



DIGITISING THE EU'S CONSTRUCTION INDUSTRY

MANIFESTO REPORT | JAN.-MAR. 2019
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COMMITTEE FOR EUROPEAN
CONSTRUCTION EQUIPMENT



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In terms of digital uptake, the construction industry is the lowest ranked economic sector in Europe.

Following recent calls from those at the heart of the sector, EURACTIV produced a special report on an oft-overlooked area of EU investment: digitisation in construction.

We examine the current state of play with regards to ongoing initiatives put forward by regulators as a means to accelerate the EU's digitisation of the construction industry, future challenges for the 2019-2024 legislature, and how digitisation could transform the places in which we live and work every day.

Contents

Construction: The least
digitised sector in Europe 4

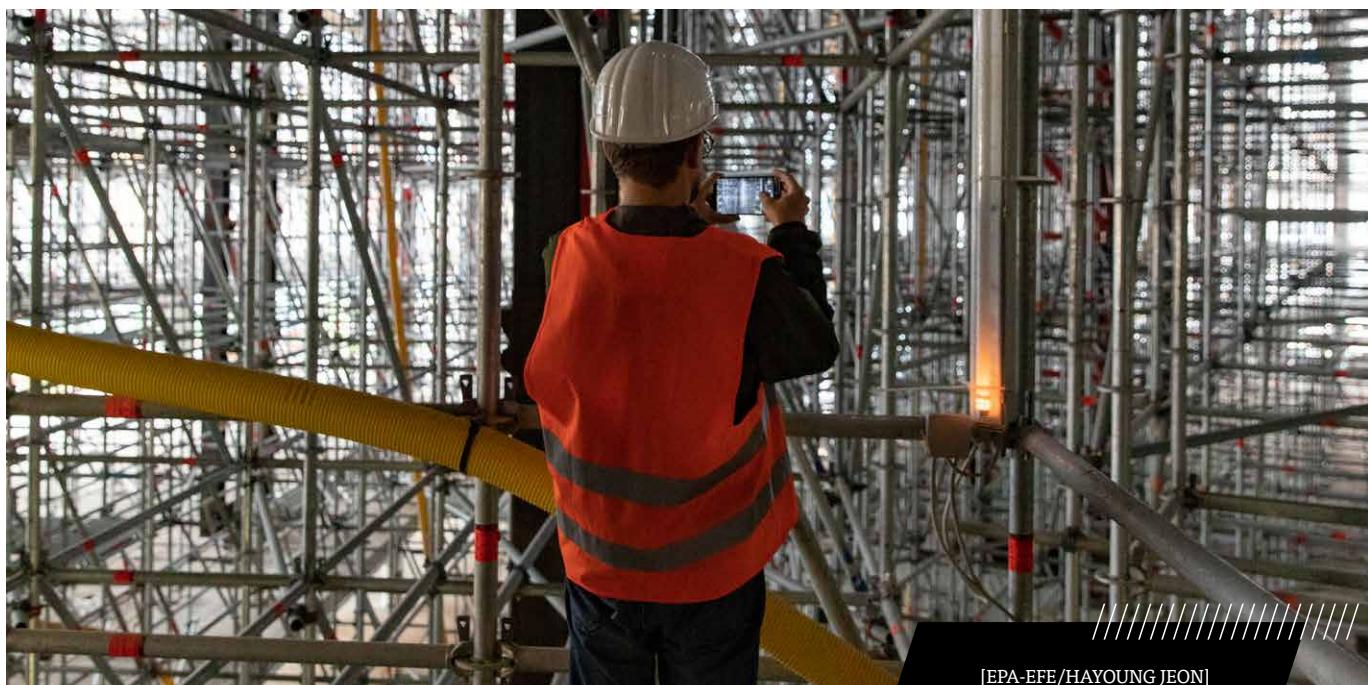
'No alternative' to digital
construction, expert says 6

The road
to 2024 9

Industry first: CECE calls for making
Industrial Policy a political priority 13

Construction: The least digitised sector in Europe

By Samuel Stoltz | EURACTIV.com



Construction sites across the globe are developing rapidly as firms seek to take advantage of the technologies of tomorrow. However, the construction industry is the lowest ranked economic sector in terms of digital uptake in Europe, and more needs to be done, according to a leading EU industry organisation.

The Committee for European Construction Equipment (CECE) is due to publish a call to action next week, ahead of May's European elections. EURACTIV understands that CECE will outline a number of key areas for the next legislature to take into account. One of which is to support the

digitisation of Europe's construction industry

"It's not about starting a digital construction race...but without a strong political focus on digital construction and a tangible push towards the digital transformation, the EU economy will not remain competitive in an increasingly globalised market.", CECE's Secretary General, Riccardo Viaggi, told EURACTIV

Digital Europe, the EU's long-term budget covering the period 2021 to 2027, is putting aside €9.2 billion for technological projects. Areas that the mechanism is due to cover include supercomputing, Artificial

Intelligence, cybersecurity, digital skills, and supporting firms to better digitalise their operational processes.

However, Viaggi says that the construction sector should be a priority within the Digital Europe programme.

"The EU needs to prioritise the economic sector that builds the places in which we live and work and employs close to 20 million Europeans," he said.

Indeed, with regards to the digitisation of the construction sector, the EU lags behind. Nevertheless, one area in which the bloc could make

Continued on Page 5

Continued from Page 4

moves is in the field of data modelling.

BUILDING INFORMATION MODELLING

On Monday (28 January), the International Organisation for the Standardisation (ISO) released the world's first international standards for building information modelling (BIM).

BIM is a digital tool that allows designers and architects to create digital 3D models, applying data associated with physical and functional characteristics of a building.

The technology allows architects, engineers and contractors to collaborate on a project together – coordinating various building specifications to measure.

Data inputted into the BIM software can then offer pinpoint insights into building performance forecasts, such as the energy consumption of a building, the necessity for different levels of lighting on different floors, and the structural integrity of a building based on geometric indicators.

Moreover, the data produced offers a detailed plan to construction site workers as to the desired outcomes of a building, allowing for construction to be automated to a standard and for issues regarding coordination to be reduced to a minimum.

The data generated at the design stage can also be used to assist with future renovation or demolition projects.

CONSTRUCTION SECTOR “ONE OF THE LEAST DIGITISED IN EUROPE”

From an EU perspective, efforts are ongoing in the bid to substantiate the bloc's global reputation in the field of building information modelling.

A technical committee as part of the European Committee for Standardisation (CEN) was established in 2015 with the objective of formulating a set of standards, specifications and reports in the field of BIM.

Moreover, the EU BIM Task Group was founded in January 2016. Receiving financial support from the European Commission, the organisation has now grown to 23 countries across Europe.

The aim of the task group is to encourage the widespread application of BIM across public works in order to improve cost efficiencies, better the quality of building architecture, and bolster the global competitiveness of the EU digital construction industry.

Last week, EU BIM set out its roadmap for the digitisation of the construction sector. The main objective, it says, is to “achieve a sustainable and inclusive growth within Europe's Single and Digital Single Markets by means of a wider adoption of Building Information Modelling.”

However, EU BIM is under no illusions as to the difficulty of the task at hand. “The construction industry is currently one of the least digitised in Europe,” they say.

Recently, Dr Souheil Soubra was elected chair of the EU BIM Task Group. He is also directly involved in the French Digital Transition Plan that is aiming to roll out large-scale deployments of BIM in the French construction sector.

“Building Information Modelling is currently regarded as the key method for the digitisation of the lifecycle of built assets, and we are now working to transform this awareness into a reality for the European construction sector,” he said in a statement last week.

Soubra also revealed the concrete plans that lay ahead, if the EU's digital construction sector is to ever take off.

“We are going to promote the creation of a common digital platform for construction, which would enable

the automation of building lifecycle processes in the public and private sector,” he said.

HUGE DATA POOLS

In 2017, the European Commission's Joint Research Centre produced a report into BIM. The author of the study, Martin Poljanšek, argues that greater standardisation is required across “the exchange of information between software applications used in the construction industry.”

The sheer quantity of data now used in the construction of a building, Poljanšek observes, can offer those in the industry insights that have never before been realised.

“For the first time in the history of construction, the industry is amassing large volumes of

high-integrity information and can understand the relationships among that data,” he says. “Huge data pools are created both on construction projects and during the operations phase of existing assets.”

“Industry, organisations and professionals need to be ready to adjust in order to take advantage of the emerging opportunities. Early adopters stand to gain the most benefit.”

As CECE's Viaggi told EURACTIV, the “path is still very long” on the road to a confident and resilient digitised construction industry in the EU.

However, just as Poljanšek says, the ones who will reap the benefits of future opportunities in the field will be those who employ the most innovative methods at the earliest stages.

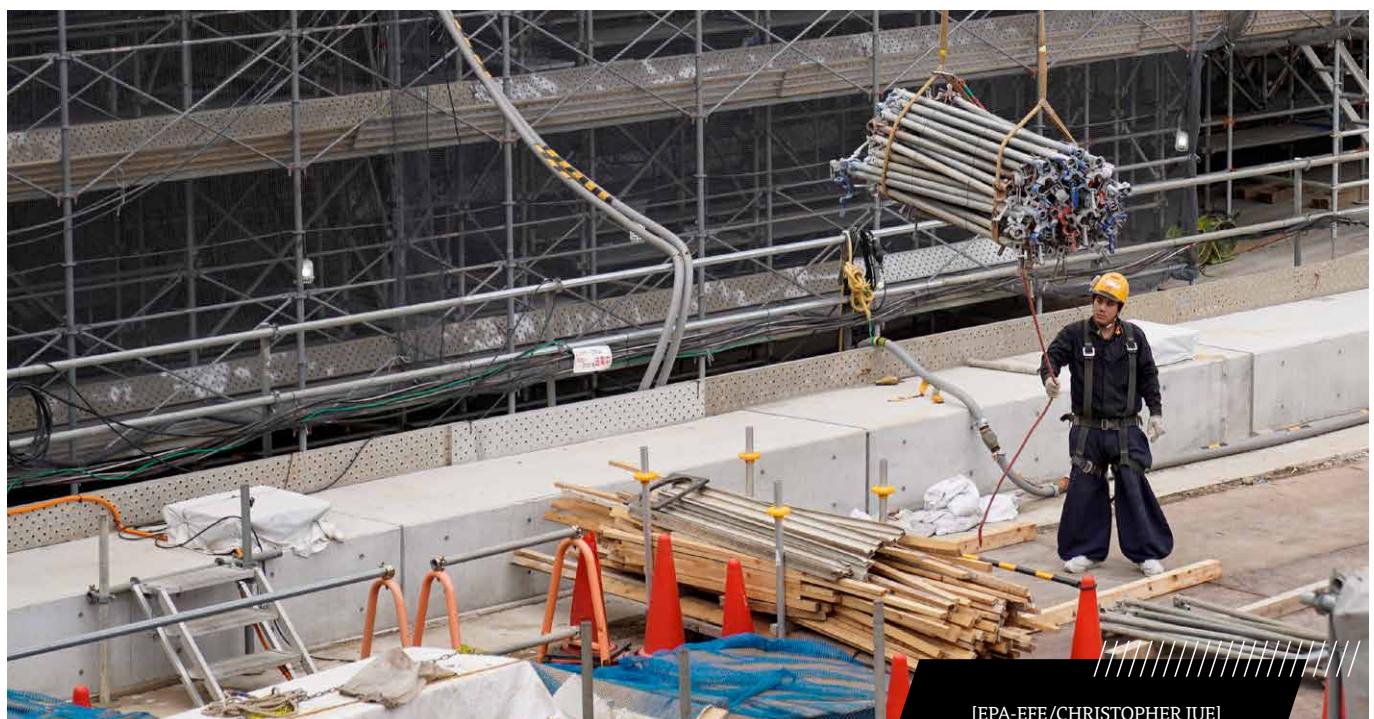
With the European Commission's term coming to an end later this year, any future executive branch would do well to be cognizant of the opportunities on the horizon.

INTERVIEW

'No alternative' to digital construction, expert says

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By Samuel Stoltton | EURACTIV.com



[EPA-EFE/CHRISTOPHER JUE]

The digitisation of the EU's construction industry is an oft-overlooked area of technological development, both politically and socially. EURACTIV.com spoke to Milena Feustel to shine a light on the sector and explore the direction the digital construction is going in across Europe.

Milena Feustel is co-chair of the digital construction focus group, EU BIM (Business Information Modelling).

Could you tell me a bit more about the history and the structure of the EU BIM group, and give our readers an insight into what BIM actually refers to?

The EU task Group was established at the beginning of 2016, by founding members UK, Norway, Germany, Sweden, France, Netherlands, Denmark, Spain, Finland, Italy, Austria and Estonia. The project is supported by the European Commission.

We now have 24 members across

the continent and our essential objective is to foster the use and deployment of digital technologies in the construction industry, with particular attention afforded to Building Information Modelling.

BIM doesn't refer to a particular technology, but more of a working culture. It's about capturing data and using it within the whole life cycle of a construction project. The aim

Continued on Page 7

Continued from Page 6

is to use a myriad of datasets in the preparational phase of construction, as well as in the production, construction, facility management and operation stages of building. It's about connecting all of these phases together in a collaborative effort. You could, in fact, call it 'Building Information Management.'

So where does the inclusion of the phrase 'modelling' come into the mix?

We started with 'modelling' because we had been using 3d digital models to review and edit different datasets related to building processes. 'Management' is perhaps a more apt term because BIM is about the whole life cycle of the construction process.

What are the objectives of the group going forward?

All big project starts with public procurements, and we'd like to see the Commission pay due attention to the huge impact that the digitization of the construction industry will have on wider political goals.

More specific objectives concern formatting an Open BIM environment, relying on the input and collaboration of all stakeholders involved in the construction process as a means to maximize the benefits that data can have to the whole life cycle of a building project.

In this vein, we also need to start thinking about things like a common data environment. This is an important part of the process because it refers to the location in which we store data and who is able to access that data. We need a European norm for common data environments, in order to foster collaboration from all parties involved in a collaborative construction process.

Do you think that in the future construction of building across the EU, BIM will be a common working method?

There is no alternative to staying with the old methods, so BIM must be a common working method for the future. It will take time, but I remain optimistic that the EU will soon recognise the extensive benefits to digitizing the construction industry.

Could you describe the current state of digital construction in the EU?

According to statistics, construction is the least digitized sector in the EU.

We really want to change this. We've been working on promoting the role of the construction industry and digitization initiatives. We are aware that there is a lot to do to get some of the more established companies to change their methods of working and to start to digitize certain areas of their work, but we're confident.

Speaking specifically about EU member states. Is there a large gap between more developed and less developed states, in the field of digital construction?

Well, yes, there is a lack of harmony between EU member states. There are a few leaders, such as the UK, Scandinavian countries, as well as Germany and France. There are others that have just started and quite a few who haven't done anything yet because they are waiting to see the tangible benefits of using digital technologies in the construction sector.

What are the risks for these countries in particular, if they don't start to increase their involvement in digital construction?

Well, the risk is they will not participate in the future of the industry. There are different degrees in the availability of human resources when it comes to digitization. With this in mind, it can be quite challenging for architects, engineers and companies to take part in the revolution of this sector where there is simply not the infrastructure to support it.

And this is about the wider connectivity of industry, you can't, for example, conduct Building Information Modelling if you don't have a strong internet connection and access to sound data storage systems. We should be thinking about harmonizing the levels of digitization across the EU more generally, too.

How can member states be convinced to up their game in the digital construction sector?

How could people benefit from these developments on a day-to-day basis?

Well, people live in houses, they take the tram and they take the train. People could benefit from the whole system if it works efficiently.

Digital construction is not an abstract concept at all, it's very tangible. We can use advanced technologies in construction to improve things like the air quality of a particular location or to ensure that traffic problems are lessened, or that the energy efficiency of buildings is maximised. These types of things can have a big impact on the health and wellbeing of people. Nations the world over will take note once they see the benefits.

One of the challenges that I foresee in the digitalization of the construction industry is the skills gap of workers. How can you ensure that workers can feel confident in the use and application of new technologies as part of their job?

Continued on Page 8

This is a big challenge. There is a shortage of manpower in the first place. Alongside this, traditionally people in the industry aren't used to working with advanced technologies. It's important to focus on these social and work-related issues. It's a matter of investment.

You said a bit earlier on that the UK was one of the founding members of BIM. Is there any indication as to whether they will continue to be part of the group after Brexit?

We've decided that the UK will stay members of the group because they have been there from the beginning that initiated the whole thing and been pioneers in the field.

Brexit is a political issue and our priorities are about innovation and development. The UK wants to stay at the forefront of digital construction and they are best placed to do so as a member of EU BIM.

How do you envisage the functioning of the construction industry of the future in Europe?

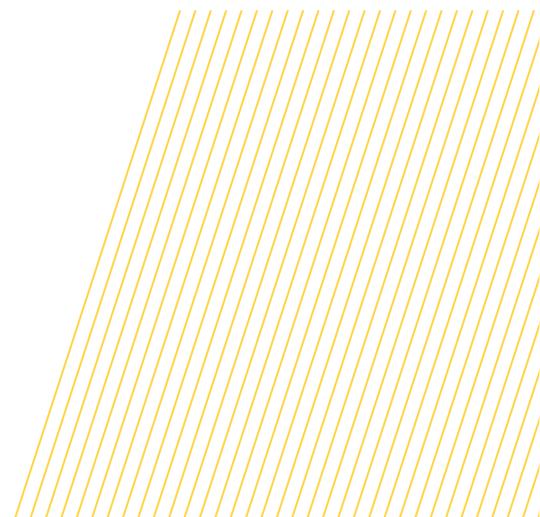
The frontiers between the physical and the digital worlds are becoming less and less visible. The more we get used to the benefits of connected technologies in the home and working environments, the more difficult it will be to conceive of a world in which smart technologies are not put to use.

With BIM you have such great opportunities to present ideas and to see how different the different designs match together. It's not only about efficiency and health and social issues, but it's also about achieving the best architectural solution and having aesthetically interesting solutions as well.

To sum up, the construction sector will remain a key factor in the EU's digital development because we live in a world that is reliant on both physical and digital spaces. It's about

being connected, not just digitally, but spatially as well, ensuring that the efficiencies we are able to make architecturally are informed by a strong and efficient digital ecosystem.

Let's always ask ourselves the questions: How can things be done better? How can we live better? How can we enjoy our everyday environments better? These are the considerations that will allow us to innovate and construct the buildings of tomorrow.



PROMOTED CONTENT / MANIFESTO

By CECE

THE EUROPEAN **CONSTRUCTION EQUIPMENT** SECTOR IN FIGURES

The European construction equipment industry forms an integral part of the European engineering sector, with 1,200 companies ranging from highly specialised SMEs to large European and multinational companies with production sites in Europe.

The European construction machinery sector is at the centre of the global marketplace. This has been and continues to be a great added value for a competitive and innovative industry like CECE's, whose members manufacture 20% of the global output of construction equipment.

At the same time, such global integration sometimes turns out to be a source of challenges, considering fierce competition from other global players supported by strong national Industrial Policy strategies and booming infrastructure projects.

For this reason, we believe in and we need a European Union that champions and implements the values of global rule-based trade, insisting on the application of principles such as fair competition, reciprocity and openness.

We call on the European Union to base the 2019-2024 legislature and its institutional setup on fostering the fundamental contribution of industry to pursuing the Sustainable Development Goals.

A CALL TO POLITICAL ACTION

WE CALL ON THE EUROPEAN PARTIES, ALL CANDIDATES AND FUTURE ELECTED MEPs TO SUPPORT A MAJORITY COALITION MANDATE TO THE EUROPEAN COMMISSION ONLY IF INDUSTRY IS SHORTLISTED AS A TOP-5 PRIORITY OF ITS POLITICAL PROGRAMME.

THE EU POLICIES TO SUPPORT A COMPETIT

1 | INTERNAL MARKET

The Internal Market is an EU success story. This calls for great responsibilities in making sure it is completed, implemented, monitored and "cared for".

For these reasons, we call on the 2019-2024 European legislature to:

- // **PROPOSE AND SWIFTLY ADOPT A LEGISLATIVE TEXT** for EU harmonised road circulation requirements for non-road mobile machinery, such as construction equipment.
- // **ENSURE LONG-TERM LEGISLATIVE STABILITY** for key Internal Market areas, such as the Machinery Directive, which is still fit for purpose.
- // **RETHINK THE MARKET SURVEILLANCE PARADIGM:** it is key to reconcile the discrepancy between an EU Single Market and strictly national market surveillance competences and responsibilities.
- // **REINFORCE THE ROLE OF HARMONISED STANDARDS IN THE NEW LEGISLATIVE FRAMEWORK** by ensuring their swift publication and citation in the Official Journal of the EU.



2 | ENVIRONMENTAL SUSTAINABILITY

Construction machines are tools whose performance has a direct impact on the sustainability of business operations. The industry has gone to great lengths curbing emissions and with the entry into force of Stage V regulation, the road will be complete with an overall 95% reduction in emissions of harmful pollutants in less than 15 years.

This technological development is a reason of pride for CECE members that have been investing heavily in new engine and machine manufacturing. These new machines are being proposed to potential clients and need to prove their worth to justify new investments by contractors and rental companies.

Concerning CO₂ emissions, estimated by the EU Joint Research Centre at 2% of all transport emissions, it is important to recognize the greater effectiveness of a holistic approach over a traditional machine-specific approach, considering the entire production processes where construction machines are involved. For this reason, CECE developed a comprehensive 4-pillars approach informing on the multifaceted reality of CO₂ emissions.

For these reasons, we call on the 2019-2024 European legislature to:

- // **SUPPORT EUROPEAN AND NATIONAL INITIATIVES** to incentivise fleet renewal solutions in the construction equipment sector. New machines not only offer better emission performance but also improved safety, enhanced operator comfort, lower noise and higher efficiency.
- // **ENSURE A HARMONISED AND COORDINATED** implementation of Low Emission Zones in European urban areas, with the adoption of LEZ schemes according to the EU legislation engine emission stages, now recognizable by all parts of industry.
- // **SUPPORT THE 4-PILLARS** approach regarding CO₂ emissions from construction machinery.
- // **BASE NEW LEGISLATIVE INITIATIVES AND POLICY-MAKING DECISIONS** on solid scientific and economic impact assessment studies, refusing simplistic solutions that become technically impossible or imposing technologies that would undermine innovation.

This call to action is complemented by concrete measures CECE is advocating to make sure that Industry and Manufacturing are at the heart of EU policy-making during the 2019-2024 legislature.

// **APPOINTMENT OF A VICE-PRESIDENT** for Industry within the European Commission

// **OUTLINING A NEW AND AMBITIOUS LONG-TERM VISION** to feed a newly-drafted EU Industrial Strategy

// **CONSIDERATION OF THE INDUSTRY4EUROPE COALITION JOINT PAPERS** in drafting the EU Industrial Strategy

// **MANDATING THE VICE-PRESIDENT** for Industry to implement the EU Industrial Strategy

// **MAINSTREAMING INDUSTRIAL COMPETITIVENESS** into all EU regulatory decisions through rigorous impact assessment of new initiatives and review of the existing legal framework

// **DEVELOPMENT OF THE EU INDUSTRY DAY** into the reference appointment and the annual occasion to measure progress in implementation of the EU Industrial Strategy

// **CREATION OF A EUROPEAN PARLIAMENT INTERGROUP** on Sustainable Industrial Competitiveness to accompany the work of the Commission and gather relevant stakeholders from across all areas and interests

IVE CONSTRUCTION EQUIPMENT INDUSTRY

3 | INTERNATIONAL TRADE

Being an exclusive competence of the European Union, trade is a fundamental policy area. The tensions brought by the ongoing tariffs war put strains on the global trade system, which is key to ensure openness and reciprocity, the fundamental elements of a fair competition.

For these reasons, we call on the 2019-2024 European legislature to:

// **CHAMPION GLOBAL TRADE AND OPENNESS** by furthering the current system of multi and bi-lateral trade agreements.

// **DE-ESCALATE TENSIONS IN THE FRAMEWORK OF TARIFFS WARS AND IMPOSE RETALIATORY OR RESTRICTIVE MEASURES** only after careful considerations of all involved European industry sectors.

// **FULLY IMPLEMENT, MONITOR AND EVALUATE** existing Free Trade Agreements, starting from providing proper information to European companies about their concrete advantages in export creation.

// **ADOPT A MORE COORDINATED APPROACH** to trade, ensuring consistency between EU policies in the fields of trade, customs and industrial strategy. This should start by better coordination of the different Directorate Generals of the European Commission dealing with these policies. This should also help speed up the process of consultation and negotiation of new potential Free Trade Agreements.

4 | DIGITAL CONSTRUCTION

CECE fully supports the EU focus to support the digital transformation of industry and the proposal to create a proper Digital Europe Programme within the next Multiannual Financial Framework to continue and expand the effort of the Digitising European Industry initiative. This is even truer for the construction sector, currently the lowest ranked economic sector in terms of digital uptake in Europe.

Being aware of the intrinsic collaborative dimension of digitalisation, CECE joined forces with the representatives of the construction value chain towards a Digital Construction Manifesto.

Reminding policy-makers that digitalisation is not a goal in itself, but a key enabler for the construction industry, CECE calls on the 2019-2024 European legislature to take the following measures:

// **THE EUROPEAN UNION MUST TAKE THE POLITICAL LEAD ON DIGITAL CONSTRUCTION** by prioritising the construction industry within the Digital Europe Programme.

// **DIGITALISATION OF THE CONSTRUCTION VALUE CHAIN MUST BE A PRIORITY AREA** of any future Public-Private Partnership under Horizon Europe for Research & Development.

// **INDUSTRY NEEDS A BUSINESS-FRIENDLY REGULATORY** framework on data policy, most of all in the realm of business-to-business data flows that take place within construction.

// **THE EU BUDGET MUST TACKLE THE LACK IN DIGITAL CONSTRUCTION SKILLS** by funding training programmes with a strong partnership between training providers and industry players.



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PROMOTED CONTENT / VIDEOS

Industry first: CECE calls for making Industrial Policy a political priority

By Riccardo Viaggi | CECE



CECE calls on all candidates in the European elections to push for a European Commission mandate that puts Industrial Policy as a priority in their political agenda.

In order to keep the construction equipment sector thriving, CECE calls on the EU to champion the principles of fair competition, reciprocity and openness on the global stage.

In CECE's Elections Manifesto 'Road to 2024' we set out a number of concrete policy suggestions in four key areas: internal market, environmental sustainability, international trade and digital construction.

Watch our videos at
<http://eurac.tv/9QzT>



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