

Labour productivity in the construction sector

Challenges and prospects based on a survey of over 450 industry professionals



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1. Summary











Labour productivity is a closed loop. **A company that works in a productive way will be able to maintain its profitability and healthy earnings because it finished jobs at the appointed time and on budget.** A well-organised, productive company might even enjoy steady, robust growth. **Improving productivity in the construction industry is crucial for reducing costs and enhancing overall project success.**

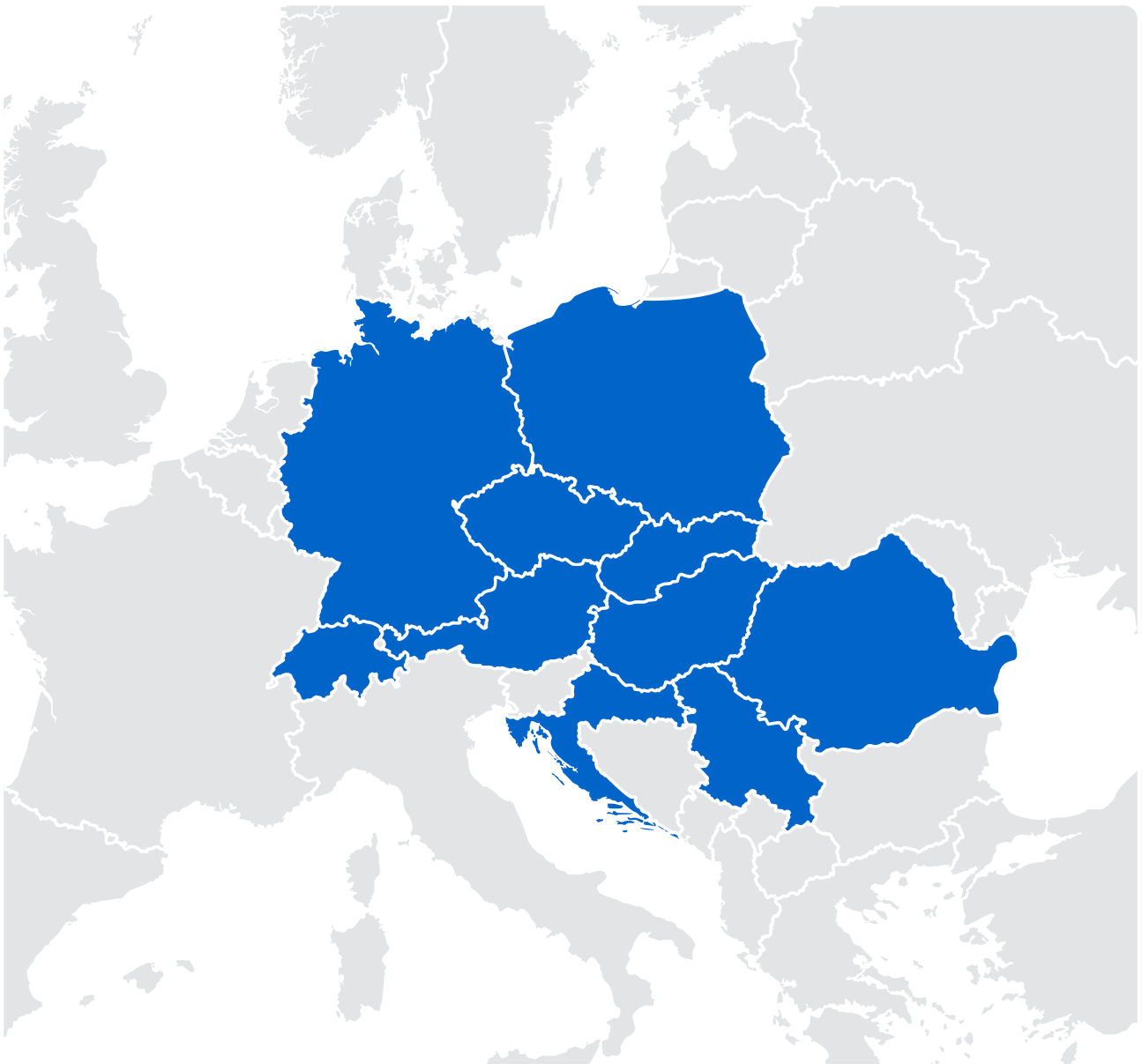
Inspired by our longtime presence in the European markets, **PlanRadar has envisioned and carried out a research project in German-speaking countries and Eastern Europe to deduce the state of labour productivity in the construction sector,** aiming to offer practical insights for improving this crucial aspect of doing business – one that has wide-spanning effects for the entire building industry.



2. Methodology

The following report is an analysis of answers provided by hundreds of industry professionals across 10 countries where PlanRadar is present. The aim of the poll was to determine what the causes of low productivity in construction are and how to best circumvent the issue in the future.

The PlanRadar team has surveyed a total of 450 construction industry insiders in DACH and Eastern Europe, in  Germany,  Austria,  Switzerland,  Hungary,  Czechia,  Croatia,  Poland,  Romania,  Slovakia and  Serbia.



3. Results

76 %



of respondents, across all countries, work 8–10 hours a day at their construction jobs, so 40–50 hours a week, which is more than the EU average of 37.5 hours. This means that even though everyone works the same amount of time, their productivity levels vary greatly.

48 %



of respondents concluded that low employee morale due to low salaries and overall reduced job satisfaction were, paradoxically, the leading cause of low salaries in their respective countries.

1/3



of respondents from Eastern Europe deduced that the way to improve salaries in their countries was to upskill employees in project and construction management best practices.

10–20 %



of the total project budget could be saved if companies were to become drastically more productive, as per 43 % of respondents from Eastern Europe.

37 %



of Eastern European respondents document their construction project daily, but it's unclear if it helps with work productivity.

49 %



of respondents from Germany, Austria and Switzerland say that project delays and a high amount of snags, leading to rework, are the leading causes of low productivity in their workplace.

3/4



of respondents cite a lack of clearly defined processes and documentation as the top factors that negatively influence productivity levels.

32 %



of respondents in Eastern Europe were worried about losing skilled workers to competitors in wealthy European countries.

58 %



of respondents in Croatia, more than in any other country, find that a lack of clearly defined processes negatively influences productivity levels.

4. Productivity in European construction in recent years

It is almost unbelievable that the construction industry, a sector of great importance on a global scale which is expected to see a steady increase in revenue, suffers from such a **striking lack of labour productivity**.

This problem will have far-reaching consequences, as **construction is projected to have a global increase in the volume of work of over 4.3 trillion USD in the next 15 years**, growing from 9.7 trillion USD in 2022 to 13.9 trillion by 2037.¹

How will the industry be able to tackle such an influx of work with its current processes, even though it **employs 10 million workers in the European Union alone**?² Anyone working in construction knows that unfortunately, efficiency is not this sector's strongest feature – a fact that has greatly contributed to the past thirty years being a sort of lost era in Eastern European construction³, with the volume of work done in 2022 being no greater than it was in 1995.



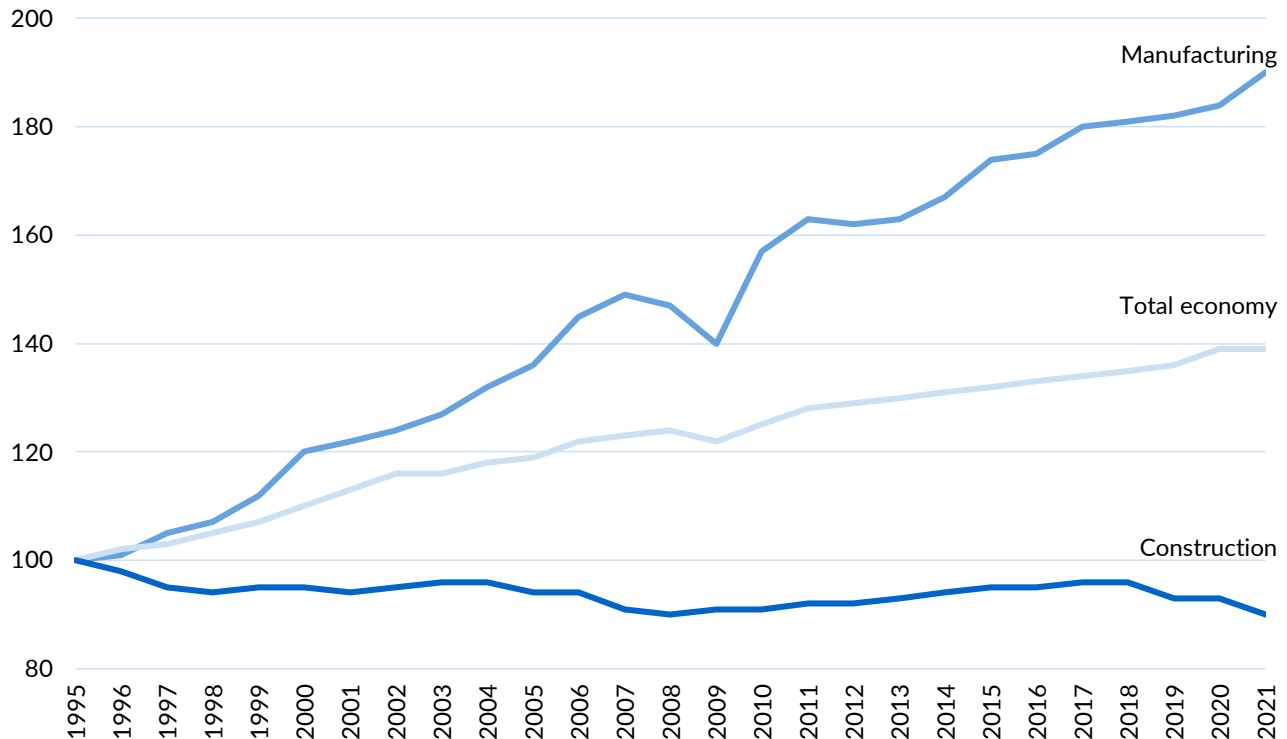
¹ <https://www.constructionbriefing.com/news/how-much-will-the-global-construction-industry-be-worth-by-2037-/8031247.article#:~:text=Global%20construction%20work%20done%20will,US%2413.9%20trillion%20by%202037.>

² <https://www.statista.com/statistics/763219/total-employed-persons-in-building-construction-industry-eu/>

³ <https://www.constructionbriefing.com/news/how-much-will-the-global-construction-industry-be-worth-by-2037-/8031247.article#:~:text=Global%20construction%20work%20done%20will,US%2413.9%20trillion%20by%202037.>

Construction labour productivity lags behind

Labour productivity of the added value in volume per hour worked in the EU, 1995–2021
(index 1995=100)



Source: Eurostat, ING Research

For example, **between 1995 to 2021, labour productivity in the production sector increased by more than 80% at the EU level, which means that a manufacturing worker can produce twice as much as a construction worker in the same number of hours.** The productivity of the overall EU economy has increased by 40%, while the level of productivity in the construction sector is, incredibly, lower today than it was in 1995.

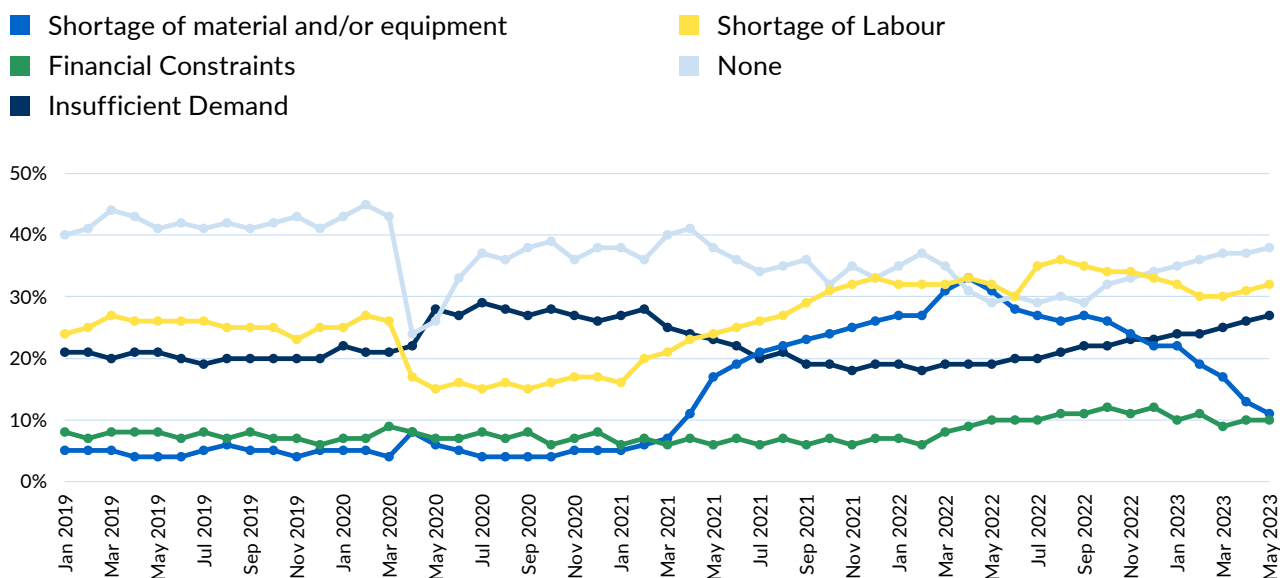
At the moment nearly 14 million people work in EU construction. **If the level of productivity in construction increased by only 20%⁴, it is estimated that the EU would need to fill 2.5 million less jobs in construction**, which would mean there would be no labour shortage problem anymore⁵, currently the biggest concern in the EU construction sector and a huge factor in limiting construction activity across the continent. Labour shortages prevent companies from delivering work on time, making the jobs less lucrative and contributing to lower salaries.

⁴ <https://think.ing.com/articles/lagging-productivity-drives-up-building-costs-in-many-eu-countries/>

⁵ <https://www.statista.com/statistics/1332937/limitations-in-the-construction-sector-eu/>

5. How productivity factors into construction labour shortages

Factors limiting construction activity in the European Union (EU-27) from January 2019 to May 2023



Source: Statista

Considering the challenges faced by the entire sector, be it cost overruns, an issue that plagues an estimated 98 %⁶ of all construction projects; delays (77 % of construction projects are at least 40 % late⁷), volatile material prices, an increase in labour costs and an influx of competing firms, **it is imperative to understand how work productivity actually impacts a business as a whole**, and how a business can become more robust by implementing clear chains of command, work processes, protocols and as a result, be able to deliver projects of high quality on time and on budget, as well as increase wages to not fall prey to the brain drain. **This is a huge issue in Eastern Europe, the region that keeps losing qualified staff to Germany, Austria, Switzerland and other wealthy EU countries.**

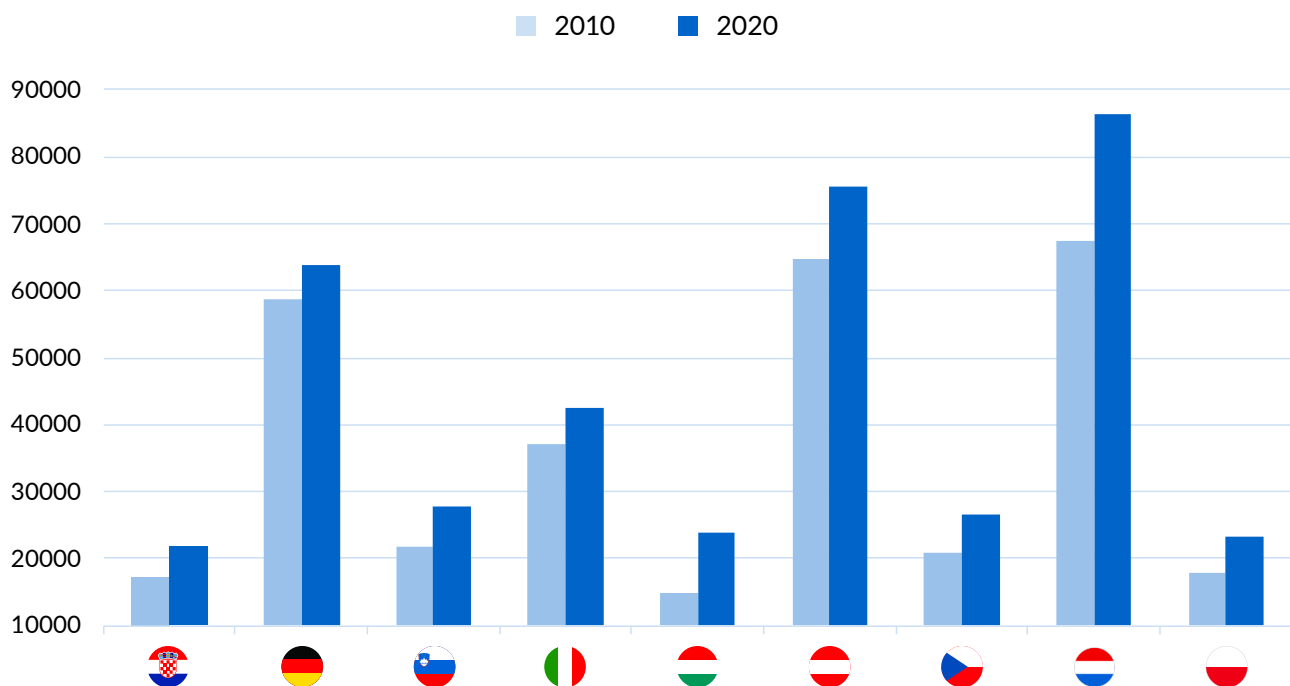
⁶ <https://www.mckinsey.com/capabilities/operations/our-insights/the-construction-productivity-imperative>

⁷ <https://www.mckinsey.com/capabilities/operations/our-insights/the-construction-productivity-imperative>

Productivity is just another word for efficiency. Best described as the real economic output per labour hour of an employee, labour productivity is not only affected by worker engagement, but can be influenced by myriad of factors, such as the implemented technological solutions, input prices, sales prices, taxes etc. It holds up a mirror to how much space a company or an entire country has for new employment or salary increases, provided the current productivity levels can be maintained, because to calculate a country's labour productivity⁸, one would divide the total output by the total number of hours of labour.

Its importance will grow as the problem of labour shortage becomes ever more pronounced in Europe, a continent that quickly needs to find a way to deal with the rapid loss of manpower and keeping its companies competitive in the global market. If the European construction sector operated in a productive manner, the jobs would get done in time and on the projected budget.

Labour productivity in the broad construction sector between 2010 and 2020 (in EUR k)



Source: Eurostat

⁸ <https://www.investopedia.com/terms/l/labor-productivity.asp>

6. Similarities and differences in labour productivity in Central Europe

In Europe, the construction sector accounted⁹ for 2.5 % of the total employment in the EU in 2020, and for 3.7 % of the total number of enterprises. Construction industry professionals from companies of various sizes, be it small, up-to-10-employee businesses or larger organisations of 500+, interestingly, **all reported that they work 8–10 hour days.**

Considering the wildly differing financial yield and productivity levels across the polled countries, this fact is a clear indication of the stark difference in labour productivity between Eastern and Western Europe.

Everyone works the same amount of time, but some earn far more than others because they are more productive in the allotted time, which is reflected in the salaries Eastern countries are able to offer, as opposed to the much higher salaries in Western countries – making them very attractive to the Eastern workforce.

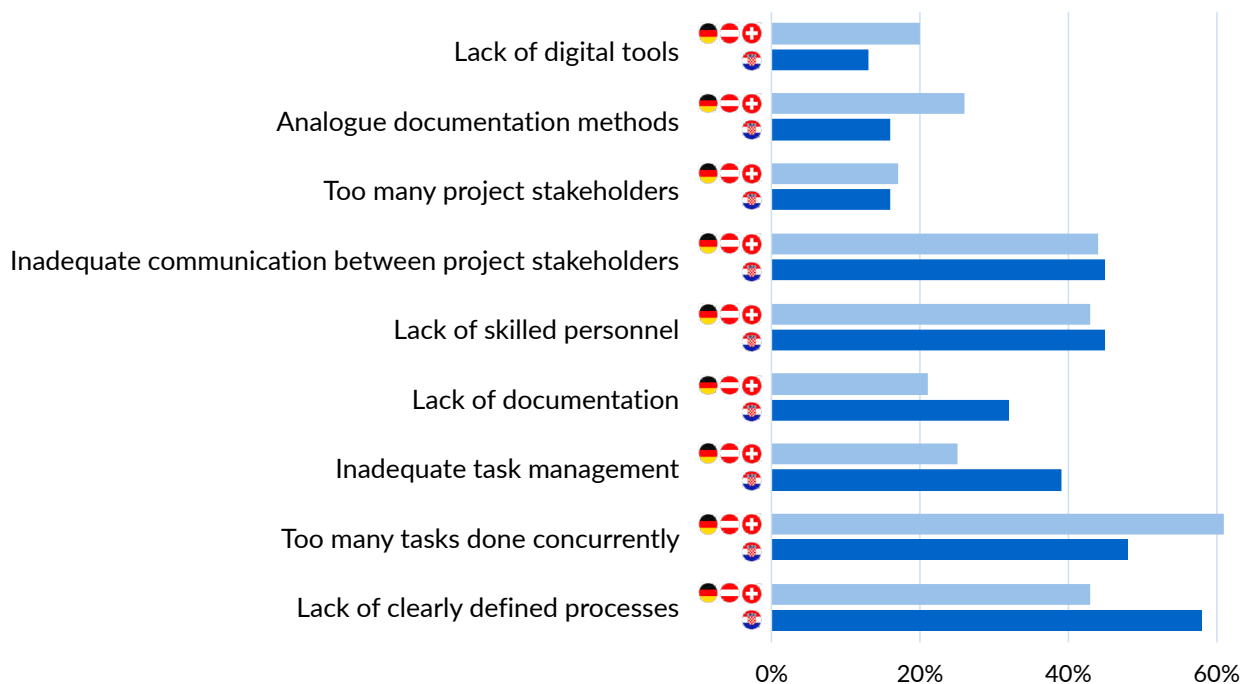


Source: PlanRadar Productivity Survey 2024

⁹ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Businesses_in_the_construction_of_buildings_sector

7. Why does the Croatian construction sector suffer from low labour productivity?

What negatively influences productivity levels?



Source: PlanRadar Productivity Survey 2024

As evidenced by 58 % of Croatian respondents who cited a lack of clearly defined processes as the top reason that negatively influences productivity levels, most professionals working in the local construction sector are keenly aware that the sector has a large number of well-trained engineers and supporting staff, however **work processes are usually improvised on the spot**, rather than being well-established, pre-conceived protocols that would enable everyone involved to have a clear understanding of what was going on in the project, what needs to be done, when, how and by whom.

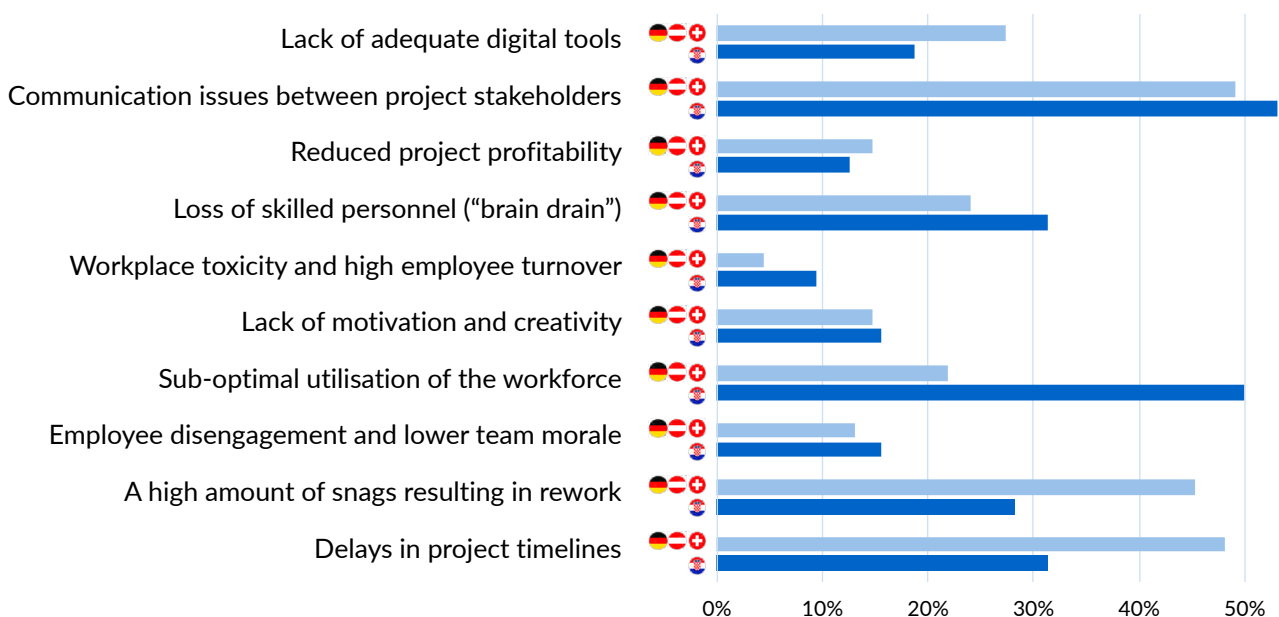
While improvisation is an essential and very useful skill, especially in a technical field, this way of working is cumbersome for company owners and investors as they cannot have a clear overview of project tasks and costs, making it hard to manage projects efficiently – and productively.

32 % of respondents reported that a lack of documentation is an issue in Croatia, as opposed to only 21 % in DACH. This indicates a large gap in the approach to project documentation and productivity on the whole in German-speaking countries and Croatia.

In both DACH (44 %) and Croatia (42 %), respondents cited inadequate communication between project stakeholders as a key cause of low productivity. Management and company owners would do themselves a great favour if they introduced certain changes, such as establishing clearly defined processes, insisting on clear communication between project stakeholders and most importantly, the documentation of what happens in the project, on-site and beyond.

Without thorough documentation practices, there can be no real productivity, proof of work, resulting in problems with issuing bills, no way of protecting the company from lawsuits and other legal issues etc.

What is holding your company back from being more productive?



Source: PlanRadar Productivity Survey 2024

A clear correlation is evident between the loss of skilled personnel, often due to the brain drain, which causes a sub-optimal utilisation of the workforce at the company's disposal. 31 % of Croatian respondents noticed that the brain drain is a huge driver in keeping productivity low, as opposed to only 24 % of German-speaking respondents. An employee that is overloaded with work will be unmotivated and stressed due to number of tasks that need to be tackled concurrently.

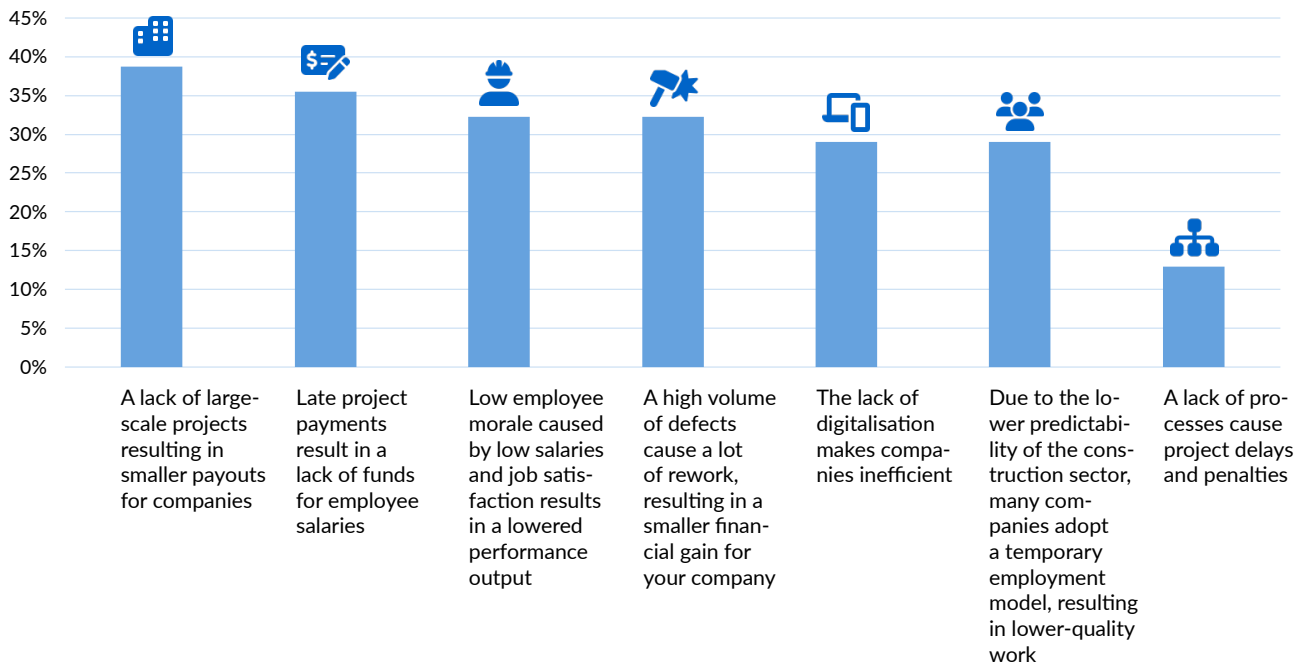
Their concentration will drop, or they will be unable to give the required amount of attention to all the tasks at hand, which in turn will cause a high amount of human error, the leading cause of snags and ultimately rework, which means delays in the project timeline. This issue will also lead to a sub-optimal utilisation of the workforce. An incredible 50% respondents in Croatia agree, as opposed to only 22% in DACH, which only underlines the fact that the DACH construction sector is far more productive than the Croatian one.

Delays mean additional costs, ergo lower earnings than expected. A company that is often plagued by lower earnings will be unable to pay their workers an attractive salary or retain those who are qualified, adding to the disarray and the general standing of the country's construction sector in the global playing field.



8. The Croatian salary issue

Why do you think salaries in Croatia are lower than those in wealthy European countries?



Source: PlanRadar Productivity Survey 2024

The Croatian brain drain¹⁰ has been a huge issue for the country's economy in recent years.

It is evidently tied to labour productivity, as reported by the survey respondents.

Salaries are lower than those in wealthy European countries for many reasons, the top ones being late project payments that result in a lack of funds for employee salaries (36%), a lack of large-scale projects resulting in smaller payouts for companies (39%) and late project payments which result in a lack of funds for salaries (36%).

If a company has not been working in an organised manner, has a lot of defects to deal with (as reported by 32% of respondents), has gone into overtime with delivering the job, if there is no documented proof of work (a lack of documentation is cited as the cause for inefficiency by 29% of Croatian respondents), it is hard to issue bills and insist on the payments within the timeframe required to deliver on salaries. If no bills can be paid, debt accumulates and stress levels rise.

¹⁰ <https://vlada.gov.hr/news/brain-drain-is-existential-issue-croatian-pm-tells-le-monde/28519>

What do you think could be done within the construction and real estate sector to improve salaries in your country?

- Introduce clear processes to enhance productivity

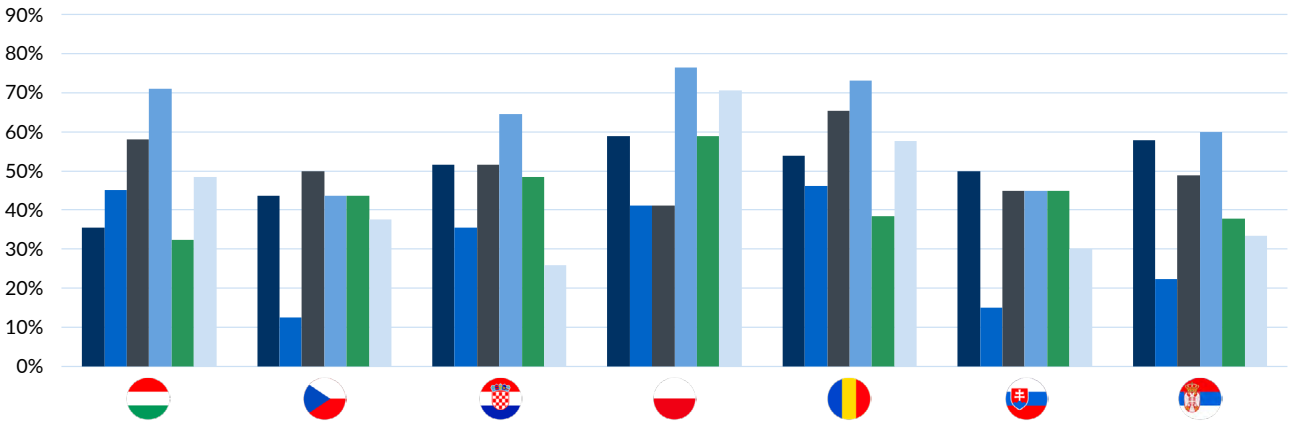
A greater focus on efficiency in order to reduce overtime payments

Get employees familiar with new technologies to enhance productivity

Upskill employees in project and construction management best practices

Improve documentation processes to more easily avoid claims, rework, and legal difficulties

Introduce frequent performance reviews



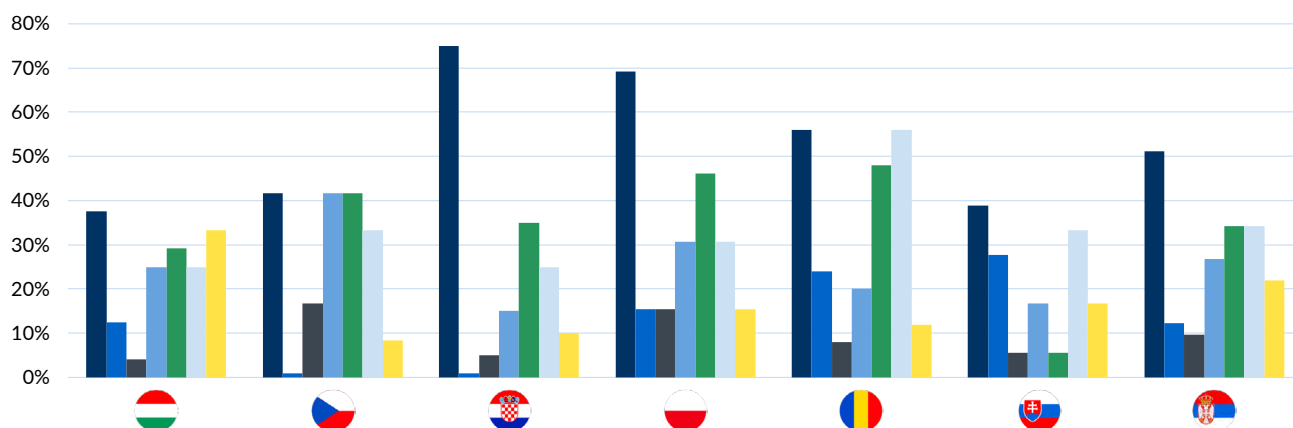
Source: PlanRadar Productivity Survey 2024

Most respondents agree that upskilling employees in project and construction management best practices (65 % of respondents) would greatly benefit salaries, closely followed by the introduction of clear processes to enhance productivity (52 % of respondents).



If you do not document what happened at the construction site, why is that?

- No time to document due to a large workload
- No need to document because all changes are communicated verbally
- No need to document because the protocols will be written after construction is done
- Lack of adequate tools for construction project documentation
- Lack of clearly-defined work processes
- Lack of communication between project stakeholders
- It's not a priority at my company



Source: PlanRadar Productivity Survey 2024

Interestingly, not only Croatian (a formidable 75 % of respondents), but all Eastern European respondents reported that they could not document the goings-on on the construction site due to a large workload.

A large workload in construction could be significantly lessened by implementing well-organised documentation practices, something that is especially important for smaller and mid-size companies, as large companies often have entire departments that deal with this issue and are better equipped to devise and implement new protocols.

Smaller companies will more often “do things as they have always been done” and be more resistant to change due to a lack of manpower and time for implementing changes, making them more vulnerable amongst the competition. Small and mid-size companies, though, can be quicker to adapt to market demands because less steps need to be made to optimize their operation, due to their smaller size, giving them a competitive edge over large companies.

The goal is to find optimal processes that will become the golden standard of working and to constantly improve upon those same processes. The numerous benefits will ultimately be reflected in increased productivity.

Why do you think documenting might not be a priority at your company?



Source: PlanRadar Productivity Survey 2024

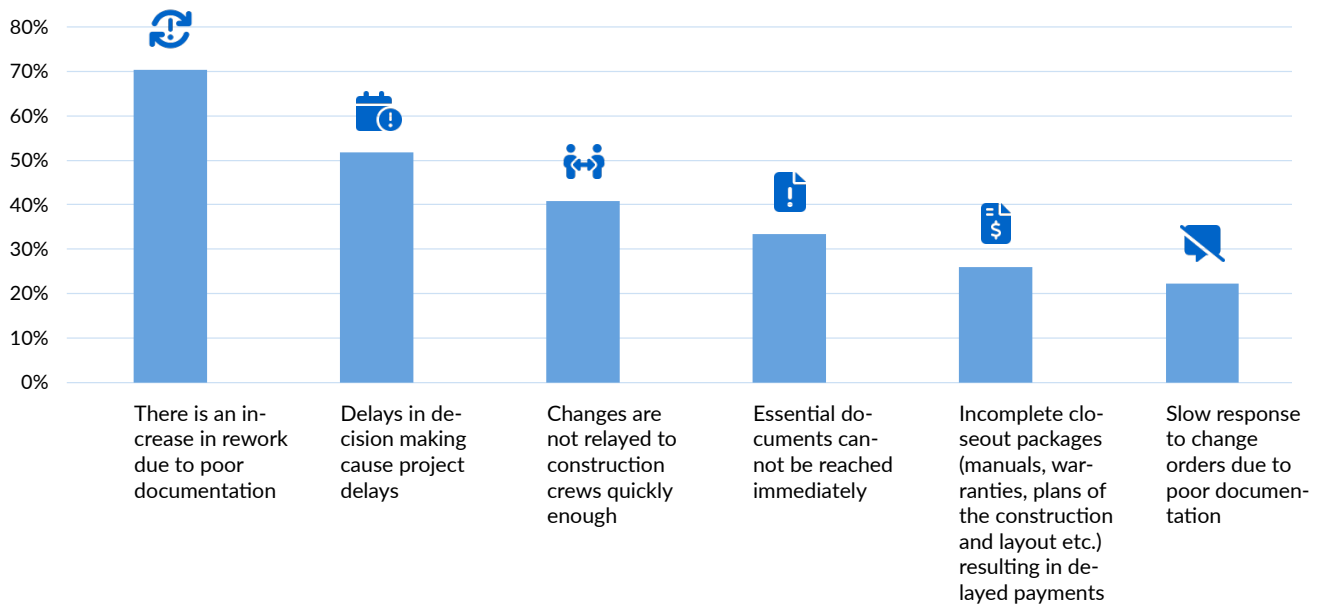
A lack of time for documentation is a common problem in Eastern Europe (45 % of respondents in Croatia, 50 % in Poland and 35 % in Slovakia all agree on this), closely followed by the inefficient way of communicating with project stakeholders – WhatsApp and e-mail (37 % of Croatian respondents).

While these tools allow for a quick exchange of information on a daily basis, and might be a good way of communicating when stressed and pressed for time, **they do not allow for time-stamped, tamperproof documentation of work that can be used to determine what was actually done, by whom, and when** – for everyone involved in the project to keep track of what is happening on the construction site on a daily basis.

When there are no proper documentation protocols, information keeps getting lost. There is a huge need for follow-up questions, searching for emails, Excel sheets, PDFs and voice messages – a practice that, as many construction industry members know, eats up a huge portion of working hours – which makes such an approach hugely unproductive and prone to error.



How do you think a lack of documentation might affect your company?



Source: PlanRadar Productivity Survey 2024

Finally, productivity falls short when there is an increase of rework (as witnessed by an astounding 71 % of Croatian respondents), delays in decision making (52 % of Croatian respondents), when changes cannot be communicated to on-site crews or back to the office quickly enough (41 % Croatian of respondents).

The companies that do not abandoned their inefficient ways of working and fail to implement efficient protocols will fall behind the competition, experience a drop in their earnings, loose skilled staff to better-paying competitors in their own country or elsewhere, and will not be able to keep up with the rapidly evolving demands of the market.

9. Conclusion

Digital tools have long been identified as the number one way of increasing productivity in the construction sector in the European Union, because they are able to streamline the building process.

Software can, however, only be helpful when there are already clearly established work processes that are ripe for being made faster, simpler, and easier to control.

However, **in countries that have embraced an efficient way of working, the focus is on optimizing processes first, and digitalisation second.** Established processes are easy to digitalise, resulting in much less mistakes and incidents of human error.

If there are no processes, there is no point in implementing digital tools because they will only bring more discord into the company. Something non-existent cannot be digitalized. **Therefore, the priority in**

Eastern Europe should be on coming up with processes that work, implementing them, making sure the entire crew or company adhere to them, and only then in looking for the digital tools that could make the company be even more efficient.

It is important to note that devising processes and digitalizing them be done concurrently, allowing companies to quickly catch up with those that have long developed processes and established a productive way of working.

Especially when it builds upon established work processes, digitalisation is a quick process that requires little-to-no investment but can ensure incredible returns on investment. It is a means to a more efficient end. PlanRadar's team is always happy to assist our clients with both coming up with more efficient processes as well as digitalising them.





About PlanRadar

PlanRadar is a digital platform for documentation, task management and communication in construction, facility management and real estate projects. The platform enables teams to increase quality, cut costs and realise work faster. By improving collaboration and providing access to realtime data, PlanRadar's easy-to-use platform adds value to every person involved in a building's lifecycle, with flexible capabilities for all company sizes and processes. Today, PlanRadar serves more than 150,000 users across 75+ countries.



150k+
users



75+
countries

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