Consulting

National policy dialogue event organisers

- Janis Bernats, Secretary General, the Latvian Rectors' Council
- Janis Ikstens, Vice Rector for Social Sciences, University of Latvia
- Kestutis Krisciunas, Secretary General, the Lithuanian University Rectors' Conference
- Indriķis Muižnieks, Rector, University of Latvia, Latvia
- Peter Riedler, Vice-Rector for Financial Affairs, Resources and Location Development, University of Graz, Austria

Site visit organisers

- Elisabeth Fiorioli, Secretary General, Universities Austria
- Andrzej Krasniewski, Secretary General, the Conference of Rectors of Academic Schools in Poland
- Els Titeca, Policy advisor institutional management, VLIR – Flemish Interuniversity Council
- Steven Van Luchene, Senior policy advisor Quality Assurance & Internationalisation, VLIR – Flemish Interuniversity Council

University Efficiency Hub test users

- Mihai Girtu, Vice-Rector for Research and Innovation, Ovidius University of Constanta, Romania
- Veronika Kareva, Executive Advisor for Quality Assurance, South East European University, North Macedonia
- Valentina Lisi, Project Assistant, European University Association
- Rajmund Tomik, Vice Rector, The Jerzy Kukuczka Academy of Physical Education, Poland
- Petra Wejwar, Universities Austria UNIKO
- Peter Wenger, Scientific Collaborator, swissuniversities
- Therese Zhang, Deputy Director, European University Association

Survey respondents/institutions

- Aarhus University, Denmark
- Bukovinian State Medical University, Ukraine
- Central European University, Hungary
- Charles University, Czech Republic
- Collegium Civitas, Poland
- Comillas Pontifical University, Spain
- Copenhagen Business School, Denmark
- Danish Technical University, Denmark
- Dublin City University, Ireland
- Dublin Institute of Technology, Ireland
- Durham University, United Kingdom
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- ENS Cachan, France
- Free University of Bozen Bolzano, Italy
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- Gdańsk University of Technology, Poland
- Ghent University, Belgium

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- Kaunas University of Technology, Lithuania
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- Pope John Paul II State School of Higher Education in Biała Podlaska, Poland
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**European University Association
(EUA)**

Avenue de l'Yser, 24
1040 Brussels
Belgium

Tel: +32 (0)2 230 55 44

Fax: +32 2 230 57 51

Email: info@eua.eu

www.eua.eu

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