



Second Transnational Workshop

Project DISCUS Digital Transformation in the Construction Sector:
Challenges and Opportunities

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THE CONSTRUCTION SECTOR IN BULGARIA

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Normative, economic and employment trends in the construction sector

- **Economic trends:** production rising by 10.2% to BGN 14 827 million of which **Building construction segment is 56.4% of the total output**
- **Employment trends:** steady increase in employment and declining unemployment by 5.7 thousand or by 26.8%
- Statistics in recent years shows positive dynamics: **rapidly developing economic environment, with 5205 economic entities – micro & SMEs (5158 Bulgarian and 47 foreign companies) & positive revenue dynamics**
- **huge investment costs**
- **shortage** of workforce with different types of **qualification** - economic, technical, legal – out of **246,100** employed (16,000 women), 4,79% growth in 2019 (compared to 2017)
- **risk factors** - outdoor work, big heights, failure to comply with safety and health rules and heavy mechanization, constant change



Normative, economic and employment trends in the construction sector

Central Professional Register of Builders (CPRB) at the **Bulgarian Construction Chamber** in **5 groups** since April 2019 – Electronic system with Qualified Electronic Signature

Future (short or medium-term) social and economic challenges:

- **measures for upgrading and retraining of staff skills**, taking into account new technologies, materials and equipment & **increasing the attractiveness** with opportunities for **wage growth** and **development**.
- increasing **the number and quality** of the construction sector employees at all levels. About 70% of the companies fail to recruit enough trained workers
- good **curricula supported by suitably equipped laboratories** and real projects



Overview of policy & legal framework and challenges in the construction sector

- Deficiencies in legislation, normative acts, regulations, standards and certificates
- Income/profit tax - high tax rates and lack of zero tax on reinvestment of profits hinder and stop entrepreneurs from investing in new products.
- Value added tax, which is 20%.

Needs to improve the conditions for development of the innovation process and digitalization in BG by:

- Development of the **national network of highways** and connecting it with the **European transport corridors**
- Establishment of a **cadaster** in which all the **real estate** on the territory of the country will be registered;
- Creation of a **cadastral map** of the Republic of Bulgaria;



Overview of policy & legal framework and challenges in the construction sector

- Adoption of **Law on Geodesy and Cartography**;
- Creation of **interconnected information systems** of the cadaster and the property register;
- Improving the **coordination** and the relations with other data exchange institutions in the creation of the cadastral map and the property register;
- Development of a **National Planning Scheme**;
- Assign the elaboration of general and detailed **development plans** for implementation of the Law on the Black Sea Coast in order to determine the zones with special territorial-planning protection;
- Assignment of an update of detailed planning schemes for **settlements** of national significance;

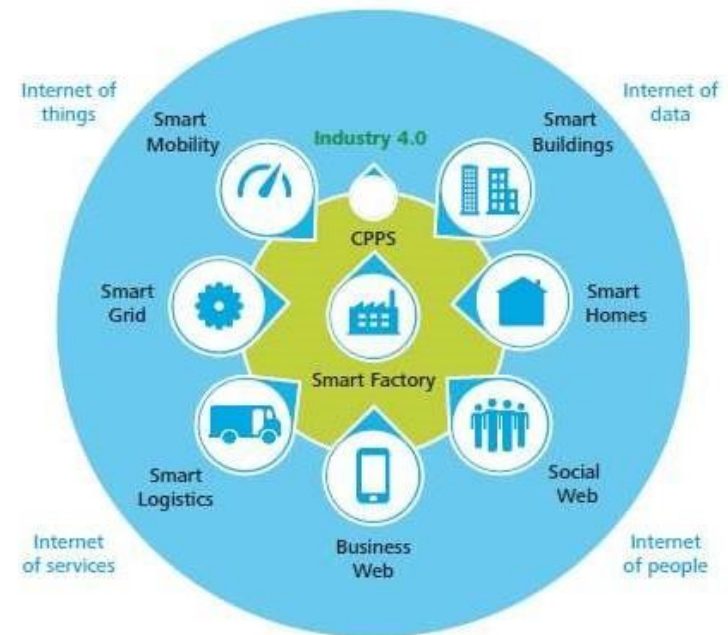


Overview of policy & legal framework and challenges in the construction sector

- Creation of a specialized cadasters of **hydro-technical facilities, protected natural spaces** and **cultural monuments**;
- Harmonization of the **technical normative acts** on the design and execution of the construction works related to the **essential requirements** for construction: load bearing capacity, fire safety, hygiene, health and environment protection, safe operation, protection against noise, heat conservation and energy saving;
- Notification to the European Commission of persons to assess the conformity and persons to issue **European Technical Approvals** in the field of the **EU Construction Products Directive**.

Relevant institutional initiatives in support of digitalization and technological innovation in the construction sector

- **Concept for Digital Transformation of Bulgarian Industry 4.0** to build prerequisites for modernization, automation & competitive positioning of the Bulgarian economy (2017-2030)
- 58% of Bulgarians are connected online, but 2/3 have no **basic digital skills** and the number of graduates in **science, engineering and mathematics** has not increased
- 7th in **public sector open data**, but limited use of **e-government services**
- Total coverage of **fixed broadband networks** is 95%, 60% in rural areas
- 11th in **high-speed broadband access** with 55% fixed subscriptions





Changes, innovations and digitalization in the construction sector

- There are **four keys** to digital transformation in construction - digital data (data collection and analysis), automation (using new technologies to create self-organizing systems), advanced connectivity (linking and synchronizing existing resources) and digital access (internal cloud access).
- Due to the long cycle of design, construction, investment and use of buildings, the **purely economic sense of digitization in construction** is lost. The investors themselves are not pushing for faster and optimal work, and they are still working in pieces. The great responsibility that bears on designers, investors and developers of buildings makes them very cautious in implementing new technologies.
- The **lack of major innovations and digitalisation** in construction is a pressing problem. In this industry, digitalization has been observed in the last thirty years, mainly in the sphere of **design**. The main problem is the lack of digitalization in: Planning, Performance, Logistics.



Changes, innovations and digitalization in the construction sector

- **Construction is lagging** in the delivery and production of materials - modern manufacturers and distributors communicate with each other through emails, faxes, hand-written orders, and their ERP programs cannot connect. Procurement, delivery and warehousing processes are not well optimized, often leading to a lack of required materials or stocking with other materials.
- **social issues** where digitalisation tools can be implemented - administration. After years of e-government negotiations, Bulgaria remains a "paper country". There are large construction companies in the country that have a strong need for these processes to become faster and better.
- the construction sector is gradually deploying the use of **Building Information Modeling (BIM)**.
- The international quality standard ISO 19650-1: 2018.
- **Automation** (the use of new technologies to create self-organizing systems) and **digital access**



Changes, innovations and digitalization in the construction sector

- The **potential benefits of digitalisation** in the construction industry (and with a particular focus on energy efficiency) are numerous. In addition to improving data and information sharing, communication between players and monitoring, digitalisation can also facilitate the application of testing and research methodologies.
- **New methods are emerging**, especially in the organization of the construction process, which will make digitalization more widespread. Virtual and augmented reality are also slowly entering the construction process and the real estate industry as a whole. Digitalization is becoming an increasingly decisive factor in the sector as a tool for greater efficiency, speed and individuality.



SOCIAL DIALOGUE, INDUSTRIAL RELATIONS AND TRADE UNIONS

- At national level: the industrial relations are bilateral - nationally representative TUs: the Federation of Independent Construction Trade Unions at CITUB (FICTU is affiliate of Building and Wood Workers' International (BWI) & has more than 34 organizations in over 30 towns in the country, with more than 1117 collective members) and the Construction, Industry and Water Supply Federation - Podkrepa (CIWSF - Podkrepa) at the Confederation of Labor PODKREPA and
- representatives of the employers' organizations - the Bulgarian Construction Chamber (BCC) and the Bulgarian Branch Chamber "Roads" (BBC "Roads").
- A Branch collective agreement is signed annually or every two years



SOCIAL DIALOGUE, INDUSTRIAL RELATIONS AND TRADE UNIONS

Weaknesses and challenges to the industrial relations system in the construction industry:

- Low level of association - less than 10% of the workers in the sector are union members;
- High share of grey economy;
- Insufficient qualified workforce;
- Need to improve communication between partners.

Possible solutions:

- Reinforcing the negotiated clauses in the branch collective agreement for all employees working in the construction sector;
- Annual fixed minimum labour costs in the construction sector, which should be mandatory for the participation in public procurement;



SOCIAL DIALOGUE, INDUSTRIAL RELATIONS AND TRADE UNIONS

- Establishment of a special fund by the social partners to increase the skills and/or for retraining of workers in order to respond to the needs for innovation and digitalization;
- Using the opportunities given by different European or national programs for qualification and re-qualification;
- Creation of compensation funds, e.g. “Bad weather”, etc.;
- Creation of joint working groups by the social partners to solve the problems in the sector.