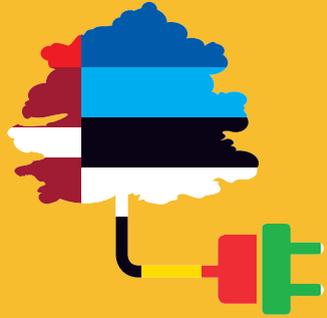


Universities of Applied Sciences

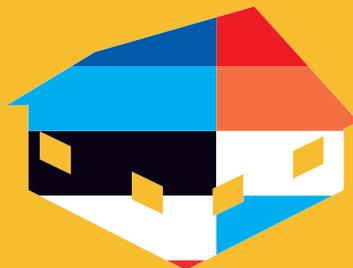
UAS4EUROPE:

**Smart Partnerships
for Regional Impact**





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UAS4EUROPE: Smart Partnerships for Regional Impact

Europe needs more and stronger involvement of the universities of applied sciences (UAS) in applied research and innovation. This conclusion is unavoidable if we look at the European objectives in the area of innovation and growth. The impact of the European challenge-based approach to research must be increased. The potential impact of UAS at the European level has not been fully utilised. In this position paper we will argue that Europe as a whole will benefit from realising this potential further and by focusing on the role of UAS as connectors, that is, connectors linking citizens, companies (especially SMEs) and public institutions. This will lead to greater participation and a more active contribution of the UAS to European research and innovation, Horizon 2020 and its successors.

Increasing the impact of applied research and innovation is the way forward to enhancing Europe's competitiveness and its ability to create more growth and jobs. European Universities of Applied Sciences play an important regional role in delivering applied research and innovation, on the one hand, and act as an important link between SMEs and industry, traditional universities, societal organisations, and VET and other educational institutions in the region, on the other hand.

The aim of this position paper is to highlight the various roles of the UAS and their value to Europe:

- 1. AS REGIONAL CONNECTORS:** experts with the right connections which cooperate on a permanent basis in the region with traditional universities, SMEs, industry, civil society and local and regional authorities. The UAS are at the core of regional development and are in constant contact with all the important stakeholders. They can respond quickly to regional and market needs.
- 2. AS INTERNATIONAL KEY PLAYERS:** collaboration with people across borders, from all over Europe and from around the world. This ensures that UAS have a culture of openness and allows UAS to connect with a broad spectrum of contacts and networks. A genuine culture of sharing information and knowledge adds to the success of delivering projects with societal impact.
- 3. AS COMPETENT PROJECT LEADERS AND EVALUATORS FOR EUROPEAN PROGRAMMES:** the European UAS are already taking the lead in various multidisciplinary projects. As research actors they have the competence and capacity to lead even more European projects. The UAS' applied researchers have unique skill sets, which can contribute to and complement the skills offered by traditional universities and industry researchers, for example as evaluators of H2020 projects.
- 4. AS CONSULTING BODIES:** through their participation in discussions at the European and national levels, in advisory boards and in decision-making on calls for proposals in relevant fields of research and innovation.
- 5. AS CONTRIBUTORS TO EUROPEAN ENTREPRENEURSHIP:** the European UAS are the key educators of entrepreneurs in their regions. In this way they contribute to European growth and to more jobs. The work-related skills that UAS offer their students strongly enhance their students' employability and professional innovation through project work and set the trend.

The greatest challenge for European Research is paring research outcomes to real changes in societal and economic practice. In other words, the greatest challenge is to make real impact.

UAS are regional and European players

The European Commission has specifically invited the UAS sector to participate more intensely in European-funded research cooperation and innovation projects. The European Education and Research Ministers already stated in the 2009 Leuven Communiqué that in order to bring about sustainable economic recovery, a dynamic and flexible European higher education sector will strive for innovation on the basis of the integration of education and research at all levels.

In addition, during the BayFOR conference “Mobilizing Universities of Applied Sciences for Horizon 2020” in February 2015, Robert-Jan Smits, the Director-General for Research and Innovation at DG Research and Innovation stated that the added value of the UAS lies in their skills to bring research results to the market, reach out to regional partners and foster cooperation with industry, notably Small- and Medium-sized Enterprises (SMEs). In his address to the EURASHE 25th Annual Conference in April 2015, Commissioner Carlos Moedas stated that he wished to invest more in European innovation as a whole and wished to see the European Research Area reach its full potential. The same

interest in the professional higher education sector and UAS was also expressed at the UASnet conference in Copenhagen (2014), where Commission officials stated that the innovative power of this sector is needed in the European field. This paper is a firm step forward in responding to this invitation by lining up the intentions and actions of the UAS field in Europe.

Smart partnerships for impact

Almost all European countries have a professional higher education system with UAS institutions that focus on education and applied sciences and innovation. Their regional role differs from country to country. Many institutions play an important role in the development of much needed regional human capital. They are significant actors in their regions and have strong networks with regional businesses, civil society and authorities. The UAS with strong reputations with regard to innovation can spin off start-ups in the region and boost the business climate.

The applied RDI agenda of UAS is not only determined by the world of work with the aim of meeting the needs of society and of the world of work.¹ It also



Students at the IDEE-lab at the HAN University of Applied Sciences, the Netherlands

reflects the nature of the inputs of stakeholders. The research activities include various types of projects, multidisciplinary topics and research done in cooperation with and involving stakeholders. UAS by no means only focus on technology and industry, but also engage with societal actors to promote social innovation. The multidisciplinary nature of their work is part of their ‘genetic make-up’.

Due to the regional embedding and strong participation of applied research in regional development and policy processes, it is possible for UAS to respond quickly to the changes in society and regional development. Entrepreneurs, researchers, public authorities, lecturers and students are working

together throughout Europe to improve the quality of professional education. They share a mindset in which cooperation between the public and private sectors is essential to meeting the demands of the present and future economy and labour market. They do so by conducting applied research together. They work together through **smart partnerships for impact**. One example of these are the **Centres of Expertise**. Although not all the innovation partnerships of UAS go under the name of Centre,² they do have in common that they bring UAS and SMEs, the private industry and non-profit organisations together to work on finding solutions to social issues. They do so along three lines:

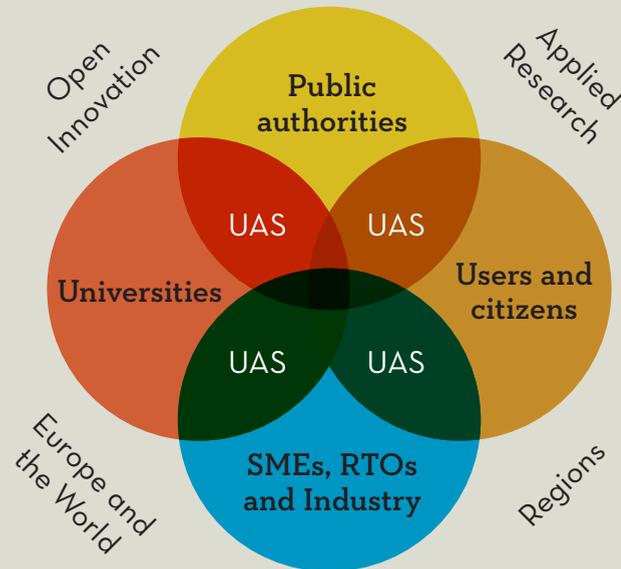
¹ EURASHE: *Professional higher education in Europe characteristics, practice examples and national differences* (2014)

² For example in Ireland they are called *Technology Gateways*, in Portugal they are named *R&D units* (centres).

1. Applied Research aimed at focussing contributions on the innovation potential of companies;
2. Initial Education to improve the quality of education and to increase the influx into initial education; and
3. Lifelong Learning to increase the mobility and flexibility of existing staff.

In addition, the specific approach of professional higher education to RDI, and the involvement of students in it, contributes to improving the work skills, employability and learn-to-learn capacity of graduates. In regard to these areas of focus, the approach to applied RDI can be considered to be one of the major factors in the social and economic development of SMEs, companies and society.

QUADRUPLE HELIX MODEL



The UAS are in a unique position to deliver outstanding applied research and innovation. This can be explained by the above **Quadruple Helix Model**, which brings together key actors, not only at the regional level, but also at the national, European and international levels. In many ways, the applied research done at UAS institutes connects the world of research and the world of work. They are committed to up-scaling their innovative role and making sure that the much needed impact on EU research is realised.

BEST PRACTICE: EU-XCEL

EU-XCEL (Accelerating Entrepreneurial Learning across European Regions) is a Horizon 2020 and Startup Europe initiative which supports aspiring young tech entrepreneurs interested in co-founding new multi-national information, communication and technology (ICT) startups through a new startup scrum training and mentored virtual accelerator initiative. Ultimately, the EU-XCEL European Virtual Accelerator is seeking to identify and empower aspiring young tech entrepreneurs to become 'incubator ready' with real products of promise in the areas of

- Internet of Things;
- Health Informatics;
- Big Data;
- ICT4Development;
- Predictive Analytics; and
- E-/M-Commerce.

EU-XCEL has created an intensive, specially designed entrepreneurship programme which includes:

- One week intensive training and mentoring in one of the EU-XCEL startup scrums across Europe where EU-successful EU-XCEL applicants participate alongside some of the most promising and talented aspiring tech entrepreneurs and commence the process of co-founding new startup ideas;

- Access to online technical and business development supports through the EU-XCEL virtual accelerator where teams further develop their startup ideas over a 12 week period passing milestones and submitting key deliverables en route;
- The opportunity to pitch for investment and win a prize in the EU-XCEL Challenge Final in October 2016 in Munich, Germany.

The EU-XCEL consortium comprises tech entrepreneurs, tech industry experts and talented entrepreneurial educators from six of Europe's leading organisations with proven track records in successful incubation: University College Cork (IE), DTU Skylab (DK), SCE (Strascheg Center for Entrepreneurship) at Munich University of Applied Sciences (DE), Athens University of Economics and Business (GR), Poznan Science and Technology Park (PL), and Universidad Politécnica de Cartagena (ES).



Strengthening the Role of UAS in Europe

The UAS signatories to this position paper invite the European Commission to work together on strengthening the five roles of the European UAS mentioned in this paper as regional connectors, international key players, project leaders and evaluators, contributors to entrepreneurship and skills, and consulting bodies.

1. To support this cooperation we ask the EC to increase its recognition of the research done by UAS at all the various levels for its relevance to the world of work, regions, innovation and society in general. We suggest that this be done by increased inclusion of UAS in all the innovation processes, consultations and policymaking at all levels and by developing the outcome indicators for applied research further, so they are aligned better with applied research activities.
are of relevance for the UAS to allow for an even better participation in European funding schemes.
2. Through their research the UAS are striving to enhance their visibility as contributors to European innovation. The UAS therefore strive for the inclusion of domains and topics that
3. In addition, we suggest to have discussions on adding features to the future European research and innovation programmes that suit the needs of the UAS. A suggestion would be to forge Smart Partnerships for Regional Impact (SPFRI). These can serve as a means for ensuring that the projects have the required impact by getting UAS (and their networks and applied research and innovation skills) on board. If successful, the SPFRI could become a regular feature.

In their role as consulting bodies and platforms, UAS4EUROPE will act as a close partner for the European Commission and its stakeholders in discussions and in the process of shaping the future of European research and innovation programmes and institutions. As a first step, we have prepared a UAS4EUROPE contribution to the EC consultation on the European Innovation Council.

UAS Commitment

We, as signatories, are committed to expanding our current and future cooperation in order to promote and develop new ways of improving the applied research activities and positioning of UAS in Europe.

Our next step towards this cooperation will be a **networking platform for stakeholders, called 'UAS4EUROPE'** at www.uas4europe.eu. The purpose of

this cooperation platform will be to discuss a joint RDI agenda, future possibilities for cooperation, joint activities to promote applied research and policy actions and advice. The network will be based on voluntary membership without a membership fee. It will meet at least once a year to discuss the current UAS-related issues on the platform's agenda. The network meetings will consist of representatives from the stakeholder organisations. EURASHE/UASnet will act as the chair and will be responsible for drafting the agenda of the meeting after consulting the other members.

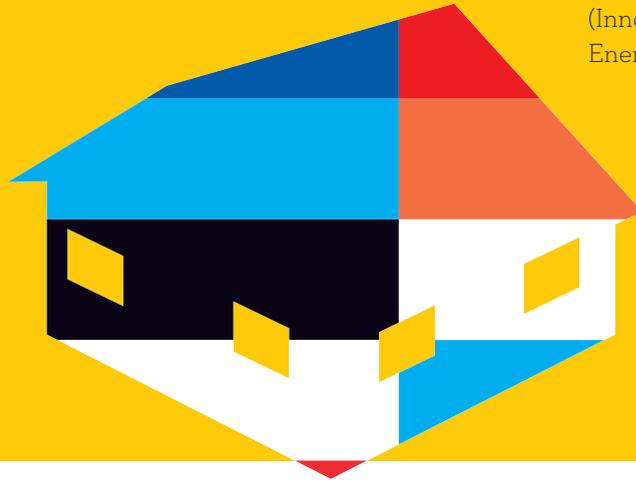
A cooperation agreement will be signed by the participants in the platform. In order to have a single point of contact for the networking platform, EURASHE and UASnet will offer their resources to coordinate the administrative work needed for the cooperation platform.



BEST PRACTICE: MORE-CONNECT

Development and advanced prefabrication of innovative, multifunctional building envelope elements for MOdular REtrofitting and CONNECTions

(Innovation Action; Horizon2020 - Energy efficiency call 2014)



EU member states are required to implement **nearly Zero Energy Building (nZEB) retrofitting of houses** (EU Directive EPBD¹ Recast). The urgency is underlined by the Paris Climate Agreement, last December. In the EU, over 250 million houses have to be retrofitted, and a strong match between what suppliers can offer and what end-users actually need is essential in this context. Unfortunately, the building sector is not yet equipped with the necessary tools and approaches to adequately address this challenge. A series of EU funded projects has been launched to support this, of which MORE-CONNECT was the first.

In 2014, Zuyd University of Applied Sciences (the Netherlands) teamed up with 17 European partners in the multidisciplinary MORE-CONNECT consortium to develop large-scale prefab **renovation solutions towards nZEB**, including (production lines for) prefabricated modular renovation elements. Zuyd develops a method to integrate materials impacts into the decisionmaking process, based on a redefined target: zero-energy retrofits, to be incorporated by all partners. Zuyd helps select and develop the necessary components, such as modular elements for facades/roofs and smart connectors. Zuyd also plays a role in categorizing and selecting buildings for demonstration purposes, and in developing a platform for modular concepts.

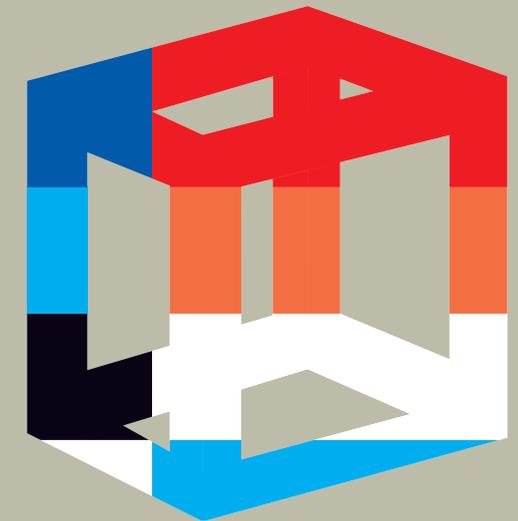
¹ Energy Performance of Buildings Recast

BEST PRACTICE: PROPAT INTEGRATED PROCESS CONTROL

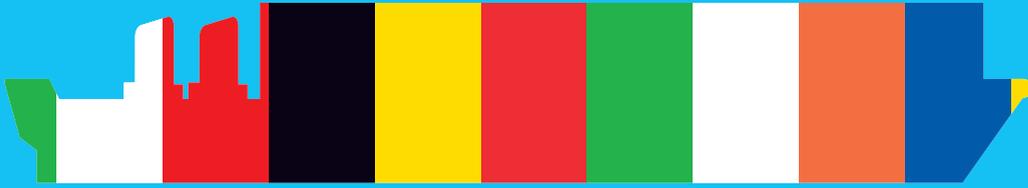
ProPAT (Robust and affordable process control technologies for improving standards and optimising industrial operations) was the first project granted to a Swiss Institution, within the H2020 program (<http://pro-pat.eu>). The Swiss Team is led by Prof. Yeretian from the Zurich University of Applied Sciences (ZHAW) in Wädenswil.

“International cooperation, exchange, and extension of our networks are increasingly important for successful applied sciences - indeed it is an indispensable success factor. It is my firm believe that many of our future scientific and societal challenges can only be solved, when working within multidisciplinary and international teams. The ProPAT consortium, composed of 16 partners, is a unique opportunity for us to sharpen, apply and demonstrate such skills.” says Prof. Yeretian.

ProPAT aims to develop novel sensors and analysers for providing measurements on composition, particle size and local bulk properties, as well as more traditional but smart sensors for measuring other process parameters, such as temperature, flowrate, pressure, etc., and integrate them into a versatile global control platform for data acquisition, data processing & mining and User Interface in order to measure properties of process streams and products, accurately and in real-time. The platform also provides self-learning and predictive capabilities aimed for dramatically reducing overcosts derived from even slight deviations from the optimum process.



BEST PRACTICE: PROMINENT



Coordinated by a company, FH OÖ (University of Applied Sciences Upper Austria) participates in the PROMINENT project, funded by Horizon 2020. PROMINENT will address the key needs for technological development, as well as the barriers to innovation and greening in the European inland navigation sector. PROMINENT is ultimately aimed at providing solutions which make inland navigation as competitive as road transport in terms of air pollutant emissions by 2020 and beyond. In parallel, PROMINENT aims to further decrease the energy consumption and carbon footprint of Inland Waterway Transport (IWT), an area where IWT has already a strong advantage compared to road transport.

PROMINENT focuses on:

- Massive transition towards efficient and clean vessels;
- Certification and monitoring of emission performance and development of innovative regimes;
- Harmonisation and modernisation of professional qualifications and the stimulation of the further integration of IWT into sustainable transport chains.

BEST PRACTICE: FROM A LOCAL QUESTION TO AN EU PROJECT IN SIX MEMBER STATES

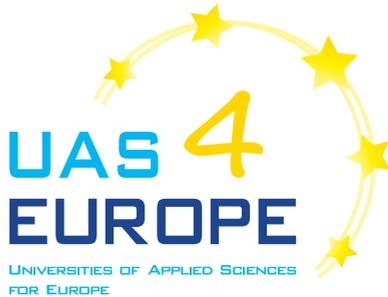
In 2006 some local municipalities in the north of Flanders requested the university of applied science (UAS) Thomas More Kempen to carry out a research in the field of the income of an individual household and its minimally needs to reach an acceptable standard of living. The Social Service Departments of the local municipalities in the Flemish provinces Antwerp and Limburg asked the UAS for a norm for the judgement of the social situations of poor families in function of the human dignity.

Bérénice Storms, researcher at the UAS of Thomas More Kempen, started with a basic and practically oriented inquiry and surrounded herself with a steering committee of practice workers, policy officers of municipalities and scientists. She worked on the development of the Flemish reference budgets and a standard to evaluate poor family's needs. These are priced baskets of goods and services which illustrate the minimal income an individual household needs to live efficiently. After the development of Flemish reference budgets she started to develop a standard for Belgium as a whole.

Simultaneously, the European Commission organised a peer review in the Walloon parliament about reference budgets as a tool to help shaping the protection of the minimum income in Europe. Subsequently, the Belgian approach was expanded to Europe. The European Commission financed a project in 2014 - 2015: research teams and interested people from all EU-member states made up a common methodology to develop cross-national comparable budgets for Europe. By doing this, the European Commission wants to support member states in their policy on an efficient protection of incomes. How a local practical question finds her way to an approachable UAS, which have traditionally very good links with the work field, can foster a solution for questions in the EU.



UAS4EUROPE is a joint initiative from EURASHE, UASnet, swissuniversities, Hochschule Bayern e.V. (supported by the Bavarian Research Alliance), and the Austrian FHK to promote the voice of the UAS in Europe.



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