



European Federation of Engineering
Consultancy Associations

State of the European Union





Preface

In view of the elections for the European Parliament and a new President for the European Commission in 2019, the European Consulting Engineering Industry wants to stimulate a discussion on how to make Europe prosperous, while recalling that its success is closely linked to an internationally competitive service industry.

Europe is part of a highly globalised world that is characterised by a variety of large-scale, high-impact and often interdependent changes, known as global megatrends. The European Federation of Engineering Consultancy Associations (EFCA) believes that a strong EU is the best companion to Member States to act on big challenges, such as increasingly severe consequences of climate change, intensified global competition for resources, growing pressures on ecosystems, rapid urbanisation, accelerating digitisation and an increasingly multipolar world. Europe can only conquer these challenges if there is a new approach to the way the EU regulates and implements agreed policies.

This 'EFCA State of the Union Report' lays the groundwork for a facts-based discussion, offering ideas from the consulting engineering sector for turning today's and tomorrow's challenges into opportunities.

EFCA is the sole association representing professional engineering consultancy and related services at a European level. It has member associations in 28 countries employing one million staff, the majority of whom are highly skilled in a breadth of disciplines.

The European engineering consulting industry brings many benefits to both society and the EU economy. Companies provide €150 billion worth of engineering consulting services every year for about €1,300 billion in investments in buildings, infrastructure and industrial complexes.

The sector is affected by several EU policies, such as sustainability and energy efficiency, digital single market, public procurement, research, development and innovation, people and skills, entrepreneurship and investments. The objective of EFCA, by publishing this document and including a set of urgent recommendations, is to promote a favourable framework to boost competitiveness and support sustainable growth in the sector.

Brussels, 28 November 2019

EFCA Board of Directors

Making an impact with single market and trade

Every year, over 250 000 public authorities in the EU spend around 19% of GDP on the purchase of services, works and supplies. In many sectors such as energy, transport, waste management and the provision of services, public authorities are the principal buyers. Statistics show that 55% of procurement procedures use lowest price as the only award criterion for public contracts. This indicates that public buyers are probably not paying enough attention to quality, sustainability and innovation.

Public authorities have a direct influence on consumption. Green public procurement enables goods, services and works to be procured that have a reduced environmental impact throughout their life-cycle. In the EU, sustainability criteria have been developed for a number of construction materials and services, but they are still not widely used.

Public buyers often lack the necessary business skills, technical knowledge or procedural understanding for effective public procurement. This can lead to a lack of compliance with public procurement rules and has negative consequences on businesses and taxpayers.

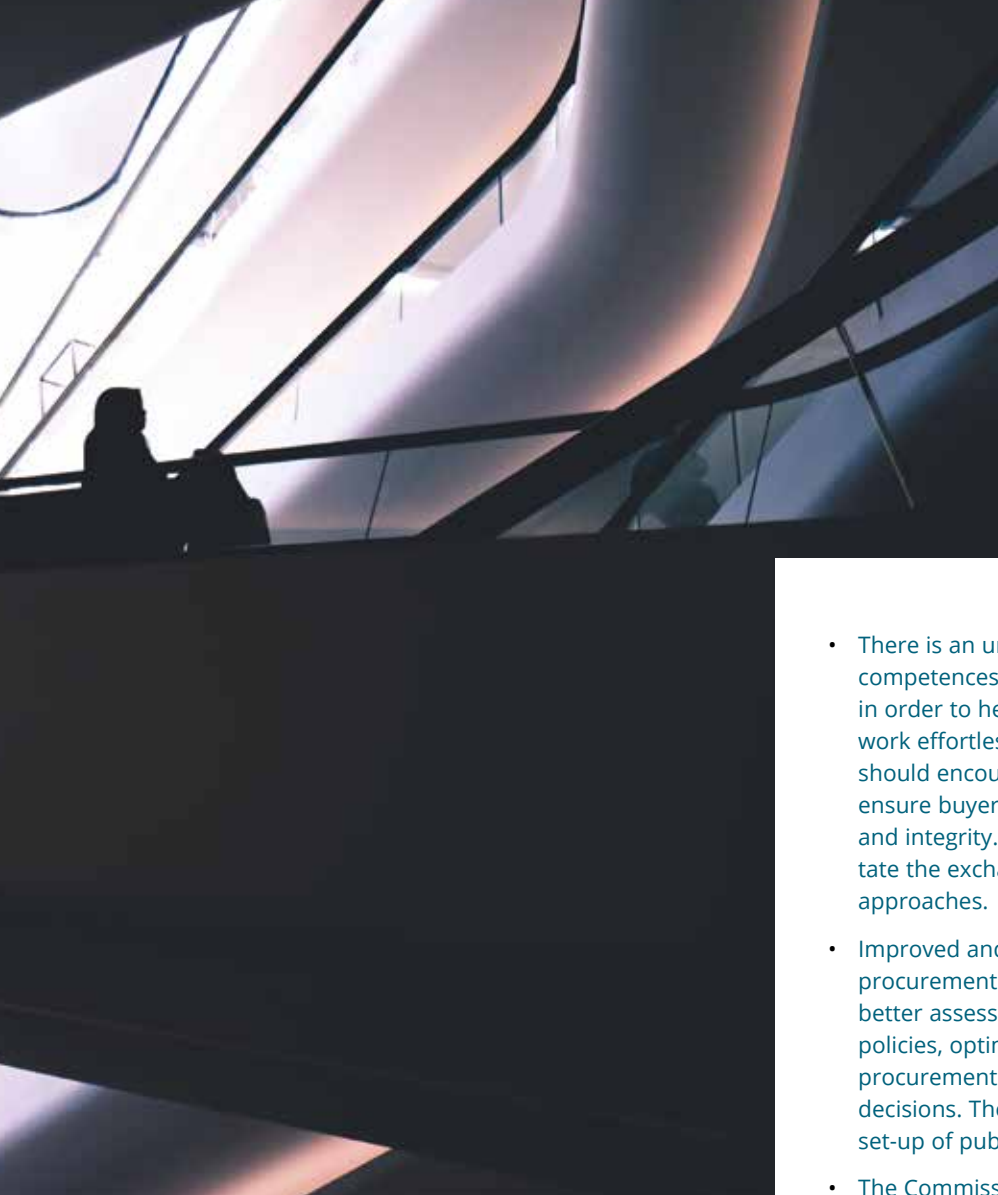
To date, the digitisation of public procurement has been slow. In 2016, only four EU countries relied on digital technologies for all the major steps of the procurement process.

Contracting authorities are rarely buying together – only 11% of procedures are carried out through cooperative procurement. This is a missed opportunity as buying in bulk can result in better prices and

higher quality goods and services. It can also help contracting authorities exchange know-how.

The European Commission's new public procurement strategy addresses all these challenges with its policy priorities: ensuring wider uptake of innovative, green, and social procurement; professionalising public buyers; increasing access to procurement markets; improving transparency, integrity and data and boosting the digital transformation of procurement. It aims to further improve EU public procurement practices in a collaborative manner by working with public authorities and other stakeholders.

The EU has decided to undertake a thorough rethinking of the public procurement process with procurement digitisation. This goes beyond simply moving to electronic tools - it rethinks various pre- and post-award phases with the aim to make them simpler for businesses to participate in, and for the public sector to manage. It also allows for the integration of data-based approaches at various stages of the procurement process.



Policy recommendations

- The EU's new public procurement strategy must be adopted fully.
 - The public procurement paradigm has to move from 'lowest price wins' to a 'highest value' concept and to embrace consideration for quality criteria and life-cycle costs as well as measures in favour of innovative solutions.
 - The European Commission should promote the creation of a new CEN (European Committee for Standardization) standardisation method in quality and price evaluation of bids.
 - To support the further uptake of strategic procurement, the Commission should update and issue new guidance documents on the use of innovative, green and social criteria.
 - The Commission must also promote the exchange of good practice. It should encourage Member States to develop and promote guidance, tools and techniques for a price/quality assessment that limits the preponderance of price in the evaluation. Guidance should be harmonised among Member States.
- There is an urgent need to inform and build competences of the procurement organisations in order to help them make the new regulation work effortlessly and effectively. The Commission should encourage Member States to take steps to ensure buyers have the needed skills, knowledge and integrity. The Commission could also facilitate the exchange of good practice and innovative approaches.
 - Improved and more accessible data on public procurement is required to make it possible to better assess the performance of procurement policies, optimise the interaction between public procurement systems, and shape future strategic decisions. The Commission may advocate for the set-up of publicly accessible contract registers.
 - The Commission should aim to improve the use of e-procurement tools such as eCertis, the European Single Procurement Document (ESPD), and European standards for e-Invoicing. This will help EU countries make use of new technologies to simplify and accelerate their procurement procedures.
 - Public procurement must be applied in a target-oriented way to reduce emissions and to improve energy and material efficiency.
 - Public procurement should be made more accessible for SMEs. The Commission could help SMEs by enhancing transparency, digitising processes and improving strategic procurement. It also should aim to improve EU businesses' access to non-EU markets through trade agreements.
 - Infrastructure investments in Europe such as in the Trans-European Transport Network (TEN-T) and the Trans-European Energy Network (TEN-E) plans for transportation and energy should be more widely adopted as they significantly strengthen the common market and enhance mobility. They are a mechanism to start-up large infrastructure projects faster and prepare more projects for design and construction. This can significantly improve the market in the Southern European economies and also provide much needed support in a time of crisis around Europe.

Succeeding in digital transformation

Digital technologies are transforming our world – in every walk of life and in every line of business. Europe must embrace the digital revolution and continue opening up digital opportunities for people and businesses alike. We should aim to become the global frontrunner in developing new technologies and bringing them to market.

Digital transformation requires the digital industry to be more sustainable:

- to be more 'frugal' with data management
- to use standard modelling, in order to not duplicate information for any software vendors
- to unify and limit cloud computing to open systems

The Digital Single Market - the DSM - was adopted in 2015 to denote the European Commission's strategy of ensuring access to online activities under conditions of fair competition, consumer and data protection, removal of spatial blocking, and copyright issues.

The DSM strategy has already proven effective while delivering some major legislative proposals, specifically in the topics of copyright, ePrivacy and harmonisation of digital rights and VAT rules. Lastly, the Commission prepared a proposal for regulation of the free flow of non-personal data, and an initiative on accessibility. The European Parliament approved an updated directive on open data and public sector information and, in February 2019, the European Parliament, the Council of the European Union and the European Commission reached a political deal for the first-ever rules aiming to create a fair and transparent business environment for smaller businesses and traders, when using online platforms.

Policy recommendations

- Digitisation will boost economic growth, competitiveness and employment. Therefore, the European Digital Single Market (DSM) Strategy has to be swiftly completed and implemented with the full commitment of all Member States.
- Uptake of digitisation across Europe and among both public and private organisations must be accelerated. Europe should focus its efforts on enabling small and medium-sized enterprises (SMEs) in particular to swiftly manage their digital transformation.
- Findings from the abundance of European and national policies, activities and initiatives related to digitisation, should be better analysed and the results shared among member States and industry sectors.
- Although the European data economy is still developing, it is of utmost importance to identify and remove the remaining and emerging barriers for its further development in order to achieve a well-functioning and competitive DSM.

There is a growing and global interest in artificial intelligence and robots, in the Internet of Things and autonomous systems, modernising public services and e-government, all of which will pose challenges for EU policymakers in the future. Attitudes towards the impact of digitisation and automation on daily life in Europe are highly positive. For example, 75% of Europeans think that digitisation has a positive effect on the economy, and 64% on the society. At the same time, 74% think that digitisation replaces more jobs than it creates and 44% of EU citizens currently working think their job could be done, at least partly, by a robot or artificial intelligence.

It is obvious that we need to understand and better govern the consequences of digitisation, and the implementation of the DSM, on professional skills, including through joint efforts by companies, educational institutions and policymakers. Solutions for predicting and assessing the impact of digitisation, and of the digital market on engineering and consulting services, are also needed.

In addition to skills, completing the EU's DSM strategy requires massive public investment in infrastructure, e.g. for accessible high-speed broadband and computing platforms, and access to big data cybersecurity. Member States alone will not be able to manage this process.

Digitising industry has sparked a dynamic process, leading to the creation of hubs and platforms across Europe. However, these multi-stakeholder initiatives rarely collaborate across industry sectors or Member States. As time and cost efficiency are of crucial importance, Europe must speed up its efforts to streamline its policies and activities to digitise all regions of the EU, in both society and industry. Digitisation as a truly horizontal European policy area, in which different Directorates General of the Commission work together, is fundamental.

Investing for the future

Innovation has always been at the heart of Europe's success. Not only do the top-notch designs and concepts developed in engineering companies enable metamorphosis in other sectors too, they can also provide new solutions to major societal challenges.

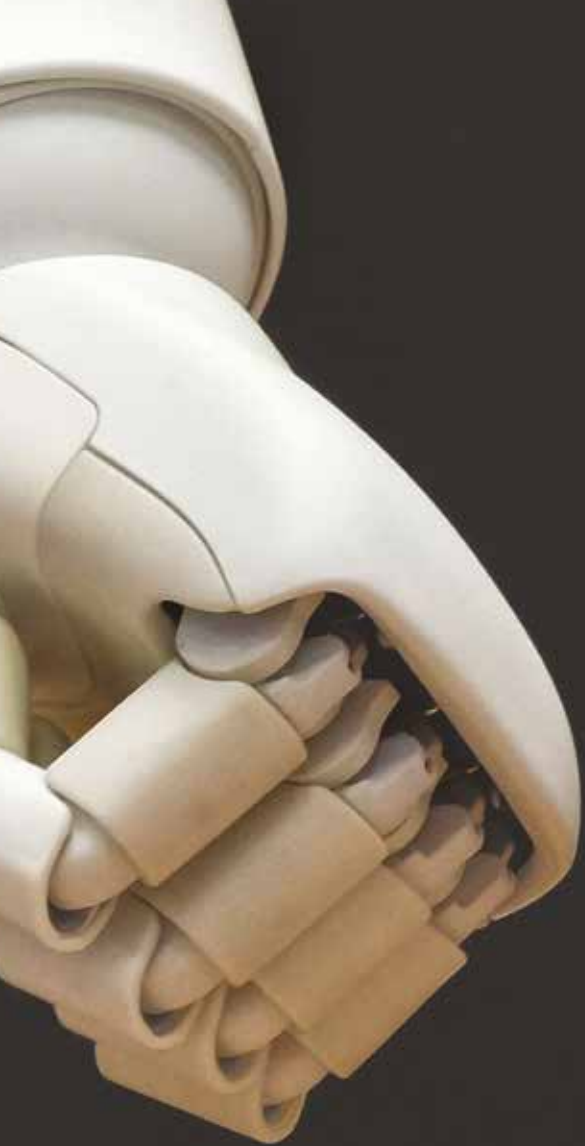
A cornerstone of this innovative strength is research and development. Applied research puts the insights of basic scientific research into practice in a real-world setting – accelerating commercialisation and bringing innovation closer to clients and citizens. At the same time, it boosts the competitiveness of European companies globally while reinforcing the high-value-added ecosystem that makes Europe a prosperous, high-salary region.

This is why the focus of the EU's work in this area should lie in ensuring that its research, development and innovation (RDI) programmes, such as Horizon Europe, prioritise funding for relevant applied industrial research, and strengthen collaboration between academia and industry. By supporting the development of new technologies, tools and solutions here in Europe, EU funding can grow companies' competi-

tiveness and help Europe's industries achieve global leadership in key future arenas.

Innovation is fundamental to the business strategy of many knowledge and information dependent firms, such as expert services and engineering consulting. RDI in our sector, engineering consultancy, takes many forms: companies can carry out research in-house or through contracted projects, or they can participate in collaborative projects with universities, research institutes or other companies and start-ups. EFCA promotes these connections across domains and sectors, as it is the diversity of RDI strategies that makes for such a rich innovation ecosystem within the EU.

Research and innovation (R&I) have a crucial role in shaping the future. Investing in intangible assets is



a vital contribution to productivity and is at the core of what makes firms competitive – resulting in higher value-added jobs, goods and services, and value generation for economy and society. Given that R&I is one of the main factors of global competitiveness, the EU's ambition must be to at least align its investment with that of its main competitors, such as the USA, Japan, South Korea or China. Every action, and all funds, of the EU should target the renewal of Europe instead of sustaining the past.

Significant EU investments need to be geared towards industrial innovation and co-creation between large, mid-sized and small companies, research institutes and universities. To further stimulate market demand for products and solutions based on advanced technologies and made in Europe, Europe needs to strengthen its competitiveness along entire value and innovation chains.

Policy recommendations

- The EU and the Member States should: prioritise research and innovation (R&I) in the EU and national budgets; double the budget of the post-2020 EU R&I programme; and, increasingly direct the use of EU cohesion and agriculture funding for renewal and sustainability.
- Design the EU R&I programme for greater impact: let Horizon Europe pillars be driven by purpose and impact; fine-tune the proposal evaluation system; and, increase flexibility in the implementation to make the programme more attractive to companies of all sizes.
- Foster industry-led ecosystems and partnerships that bring together industries (global companies, SMEs, start-ups), innovators, researchers and governments, and promote and invest in R&I collaboration and innovative ideas with true scale-up potential.
- Make Europe a competitive environment for data-driven business to evolve and grow: ensure competitive infrastructures that enable effective mobility, sharing and use of data, and develop data platforms to seize leadership in the data economy, particularly in B2B sectors; fast-track the Europe-wide roll-out of first-class communication networks, such as 5G and fibre optics, and develop a European cybersecurity infrastructure that enables resilient, flexible and market-based cybersecurity solutions for a connected Europe.
- Foster industrial cross-border cooperation with strong European players around strategic value chains that are key to EU industrial competitiveness and strategic autonomy. Ensure that the Important Projects of Common European Interest (IPCEI) have positive spill-over effects across Europe and are carefully designed and justified. The fundamental European values of free and fair competition and market-driven innovation, reinforced with supporting trade policies, will continue to be strategic advantages in future and must not be discarded.

Enhancing skills and competences for value creation

Digitisation has massively changed skills needs and will continue to shorten the lifespan of knowledge. We will see jobs disappear and new ones being created. The skills gap needs to be addressed at both national and EU levels, and funds need to be set aside to help education and training systems adapt to technological change. This will help companies cope with the major technological changes required in order to remain competitive and continue providing quality jobs.

The EU has recently launched different initiatives to highlight the importance of digital skills and Science, Technology, Engineering and Mathematics (STEM) education. However, these good initiatives alone will not be sufficient. While fully respecting the competence of the Member States in the area of education and training, the EU should encourage and support national policymakers to adapt their education and training systems to a digitised world of work.

Schools do not necessarily have digitally confident teachers, nor the relevant equipment. Member States must urgently take steps to ensure that education and training systems are adapted to the digital transformation. Acquisition of STEM and relevant digital skills should start at an early age and it should be carried out throughout life. Basic coding should be introduced in classrooms throughout Europe and digital learning should be integrated across all curricula. These kinds of initiatives will also help attract more women and young people to STEM - and eventually into jobs in the engineering industry.

Further, cooperation between industry and education and training providers should be reinforced in order to better understand and anticipate the future skills needs.

Employers largely recognise the importance of continuous training, especially in the context of an evolving digitised world of work. However, many SMEs find it problematic to train due to different reasons such as the lack of financial or human resources. Therefore, in order to get as many employees as possible into lifelong learning, SMEs need support in developing adapted schemes.

EFCA is pleased to see that in the current proposal of the next Multiannual Financial Framework substantial resources are dedicated to this. Nevertheless, lifelong learning is a shared responsibility between employers and workers, demanding motivation, action, and self-management from the employee to be successful.

More than 12 million jobs were created since the start of the Juncker Commission in November 2014. The Commission has put forward several initiatives to help get more people into work. This includes the new skills agenda for Europe. Technological change has a high potential to boost growth and jobs but only if we shape this change. Technological progress is key to increasing overall productivity. But it is also replacing low-skill routine tasks and raising the skill threshold of employability.

Policy recommendations

- The essential skills employees will need to master the digital transformation should be identified and added to all curricula.
- The development of new professions linked to the emergence of digital technologies will require massive investment in new skills to manage the industry of the future.
- STEM education must be boosted from an early age to address the digitisation of society. Even engineers and other professionals have a responsibility to undergo relevant and continuous training to cope with the challenges of digitised industry and to ensure their employability.
- The next EU's monetary funding framework should allocate more and better targeted EU funds for right-skilling initiatives. SMEs, in particular, need support in identifying their skills needs and developing training schemes to address them. In order to serve SMEs, the access and administration rules of EU funds should be simplified.
- Cooperation between industry and education providers must be strengthened.
- With the Skills Agenda for Europe, and EU funding, the European Commission has prepared the ground to equip people in Europe with better skills at all levels. Social partners also have an important role in the up-skilling and re-skilling of the labour force, and in managing an increased flexibility in the changing world of work.



Building a sustainable world

Climate change is a serious concern for European citizens and businesses alike. The current changes in our planet's climate are redrawing the world and magnifying the risks of instability in all forms. The impact of global warming is threatening to transform our environment and societies irreparably. Immediate and decisive actions are essential.

The EU has already adopted legislation that manifests its commitment to reduce its greenhouse gas (GHG) emissions by at least 40% by 2030 compared with 1990 levels. It has also raised its ambition on renewable energy and energy efficiency. Together, if fully implemented, these are estimated to cut EU emissions by around 45% by 2030.

In 2018, the Intergovernmental Panel on Climate Change (IPCC) issued a Special Report on the impacts of global warming of 1.5°C above pre-industrial levels. Based on scientific evidence, this demonstrated that human-induced global warming had already reached 1°C. It has become obvious that more ambitious and rapid global actions to mitigate GHG emissions are needed.

The EU has proposed a long-term strategy to confirm Europe's commitment to lead in global climate action and to present a vision that aims to achieve net-zero GHG emissions by 2050. The strategy does not launch new policies, nor does the European Commission intend to revise the 2030 targets.

A transition towards the use of renewable energy sources, together with an increase in energy efficiency, has already reduced emissions in Europe significantly. The Energy Efficiency Directive sets a new 32.5% energy efficiency target for the EU for 2030, with a clause for upwards revision by 2023. It also extends the annual energy saving obligation beyond 2020.

The Renewable Energy Directive on the other hand sets a new, binding, renewable energy target of 32%

for 2030, including a 2023 review clause for upward revision of the EU level target. It also raises the level of ambition for the transport and heating/cooling sectors.

The transition towards a circular economy also offers a significant contribution to the reduction of CO₂ emissions. The EU Circular Economy Action Plan establishes a framework to improve material reuse and recycling, and to boost the demand for recycled materials. Furthermore, the implementation of the recently adopted waste legislation has the potential to bring a reduction of GHG emissions.

The revised Directive on Energy Performance in Buildings, adopted in May 2018, includes measures that will accelerate the rate of building renovation towards more energy efficient systems and improve the energy performance of new buildings, making them smarter.

Environmental, social and economic sustainability go hand-in-hand with renewed growth and competitiveness, creating more and better jobs, and visibly demonstrating that the Union effectively serves its citizens' needs. We, as Consulting Engineers, have provided and implemented solutions that, within the EU's existing framework, contribute to the significant results already achieved. We will continue to do so, in line with the EU's energy and climate framework. Not only will the coming decades be critical for getting the world back on track, the implementation of the Paris Agreement, through taking concrete actions, needs to accelerate.



Policy recommendations

- EFCA believes that the EU 2050 long-term strategy represents a strong basis for further dialogue on the way towards the EU becoming the first to achieve net-zero GHG emissions by mid-century, leading the way forward worldwide.
- The public sector should use procurement to implement progressively the climate change agenda. The role of the engineering consultancy industry and the impact of its involvement in the design stage of construction/infrastructure projects should be spelled out more explicitly.
- European policy makers should prod national governments into acting urgently and consistently, otherwise the EU will be unable to meet its own climate objectives as well as the Paris climate goals.
- The pace of travel of the EU climate and energy policy should follow its long-term 2050 strategy in order to achieve the Paris Agreement temperature objectives, in line with UN Sustainable Development Goals. It is also paramount that mid-term targets for 2030 and 2040 be revised accordingly.
- Fulfilling these objectives requires clean energy production, wiser energy use and better energy efficiency to fight climate change. Priority should be set for actions most certain to deliver emissions reductions where they are most beneficial and least costly.
- The EU policies for buildings should be advanced in order to ensure fully harmonised approaches among Member States. Policy areas such as sustainability, in terms of energy and resource efficiency as well as health and safety issues, should be the top priorities. There is a large market and significant GHG emissions reduction potential to cover, including newly built buildings and renovating the existing building stock.
- The EU Circular Economy Action Plan should be implemented with the full commitment of all Member States.
- Coordination should be enhanced among European policies linked to urban issues (e.g. the European agenda, H3030, building performance) with a strong focus on the whole-build assets lifecycle.

External aid - gaining international influence and promoting the 2030 sustainable development agenda

For decades the European Consulting Engineering Industry has been one of the most active in the European external aid programmes, assisting low- and middle-income countries in improving their access to basic infrastructure, energy and living conditions in urban and rural areas.

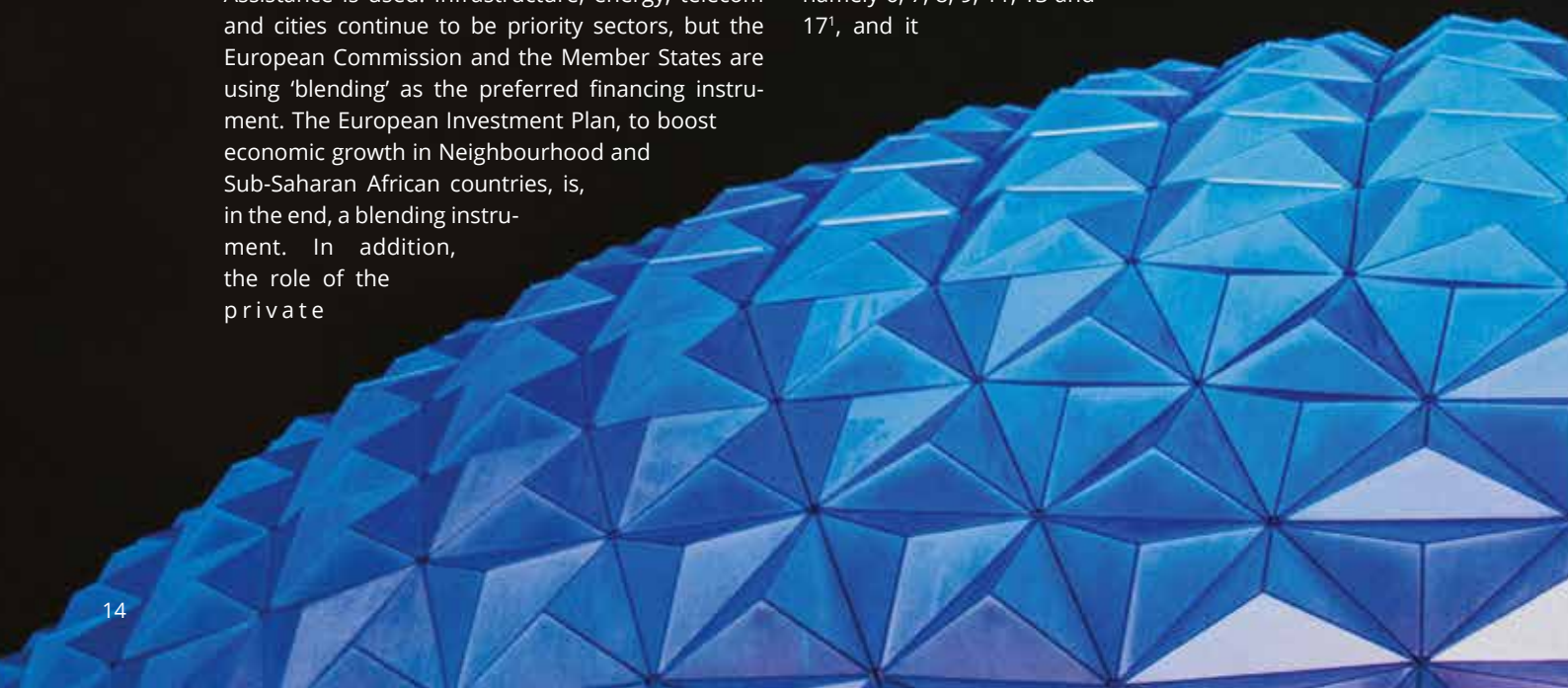
The 2030 Agenda for Sustainable Development is the new global framework for the European Development Policy, and the European Consensus on Development is fully aligned with the Agenda's priorities: people, planet, prosperity, peace and partnership. It also addresses a range of cross-cutting issues to accelerate transformation, such as youth, gender migration, sustainable energy and climate change, investment, and trade and good governance.

The implementation of the 2030 Agenda is changing the relationship between the EU and its partner countries and the way the Official Development Assistance is used. Infrastructure, energy, telecom and cities continue to be priority sectors, but the European Commission and the Member States are using 'blending' as the preferred financing instrument. The European Investment Plan, to boost economic growth in Neighbourhood and Sub-Saharan African countries, is, in the end, a blending instrument. In addition, the role of the private

sector is strongly reinforced in the Agenda, opening the door to European investors by offering them guarantees and other risk-mitigation mechanisms.

One of the main challenges to meeting the Sustainable Development Goals (SDGs) is the scarcity of well-prepared projects in low- and middle-income countries. Without a credible and substantial pipeline, the financing available cannot be channelled to partner countries in the amounts and in the time-frame that is required to meet the 2030 deadline.

The European consulting engineering industry is acting in a considerable number of SDGs, namely 6, 7, 8, 9, 11, 13 and 17¹, and it



Policy recommendations

- Coordinate the effort of defining bankability criteria for investment projects in low and middle-income countries, together with European Development Banks. Streamlining and standardising this process will attract additional financing from institutional investors.
- Allocate more EU grants to technical assistance (TA) contracts for the identification and preparation of projects in Partner countries, leveraging the knowledge of the EU Delegations. Let the Delegations tender and manage these TA contracts directly, following the EU Procedures and Practical Guide for External Actions, to coordinate and give consistency to European investments.
- Communicate and disseminate well in advance of submission dates, the pipeline for blending projects with European funding, as well as the leading financial institution.

is playing an important role in identifying and preparing sustainable projects to make them eligible for development financing institutions. But more must be done.

The good match between the knowledge and experience of the European consulting engineering

industry and the needs of Partner Countries is not leading to an increasing activity of European firms in these countries. In fact, the highly decentralised and complex institutional architecture of development finance is hampering the participation of European firms, particularly SMEs.

¹ Goal 6: Ensure availability and sustainable management for water and sanitation for all. Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all. Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable. Goal 13: Take urgent action to combat climate change and its impacts. Goal 17: Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development.



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