

The Cost of Rework in Global Construction

How digitalisation can help to reduce the impact of on-site rectifications



Summary

PlanRadar has carried out a research project with the help of leading industry voices in 17 of the countries in which it is present on the cost of rework in construction, with the aim of analysing in detail the main causes, consequences and strategies to help avoid it.

In this research we show you the most relevant results of the analysis in each of the countries and the results of our recent customer survey with a total of more than 2500 responses.

As an internationally recognised software company in the construction sector, PlanRadar is keen to gain insight into the impact of rework in the sector, its causes, and the main areas where digitalisation can provide a solution.

Methodology

The PlanRadar team has researched a total of 17 countries in which the company is present, including Germany, Austria, Switzerland, Czech Republic, Slovakia, Hungary, Italy, France, Spain, Romania, the UK, Poland, Slovenia, Croatia, Serbia, Australia, and Brazil. There is a Eurocentric bias in the countries selected, as this is where the team has the most resources in terms of languages.

- The main source of the study is based on our annual customer survey in which a total of 2551 industry professionals participated.

The remaining sources have been selected based on the following criteria:

- From a government-directed or government-sponsored report, project, or legal requirement.
- Reports made by associations or chambers of architects in the country.
- Articles published in authoritative industry journals or magazines.
- All sources are as recent as possible. Sources should be country-specific, not global trends.
- Where responses from the relevant industry bodies or their publications are not available, other reliable third-party sources have been used. These cases have been clearly marked in the full list of sources.

Summary of main findings

According to the survey of our customers in the 15 countries where we are present:

- Rework costs can amount to **more than 11% of project costs**. Poland is the only country with a lower estimate, between 3 and 5%.
- Poor **document management** and **quality controls** are the main causes of rework.
- In the UK, Hungary, Czech Republic, Slovakia, Germany, Austria, France, Spain and SEE are aware of an **improvement in quality controls**.
- Most countries do not consider the **quality of materials** to be the main cause of rework costs.
- On average, PlanRadar reduces the **need for rectifications of construction sites by 52%**
- **89%** of our customers say PlanRadar has helped them reduce their rework costs.
- 100% of the countries state that the **lack of communication and collaboration** between all actors directly influences the costs of rework.



Introduction

The aim of any construction business is to create value and generate profit. It sounds very simple at first, but there are many things in the calculation that can slip and change along the way, and there are many factors that influence both our sales and our expenses. Even after a precise, detailed budget has been prepared, there are still many things that can unexpectedly increase our expenditure. The biggest costs and inputs for construction businesses are, of course, human resources, material costs, and what many people don't take into account: the rework.

The big challenge for construction companies is to reduce overheads as much as possible in order to remain profitable, especially in the current climate.

Normally, this is achieved by selecting less premium materials, cutting working time or hiring less experienced subcontractors. The assumption is that these measures will help save money whereas in most cases, they end up increasing the amount and cost of rework, which can be up to 20% of their budget on some projects. In this eBook we will give you the answers: we will clarify what rework is, what causes rework, we will analyse in depth what the cost implications are and, most importantly, we will find the answers to reduce it.

What is rework in the construction industry?

Let's jump in and clarify what the concept of rework in the construction industry really means.

In the construction industry, rework means that we need to carry out additional work on a project because of defects, deficiencies or changes that have occurred during the construction process. This may include correcting errors in the original design, improving the quality of materials or workmanship that was defective, or modifying plans that occurred due to faulty design.

Subsequent work can be caused by a number of factors, such as poor and limited communication, inadequate or no planning, changes in the environment or construction design, poor quality control and lack of skilled labour. Subsequent work is costly in terms of time and money, as it can delay the construction schedule and increase the cost of materials and labour. In addition, rework can have a negative impact on the quality of the completed project and can damage the image and reputation of the contractor.

Main causes of rework in construction

The causes of rework are varied and can stem from issues such as poor communication, inadequate planning and design, changes in scope, subpar quality control, and a shortage of skilled labour. In this section, we will delve into each of these causes in detail, examining how they can lead to rework in construction projects and providing statistics and data on how they vary across different regions of the world. By understanding these causes, we can begin to develop effective strategies for mitigating the effects of rework and improving construction project outcomes.

At PlanRadar, we conducted research to find out what the main reasons for rework are. Let's see what they were.

The results of our research were enlightening. In our survey of more than 2,500 active PlanRadar users, we asked companies to rank the top reasons for rework from 1 to 6. The majority of respondents said that the main cause of rework was due to poor communication, with lack of organisation and document control coming second and quality control mistakes coming third. The top three places were closely contested, with not many votes separating the causes.

1 **Poor communication and collaboration among stakeholders and team members**

2 **Poor document control, lack of organisation and proper documentation**

3 **Quality control mistakes**

4 **Improper planning**

5 **Human resource challenges such as employee turnover and lack of skilled labour**

6 **Poor quality materials**

Poor communication and collaboration among stakeholders and team members

How much does it affect the cost of rework?

Compared to other causes

	Not much influence	Moderate impact	Highly influential
UK 	5.88 %	32.35 %	61.76 %
DACH 	16.71 %	40.35 %	42.94 %
HU, CZ, SK 	15.79 %	21.05 %	63.16 %
France 	9.52 %	28.57 %	61.90 %
Italy 	4.17 %	33.33 %	62.50 %
Poland 	15.38 %	23.08 %	61.54 %
Romania 	25.00 %	25.00 %	50.00 %
SL, HR, SR 	11.76 %	41.18 %	47.06 %
Spain 	14.29 %	23.81 %	61.90 %

Source: PlanRadar Customer Survey 2023

12 out of 15 countries surveyed thought that poor communication is the primary cause of rework in construction projects. Misunderstandings, misinterpretations, and inadequate information can lead to mistakes, omissions, and errors, resulting in rework. For instance, if the construction team receives incorrect information on the location of the mechanical, electrical, and plumbing systems, it can result in costly rework when the systems are installed in the wrong place.

Poor document control, lack of organisation and proper documentation

How much does it affect the cost of rework?

Compared to other causes

	Not much influence	Moderate impact	Highly influential
UK 	30.77 %	30.77 %	38.46 %
DACH 	14.48 %	23.75 %	61.77 %
HU, CZ, SK 	31.82 %	31.82 %	36.36 %
France 	28.57 %	42.86 %	28.57 %
Italy 	32.00 %	20.00 %	48.00 %
Poland 	35.71 %	35.71 %	28.57 %
Romania 	32.00 %	36.00 %	32.00 %
SL, HR, SR 	38.89 %	33.33 %	27.78 %
Spain 	23.81 %	61.90 %	14.29 %

Source: PlanRadar Customer Survey 2023

When documents are not properly organized, it can be difficult for team members to find the information they need, leading to delays and miscommunication. This can result in rework, as team members may need to redo work that was not done correctly due to a lack of clear instructions or information.

Furthermore, poor document control can lead to errors, as team members may be working with outdated or incorrect information. This can result in the need for rework or even more serious issues down the line.

Proper document control is essential for ensuring that team members have access to the correct and up-to-date information they need to complete their tasks. This can help prevent confusion and errors, ultimately reducing the need for rework and saving time and money in the project.

Quality control mistakes

How much does it affect the cost of rework?

Compared to other causes

	Not much influence	Moderate impact	Highly influential
UK 	22.22 %	38.89 %	38.89 %
DACH 	17.42 %	36.05 %	46.53 %
HU, CZ, SK 	09.52 %	33.33 %	57.14 %
France 	09.52 %	30.00 %	45.00 %
Italy 	17.39 %	60.87 %	21.74 %
Poland 	21.43 %	50.00 %	28.57 %
Romania 	29.17 %	41.67 %	29.17 %
SL, HR, SR 	27.78 %	16.67 %	55.56 %
Spain 	33.33 %	14.29 %	52.38 %

Source: PlanRadar Customer Survey 2023

When quality standards are not enforced, errors and defects can go undetected, leading to rework. For instance, if the concrete mix is not tested for the correct strength, it can result in the need to remove and replace the concrete later. Italy, Poland and Romania considered quality control mistakes to have only a moderate impact on rework, while all other countries found them to be a major factor.

Improper planning

How much does it affect the cost of rework?

Compared to other causes

	Not much influence	Moderate impact	Highly influential
UK 	28.57 %	48.57 %	22.87 %
DACH 	35.99 %	35.87 %	28.14 %
HU, CZ, SK 	25.00 %	40.00 %	35.00 %
France 	47.37 %	26.32 %	26.32 %
Italy 	29.17 %	29.17 %	41.67 %
Poland 	44.44 %	25.93 %	29.63 %
Romania 	50.00 %	31.82 %	18.18 %
SL, HR, SR 	38.10 %	43.75 %	19.05 %
Spain 	19.05 %	42.86 %	42.86 %

Source: PlanRadar Customer Survey 2023

Lack of proper planning and design is one of the main reasons of rework. When the design is incomplete, unclear, or not detailed enough, it can lead to errors, confusion, and changes in the project scope. Additionally, inadequate planning of construction activities, such as sequencing and scheduling, can lead to rework when tasks are not performed in the proper order, leading to redoing or undoing completed work.



Lack of skilled labour

How much does it affect the cost of rework?

Compared to other causes

	Not much influence	Moderate impact	Highly influential
UK 🇬🇧	42.11 %	26.32 %	31.58 %
DACH 🇩🇪 🇨🇭 🇸🇰	38.42 %	44.54 %	17.05 %
HU, CZ, SK 🇭🇺 🇨🇿 🇸🇰	26.32 %	57.89 %	15.79 %
France 🇫🇷	38.10 %	52.38 %	9.52 %
Italy 🇮🇹	34.62 %	30.77 %	34.62 %
Poland 🇵🇱	29.63 %	55.56 %	14.81 %
Romania 🇷🇴	34.78 %	43.48 %	21.74 %
SL, HR, SR 🇸🇯 🇭🇷 🇸🇷	31.25 %	43.75 %	25.00 %
Spain 🇪🇸	38.10 %	33.33 %	28.57 %

Source: PlanRadar Customer Survey 2023

Human Resource challenges are a significant cause of rework in construction projects. When workers lack the required skills, knowledge, and experience, it can lead to mistakes, errors, and accidents, leading to rework. For instance, if the workers installing a roof lack the skills to properly seal the edges, it can lead to leaks and require the roof to be redone.

There are several human-based rework indicators:

- Lower level of skill
- Limited experience
- Insufficient knowledge
- Lack of motivation
- Low commitment to safety

There are many human errors in the construction industry, yet most of the countries surveyed in our research do not feel that this is the main cause of rework. The majority of those surveyed believe that these errors have only a moderate impact on rework. Of the countries surveyed, only Italy thinks that this problem has a major impact on the amount of rework, while the UK and Spain think that it has only a minor impact on the amount of rework.

Poor quality materials

How much does it affect the cost of rework?

Compared to other causes

	Not much influence	Moderate impact	Highly influential
UK 🇬🇧	55.81 %	23.26 %	20.93 %
DACH 🇩🇪 🇦🇹 🇨🇭	71.10 %	20.99 %	7.91 %
HU, CZ, SK 🇭🇺 🇨🇿 🇸🇰	65.22 %	13.04 %	21.74 %
France 🇫🇷	61.90 %	19.05 %	19.05 %
Italy 🇮🇹	71.43 %	17.86 %	10.71 %
Poland 🇵🇱	66.67 %	16.67 %	16.67 %
Romania 🇷🇴	50.00 %	29.17 %	20.83 %
SL, HR, SR 🇸🇯 🇭🇷 🇸🇷	77.78 %	22.22 %	0 %
Spain 🇪🇸	68.18 %	27.27 %	4.55 %

Source: PlanRadar Customer Survey 2023

Using poor-quality materials in a project can lead to issues and rework, resulting in additional expenses. Poor quality materials can result in defects or failures, causing delays and increasing costs for repairs or replacements.

Additionally, poorquality materials may not meet the required specifications or standards, leading to compliance issues and legal penalties. This can lead to additional expenses for the project, as well as potential damage to the company's reputation.

Furthermore, using poor-quality materials can also affect the overall quality of the project, potentially leading to dissatisfaction from clients or customers. This can result in lost business and revenue for the company. However, most respondents do not consider the quality of materials to be the main cause of rework in their companies, compared to the other causes mentioned.



The impact of rework

What are the main consequences of rework in construction?

	UK	DE	AT	HU	CZ	SL	FR	IT	ES	PL	BR	AU	
Increased investment costs	🇬🇧	🇩🇪	🇦🇹	🇭🇺	🇨🇪	🇸🇯	🇫🇷	🇮🇹	🇪🇸	🇵🇱	🇧🇷	🇦🇺	12
Times delays	🇬🇧	🇩🇪	🇦🇹	🇭🇺	🇨🇪	🇸🇯	🇫🇷	🇮🇹	🇪🇸			🇦🇺	10
Decreased customer satisfaction				🇭🇺			🇫🇷	🇮🇹	🇪🇸		🇧🇷	🇦🇺	6
Damage to reputation and credibility of the contractor and/or project team	🇬🇧	🇩🇪		🇭🇺			🇫🇷				🇧🇷	🇦🇺	6
Higher risk of claims	🇬🇧	🇩🇪					🇫🇷	🇮🇹			🇧🇷		5
Decreased profitability for contractors and subcontractors	🇬🇧				🇨🇪		🇫🇷					🇦🇺	4
Increased energy consumption over its lifetime	🇬🇧		🇦🇹							🇵🇱			3
Waste of materials	🇬🇧						🇫🇷		🇪🇸				3
Increased risk of safety incidents and accidents	🇬🇧							🇮🇹				🇦🇺	3

Source: Data collected through local secondary sources

The causes mentioned in the previous section not only lead to an increase in monetary costs, but also to other costs such as longer delivery times, worsening labour relations, customer dissatisfaction or damage to the company's reputation. In this section, we analyse in detail the main consequences of rectifications in the construction sector in the different countries we have studied.

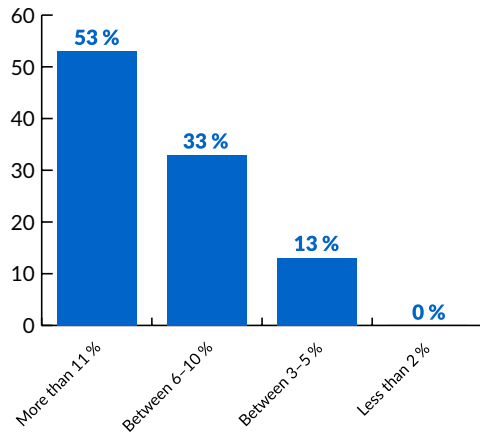


Increased costs and delivery times

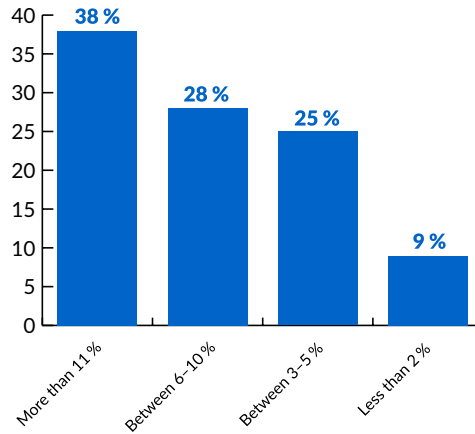
Average % total project costs attributed to rework

*Average before implementation of PlanRadar

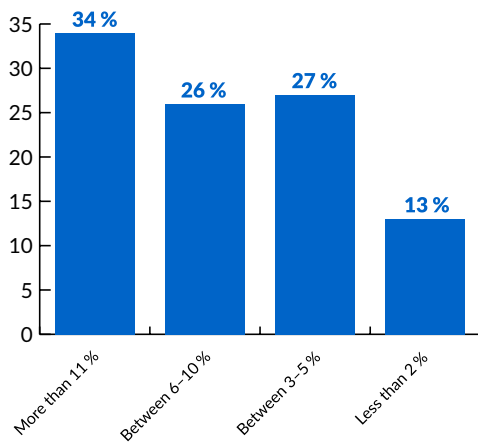
HU, CZ, SK 🇭🇺 🇨🇪 🇸🇰



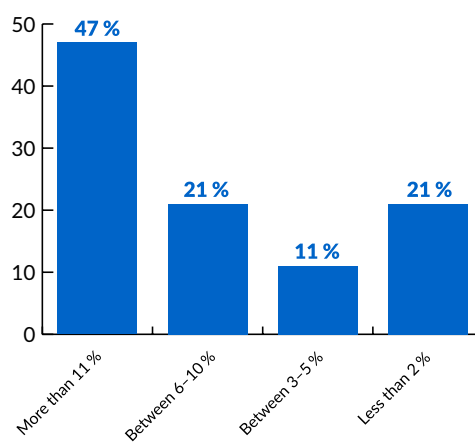
UK 🇬🇧



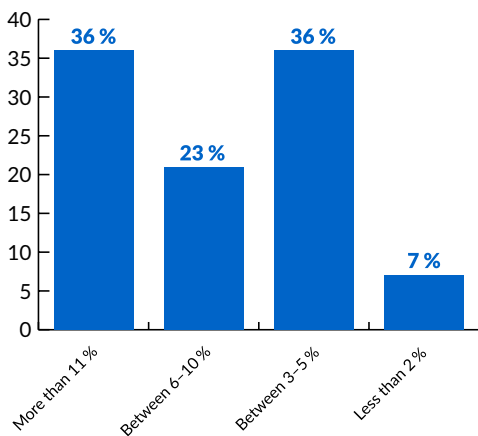
DACH 🇩🇪 🇨🇭 🇸🇮



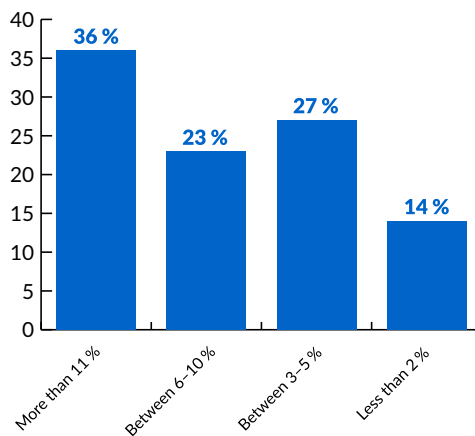
Spain 🇪🇸

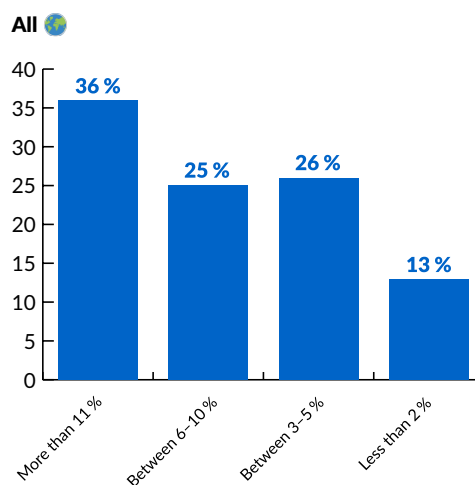
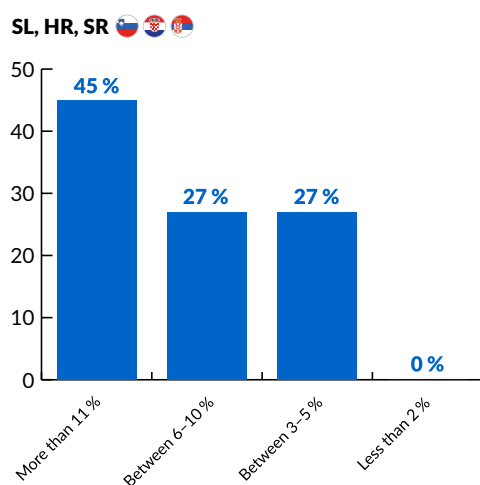
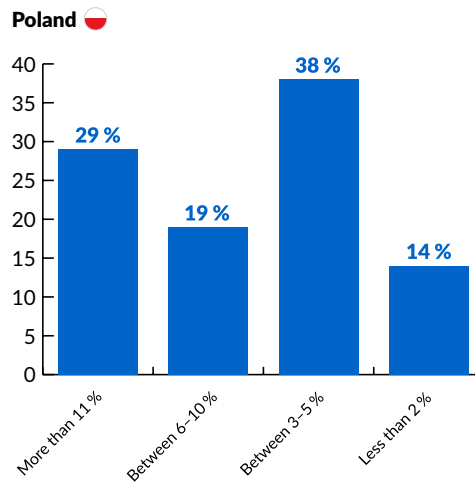
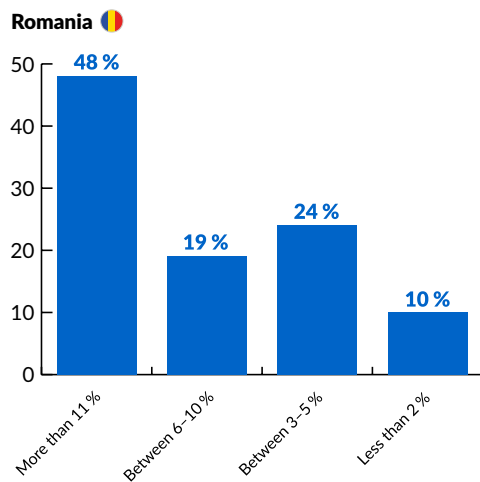


France 🇫🇷



Italy 🇮🇹





Source: PlanRadar Customer Survey 2023

Planning and design errors result in wasted resources, extra costs to dispose of bad work and additional costs for new materials and labour. The result is a decrease in company productivity and an increase in lead times. There is no doubt in any of the countries studied that rework leads to increased costs and delivery times. Several studies in the UK¹, Germany² and Austria³ state that rework costs can account for between 18% and 25% of project costs. Other countries, such as the Czech Republic⁴ and Slovakia⁵, estimate that rework costs could account for up to 30% of project costs. On the other hand, France estimates that rework costs account for between 5% and 10% of its turnover and in Italy, construction companies claim that construction errors cost up to 14 billion euros per year⁶.

Most of our clients consider that rework costs accounted for more than 11 % of the project before using PlanRadar.

¹ <https://getitright.uk.com/news/giri-activity/giri-commissions-new-research-on-cost-of-error>

² <https://www.der-bau-unternehmer.de/nachrichten/id-20-prozent-geringere-baukosten-bei-der-nacharbeit.html>

³ http://www.vergabe-bau-recht.at/downloads/20040302_Zertifizierung_am_Bau_Qualitätssicherung.pdf

⁴ <https://www.zakonyprolidi.cz/media2/file/2205/File51620.pdf?attachment-filename=7387332-2022-05-17-zprava-ria-7387385.pdf>

⁵ <https://hnonline.sk/prakticke-hn/309898-naklady-navyse - 2010>

⁶ <https://www.ediltecnico.it/99359/patologia-edilizia-definizione-importanza/>

Stakeholder relations

Fostering good relationships and communication between clients, subcontractors, employees, architects and all those involved in the life cycle of a building is fundamental to the growth of the company. However, if we increase the level of tension and mistrust between the different stakeholders, this can only lead to problems in the short and long term.

In 8 of the 12 countries surveyed, decreased customer satisfaction and damage to the contractor's reputation and credibility are highlighted as To improve communication in construction, establish clear lines of communication, use a common platform, develop a communication plan, encourage collaboration, use visual aids, be proactive, and foster a culture of open communication.

Damage to the company's reputation and increased claims risk

Depending on the severity, rectifications can lead to claims for breach of contract or other legal problems. All of these factors are detrimental to a company's reputation and growth.

Among the countries studied, another consequence that stands out in addition to damaging the reputation and credibility of contractors and project managers is an increased risk of claims.

Waste of materials and impact on the environment

In addition to the above-mentioned consequences, countries such as the UK, France and Spain also attribute the waste of materials and consequently the impact of materials on the environment as another major consequence of rework. For example, the British construction sector produces some 140 million tonnes of waste per year. Some 13% of all solid materials delivered to construction sites, some 10 million tonnes, are left unused, most of which is not recyclable⁷.

Employee frustration and demotivation

Rectifications are not only a risk for external relations, they also have an impact internally. Each rectification takes time, effort and money, and at the same time, it affects the morale of workers by increasing frustration and decreasing motivation. Considering the level of labour shortages in the industry, this is something that companies should not overlook, as well as impacting again on productivity. Bob Prieto, a Fellow at the National Academy of Construction in Florida notes "The repercussions of rework on project performance are expansive and corrosive. The cost and time impacts are to be expected, but the human and relational impacts cannot be ignored."⁸

⁷ <https://usefulprojects.co.uk/environmental-impacts-of-error/>

⁸ https://www.researchgate.net/publication/348155096_Rework_in_Engineering_and_Construction_Projects#fullTextFileContent

Strategies to mitigate the effects of on-site rectifications

What could reduce the rework in construction?

	UK	DE	AT	CZ	SL	FR	IT	ES	PL	BR	AU	
Clear and effective communication between all stakeholders												9
Optimise planning. Considering realistic budgets and deadlines.												8
The use of digital tools												7
Skilled workers and investment training												5
Proper documentation & record keeping												5
Robust quality control processes and regular inspection												6
Adherence to industry standards and regulations												4
Collaborative and inclusive decision-making												4

Source: Data collected through local secondary sources

After analysing the information gathered in the 14 countries on which this study is based, we can state that most of the countries consider that the costs of on-site rework could be reduced with better communication between all stakeholders and accurate and realistic planning. In addition, other factors to be considered include the use of digital tools, skilled labour and investment in training, better document management, robust quality controls and regular inspections, compliance with standards and regulations, and collaborative and inclusive decision making.

In this section we look in detail at how good management of these factors can reduce on-site rectifications, directly affecting project costs.

Communication between all actors

Countries such as the UK, France, Poland, and Australia emphasise the combination of good communication with the importance of collaborative and inclusive decision-making. Some UK experts argue that early involvement of the contractor is an important step to avoid mistakes from the outset⁹. To improve communication in construction, establish clear lines of communication, use a common platform, develop a communication plan, encourage collaboration, use visual aids, be proactive, and foster a culture of open communication.

These methods require collaboration and coordination between all stakeholders to ensure that everyone is working towards the same goals. By implementing these strategies, project managers can prevent delays, misunderstandings, and errors in the project, ultimately leading to a successful outcome.



“ **The rapid exchange of information is one of the biggest advantages of using PlanRadar. The data is immediately shared with others. In addition, the problem-solving process has been simplified by the database in the app.** ”

Fran Bošković, Building Supervisor, IGH (During the construction of the Pelješac Bridge)

Good, accurate and realistic planning

Review

Out of the 11 countries analysed, 8 countries believed that efficient, accurate and detailed planning in particular would reduce the most follow-up work, not without reason, proper planning is crucial for the success of any construction project. According to studies the lack of prior planning in the management of works leads to an increase in costs by 98% and deadlines are extended on average by 115% and more than 50% of problems and difficulties are repeated in projects again and again¹⁰. A good plan should define the scope and objectives of the project, break it down into smaller tasks, and estimate the required resources and timelines accurately. By developing a realistic schedule, monitoring progress, and communicating effectively with all stakeholders, project managers can ensure that construction projects are completed on time, within budget, and to the desired quality standards. Planning is an iterative process, and adjustments may need to be made as the project progresses, but by following these methods, project managers can ensure that their plans are accurate, realistic, and effective.



“ **The easy-to-use tool PlanRadar enables clear management of possible defects. Data can also be retrieved and controlled quickly and easily via the app. In addition, a quick transfer of information is possible through integrated contacts. Efficient time and cost management takes place. PlanRadar enables very efficient construction management. The current status, including plans and contacts, can be accessed at any time via mobile devices. In this way, all information is clearly bundled. Costs and time can thus be managed efficiently, ...** ”

⁹ <https://www.constructionnews.co.uk/agenda/opinion/expert/to-do-more-with-less-in-2023-cut-out-the-errors-03-01-2023/>

¹⁰ Lack of prior planning in construction management leads to a 98% increase in costs - KAIZEN LAB (thekaizenlab.com)

The use of digital tools

In 7 of the 11 countries we analysed, we found studies suggesting digitalisation and the use of digital tools to reduce rework.

Not only the use of project management software such as that offered by PlanRadar is recommended, but also the improvement of construction techniques through automation and standardisation of tasks is mentioned, as well as the automated manufacturing of installations with the help of digital twins or the use of robots and artificial intelligence¹¹. Some studies in the UK also suggest the use of project production control systems integrated with 5D BIM to avoid waste and variability in project design, planning and execution¹².

There is a range of digital solutions at our fingertips, starting with our simple platform, that are ready to make the day-to-day life of any player in the construction industry much easier.

Skilled labour

In countries such as Germany, Slovakia, Italy, Poland and Brazil, there is a strong emphasis on the need for more skilled workers and the need to invest in their training. The Associated Builders and Contractors of the USA states that in "2023, some 546,000 more workers would need to be attracted to meet the demand for labour in the construction sector". And in 2024, the sector would need to hire more than 342,000 new workers in addition to normal hiring.

Project supervision and document management

It goes without saying that it all starts with good project planning and smooth communication between all those involved in the project. However, to achieve success and minimise on-site rectifications, it doesn't end there. Proper documentation management and record keeping are also necessary.

As we have seen, on-site corrections can trigger customer dissatisfaction, damage our reputation, and even attract legal problems. By following optimal document management and storing all communications on a single platform, we can find the cause of the problem more quickly and disputes are easier to resolve by being able to prove all the facts.



“

With PlanRadar we can efficiently measure, document, further communicate and process the results on site.

”

Quality controls and periodic inspections

Especially in the UK, Germany, Austria, Slovakia, Brazil, and Australia, they are aware of the need for strong quality controls and regular inspections to ensure that projects comply with industry standards and regulations¹³.

¹¹ <https://openresearch.lsbu.ac.uk/download/b6594001fbdedfceb9d99803991059e7bbd812208f6a694d8f2315a427dccf77/209181/CCC2019%20full%20paper.pdf>

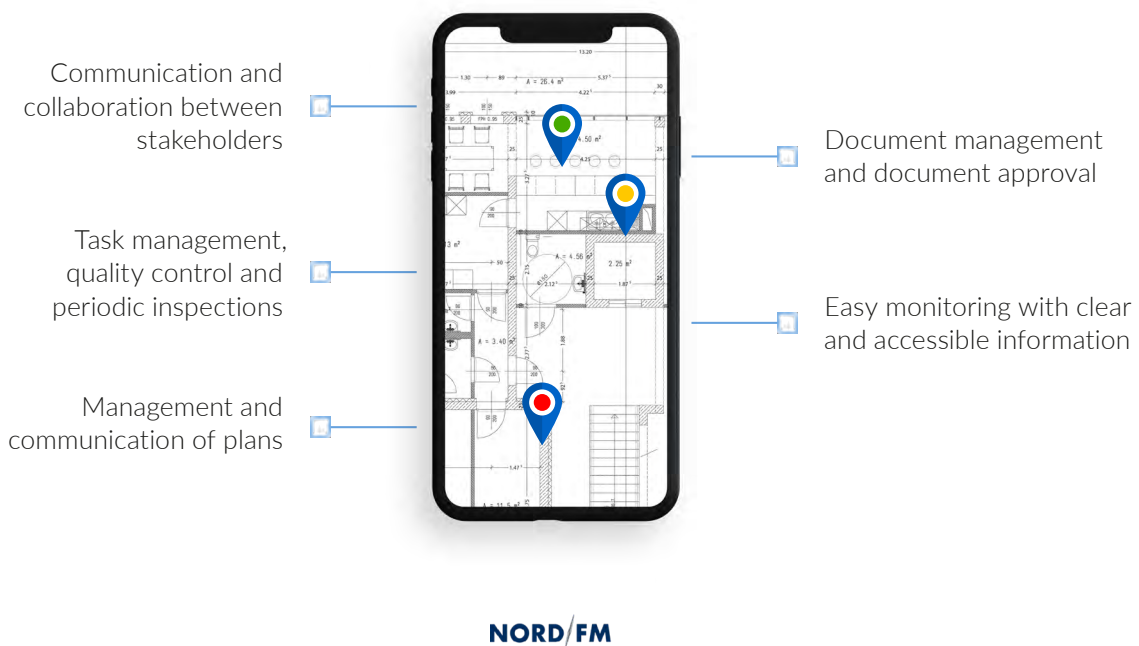
¹² <http://dl.n.jaipuria.ac.in:8080/jspui/bitstream/123456789/2898/1/MGI-Reinventing-Construction-Full-report.pdf>

¹³ <https://www.mfsr.sk/files/sk/financie/ppp-projekty/metodicke-dokumenty-k-ppp-projektom/pristup-k-riadeniu-rizik-ppp-projektoch.pdf>

How a digital solution like PlanRadar reduces rework costs

PlanRadar offers the construction sector a digital platform that provides a solution to the main causes of rectifications on site.

This is not what we say, but what our customers say.



“

For NORD/FM, the use of PlanRadar results in time savings of up to 70% in post-processing and follow-up, as all data and tasks are digitally recorded on site and consistently documented, ...

”

Communication and collaboration between stakeholders

The platform offers a chat where you can communicate clearly, attaching documents, images, voice notes. All communications are securely collected on a single platform. In addition, the platform offers **free access to all necessary subcontractors** and project observers. In this way, we can invite all those involved in the project from the beginning, controlling the appropriate access for each one and avoiding any loss of information.

Task management, quality control and periodic inspections

By using PlanRadar for inspection and quality checks and, subsequently, task and incident management, our customers can save unnecessary travel and other administrative tasks. The process is automated so that we can save time and money.

Management and communication of plans

Plan changes are updated instantly and communicated directly to all stakeholders, for fast and seamless communication.

Document management and document approval

Optimal document management is essential to avoid the loss of project information and to always have access to any document that facilitates our reporting or claims management. With PlanRadar we bring all documents together securely, reducing errors and time spent on rectifications with all versions and approvals of plans and documents monitored in one place.

Easy monitoring with clear and accessible information

With a statistics panel, the platform shows in a very simple and intuitive way all the information related to the project, so the technicians can considerably reduce their efforts in the supervision of the project, making it more efficient. Planning in Gantt's view helps to carry out more efficient site control and to meet project deadlines.

Attracting new talent to the market

Digitalisation is another key to attracting new talent to the construction sector, facilitating their training with easy-to-use tools that new generations are used to. The use of digital solutions such as the one offered by PlanRadar is a further step towards innovation in the sector while attracting qualified personnel.



reduction in required rework reported by our users after implementing PlanRadar.

Source: PlanRadar Customer Survey 2023



of customers say PlanRadar has helped them reduce their rework costs.

Source: PlanRadar Customer Survey 2023

Conclusion

In summary, as we can see after analysing numerous studies and feedback from our customers, reducing rework must be a priority for companies in the sector, especially with margins become increasingly tight in the current economic climate. The main causes of rework can be solved or considerably improved with increased levels of digitalisation. At the time of writing, many companies still attribute a high percentage of costs and loss of time to the rework substantial areas of their projects. As we have seen, investment in digital solutions can generate huge savings in time and money, as well as many other indirect benefits. One can therefore state that the future winners and losers in the sector will be determined by their willingness to drive towards innovation and the implementation of digitalisation in their projects.