PlanRadar

# Digitalisation in the construction and real estate sector

**Challenges and growth prospects based on a survey of over 1,300 industry professionals.**

# Summary

PlanRadar has carried out a new research project looking into the existing level of digitalisation in the construction and real estate sector, as well as its growth prospects over the next three years.

The following report is an analysis of the answers provided by more than 1,300 industry professionals, across 15 countries where the company is present.

The main themes of the report focus on the evolving nature of investment in construction and real estate technology, the hiring of digital profiles, and what the outlook is for digitalisation, in each of the countries studied.

# Methodology

The PlanRadar team has surveyed a total of 1,326 construction professionals in 15 countries including Australia, Austria, Brazil, Croatia, Czech Republic, France, Germany, Hungary, Italy, Poland, Romania, Serbia, Slovakia, Spain, and the United Kingdom.

# Results

According to the results of the survey on the level of digitalisation of the sector, we highlight the following conclusions:

**97%** 97% of professionals expect to see increased investment in digitalisation at their companies over the next three years.

In the last 3 years, a large proportion of respondents say they have not noticed an increase in investment in robotics (82%), 3D printing (80%), artificial intelligence (75%), virtual reality (72%) or BIM (41%).

**8/15** In the next 3 years, 8 out of 15 countries expect their companies to increase investment by 5–10%.

In Germany, Brazil and Italy, the largest percentage of respondents say that the increase in investment will be between 11% and 30%.

**31%** Australia (39%), Hungary (27%) and Romania (30%) show the highest values of professionals estimating an increase of investment in digitalisation above 31%.

**77%** 77% of respondents consider the implementations of new technologies in their teams or company to be difficult.

**8/15** 8 of the 15 countries surveyed consider that the overly traditional view of stakeholders is the main obstacle to the implementation of new technologies in companies.

**5/15** 5 of the 15 countries consider the biggest difficulty to be the perceived low return on investment.

**95%** 95% of the respondents consider that the use of the software has meant a cost reduction in their projects, 35% estimate it to be between 10% and 30%, 33% estimate it to be between 5% and 10%.

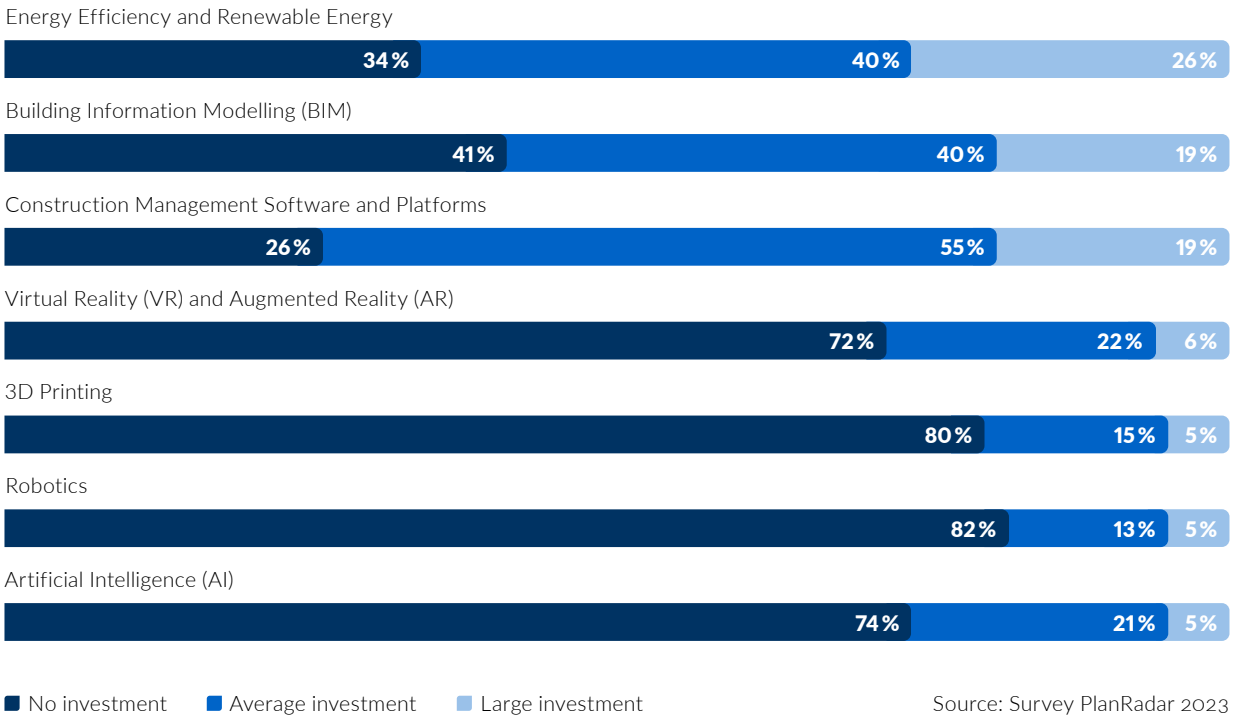
The largest technology investments in the next three years are expected in construction project management software (77% of respondents expect their companies to increase investment), in digital solutions for greater energy efficiency and renewable energy (68%) and in BIM (66%).

# Digitalisation in recent years

The survey results reveal what many construction professionals have experienced in their working environments. Despite experts insisting on the need to digitise the industry in order to be more efficient, we still see high percentages of companies claiming not to have invested in the last 3 years in technologies such as robotics (82 %), 3D printing (80 %), artificial intelligence (74 %), virtual reality (72 %) or BIM (41 %).

**Level of investment in technologies related to these fields in the last 3 years**

% of responses on the level of investment in their companies

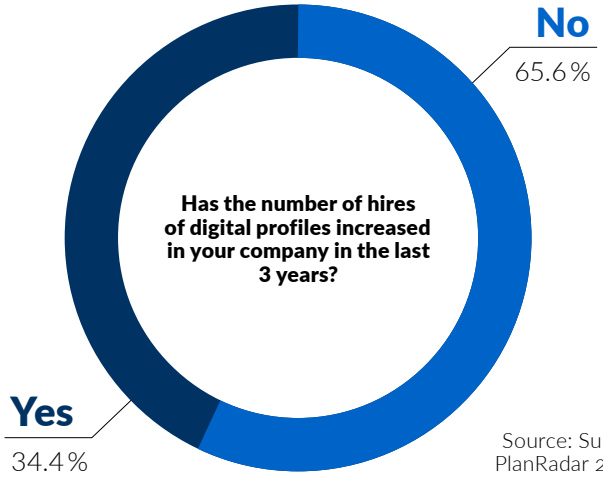



Source: Survey PlanRadar 2023

The areas where the greatest investment in the last three years is noticeable are especially in digital solutions for energy efficiency and renewable energy (26 % of respondents report a large investment), and project management software (19 %). However, 26 % of respondents say they have not noticed any investment in their company in terms of project management software and 34 % in relation to digital measures for energy efficiency and renewable energy.

On the other hand, more than 65% of professionals consider that there has not been an increase in the number of digital profiles in their companies in recent years (for this figure we have only taken into account those respondents who were able to answer this question due to having sufficient insight into their company's hiring strategy). The majority of respondents who have noticed an increase in the number of these profiles estimate it to be less than a 5% uptick.

This data confirms that the sector still has a long way to go in terms of digitalisation.



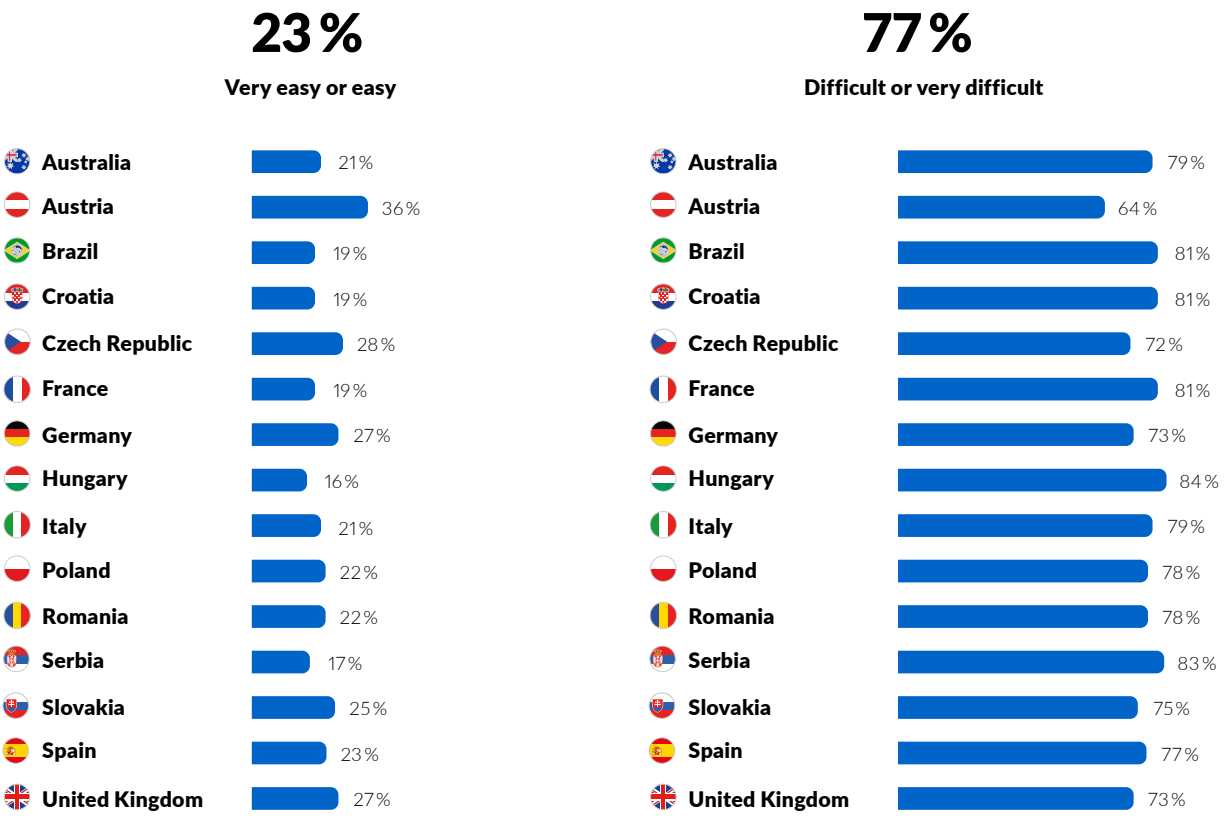

Source: Survey PlanRadar 2023

# Challenges in the implementation of new technologies

To better understand the current situation regarding digitalisation in construction, we asked professionals in the sector about the level of difficulty in introducing new technologies in their teams or companies. The results can be seen in the following graph.

**How difficult is the implementation of new technologies in their teams/company?**

Average % of responses on the level of difficulty in each country




Source: Survey PlanRadar 2023

77 % of industry professionals surveyed in all countries consider the introduction of new technologies in their teams and/or company as a whole to be difficult (53 %) or very difficult (24 %).

Brazil (36 %), Hungary (40 %) and Serbia (38 %) stand out, where the percentage of respondents who consider it “very difficult” exceeds 35 %. In contrast, Germany (27 %), Austria (36 %), the United Kingdom (27 %) and the Czech Republic (28 %) are more optimistic with around 29 % of respondents considering the process to be easy or very easy.

Given this situation, it is interesting to know the opinion of professionals in the sector regarding the main barriers to the further development of technological solutions. As can be seen in the table below, the results vary from country to country, but one barrier stands out for the majority of the countries surveyed.

**Most of the countries surveyed consider the traditional view of stakeholders as one of the main challenges in the introduction of new technologies.**

### Main blockers that slow down the introduction of new technologies

% of answers on main blockers in their companies by country

| | Perception of low return on investment | Implementation is too expensive | Lack of training and digital profiles that promote new technologies | Overly traditional views of stakeholders in the sector | Lack of regulation that oblige the industry to change | Lack of government incentives such as subsidies for the introduction |
|---|---|---|---|---|---|---|
| **Australia** | 17% | **21%** | 17% | **21%** | 5% | 19 % |
| **Austria** | **24%** | 15% | 15% | **23%** | 4% | 19% |
| **Brazil** | **21%** | **21%** | 14% | **24%** | 6% | 14% |
| **Croatia** | 11% | 17% | 14% | 11% | **24%** | **22%** |
| **Czech Republic** | **20%** | **20%** | 12% | **32%** | 4% | 12% |
| **France** | **28%** | **21%** | 18% | 10% | 8% | 15% |
| **Germany** | **24%** | 18% | 18% | **19%** | 6% | 14% |
| **Hungary** | 14% | **22%** | 16% | **19%** | 11% | 18% |
| **Italy** | **22%** | 19% | 13% | **20%** | 8% | 16% |
| **Poland** | 14% | 16% | **18%** | **23%** | 14% | 14% |
| **Romania** | 13% | 19% | 14% | **22%** | 13% | **21%** |
| **Serbia** | 14% | 14% | 17% | **20%** | 15% | **20%** |
| **Slovakia** | **21%** | **21%** | 11% | **24%** | 7% | 18% |
| **Spain** | **20%** | 16% | 19% | **20%** | 5% | **20%** |
| **United Kingdom** | **22%** | **26%** | 18% | 15% | 5% | 14% |

Source: Survey PlanRadar 2023

Eight of the 15 countries surveyed (Brazil, Czech Republic, Poland, Romania, Serbia, Slovakia, Spain, and the United Kingdom) consider the overly traditional view of the different actors in a construction project to be the main obstacle slowing down the introduction of and investment in new technologies. For 12 of the 15 countries, it is among the first or second biggest challenge for the digitalisation of their companies.

The second major drawback according to the survey is the perceived low return on investment. Five out of 15 countries surveyed consider it as the main impediment and 9 out of 15 countries list it as the first or second major obstacle.

If we analyse perceptions at the local level, it is worth highlighting the opinions in Croatia (24%), Hungary (11%), Poland (14%), Romania (13%) and Serbia (15%) which show higher values of opinions that consider the lack of government regulations to motivate change in the industry as a major obstacle. In Australia, Hungary and the UK, the main factor highlighted was that technology implementation costs are too high.

1 **Overly traditional views of stakeholders in the sector.**

2 **Perception of low return on investment.**

3 **Implementation is too expensive.**

4 **Lack of government incentives such as subsidies for the introduction of new technologies.**

5 **Lack of training and digital profiles that promote new technologies.**

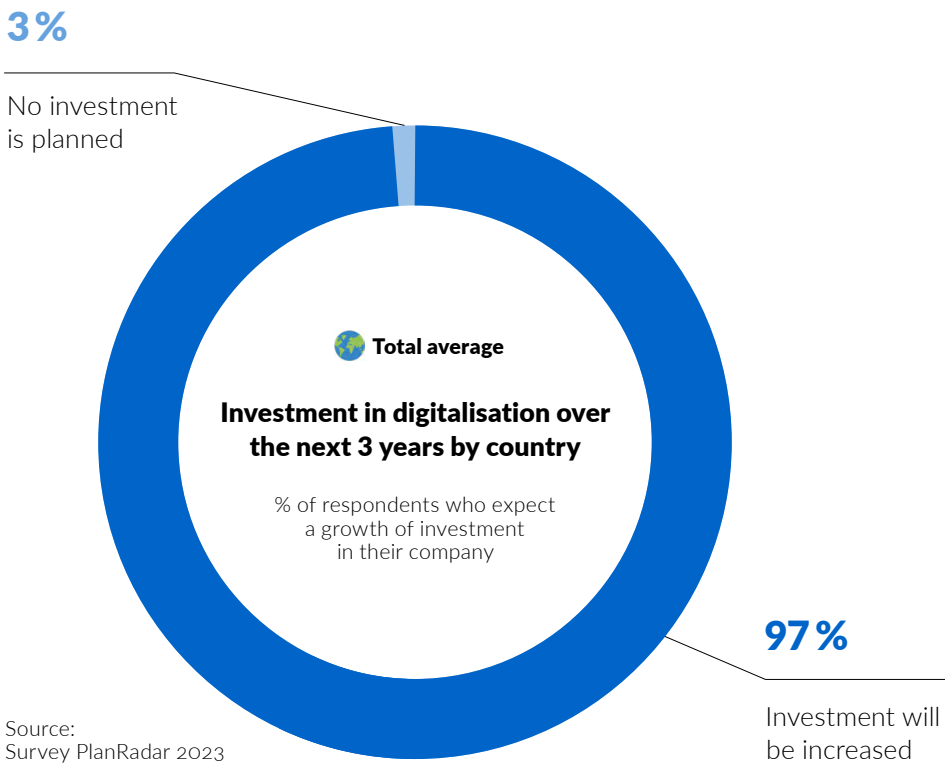
6 **Lack of regulations that oblige the industry to change.**

Source: Survey PlanRadar 2023

# Growth prospects for the coming years

After analysing the current situation in the construction and real estate sector, the PlanRadar team wanted to investigate the growth prospects for the next three years. To do so, we asked the 1,326 participants in the survey whether they believe that there will be an increase in investment in digitalisation in their companies and, if so, what percentage of growth in technological investment is expected in the coming years.

**97 % of professionals expect increased investment in digitalisation in their companies over the next three years**




Source:
Survey PlanRadar 2023

It is clear to see that virtually all respondents expect growth in investment in new technologies in the next three years. However, the forecasts for percentage growth are not particularly high.

**In 8 out of 15 countries, investment is expected to increase in digitalisation between 5% and 10%.**

As can be seen in the table below, not all the countries analysed respond equally to the expected levels of investment.

### Growth of investment in digitalisation over the next 3 years by country

% of responses on expectations for growth in their companies

| | No investment is planned | Less than 5% | Between 5% and 10% | Between 11% and 30% | More than 31% |
|---|---|---|---|---|---|
| **Australia** | 0% | 8% | 27% | 27% | **38%** |
| **Austria** | 0% | 6% | **39%** | 35% | 20% |
| **Brazil** | 0% | 8% | 13% | **50%** | 29% |
| **Croatia** | 0% | 19% | **39%** | 23% | 19% |
| **Czech Republic** | 6% | 16% | **32%** | 22% | 24% |
| **France** | 3% | 18% | **29%** | 26% | 24% |
| **Germany** | 4% | 10% | 26% | **34%** | 26% |
| **Hungary** | 6% | 21% | 25% | 22% | **26%** |
| **Italy** | 0% | 23% | 29% | **39%** | 9% |
| **Poland** | 0% | 19% | 19% | 28% | **34%** |
| **Romania** | 7% | 12% | 24% | 27% | **30%** |
| **Serbia** | 4% | 21% | **31%** | 26% | 18% |
| **Slovakia** | 1% | 22% | **30%** | 20% | 27% |
| **Spain** | 1% | 18% | **41%** | 23% | 17% |
| **United Kingdom** | 0% | 24% | **30%** | 24% | 22% |
| **Total average** | **3%** | **16%** | **29%** | **28%** | + **24%** |
| **Survey PlanRadar 2023** | | | | | **= 52%** |

Source: Survey PlanRadar 2023

In Austria (39%), Slovakia (30%), Spain (41%), Croatia (39%), France (29%), UK (30%), Czech Republic (32%) and Serbia (31%) most respondents believe that investment growth will be between 5% and 10%, lower than in other neighbouring countries.

In Germany (34%), Brazil (50%) and Italy (39%) they expect investment growth to be between 11% and 30%.

In Australia (39%), Hungary (27%) and Romania (30%) there is a high percentage of responses stating that investment will be higher than 31%.

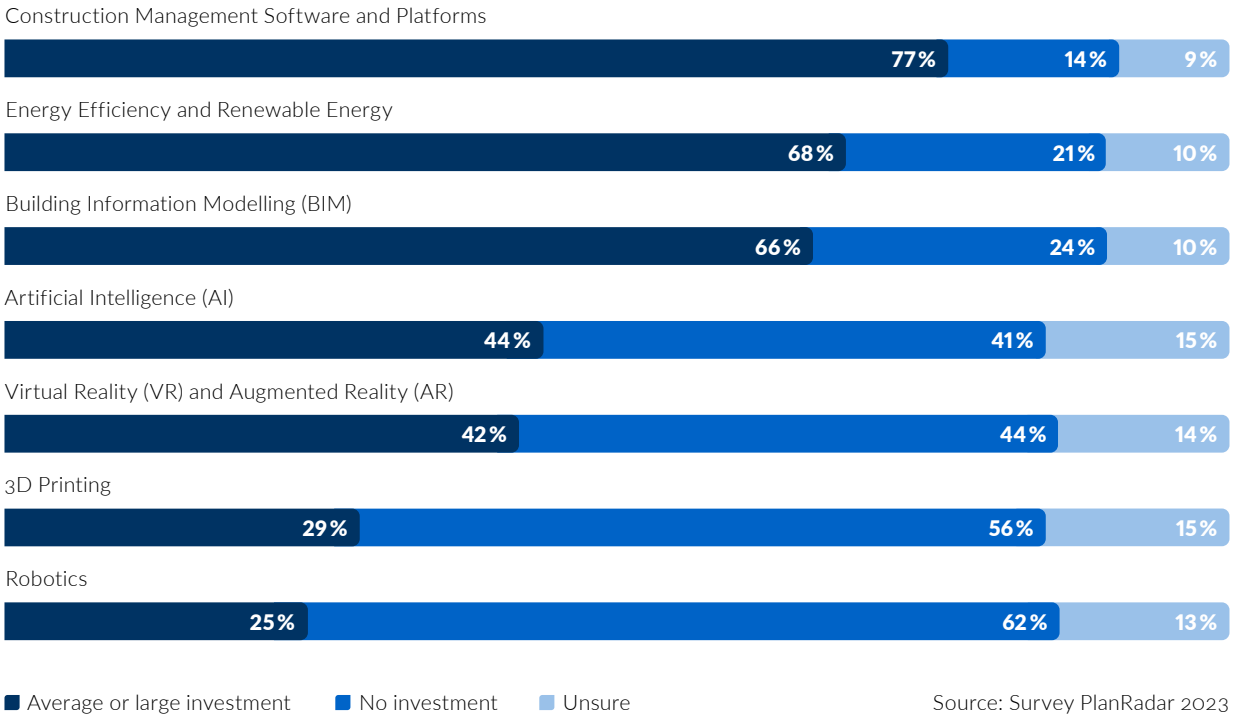
If we look at the overall average of all respondents, 52% of respondents expect their companies to invest at least 11% more than in previous years in digitalisation. 24% of professionals expect this percentage to be more than 31%.

# Main areas of technological investment in the coming years

In the table below, we show the global responses on whether or not investment is expected in the next three years in each of the different technologies.

**Level of investment in technologies related to these fields in the next 3 years**

% of responses on the level of investment in their companies




Source: Survey PlanRadar 2023

**77 % of respondents expect to increase their investment in construction project management software in the coming years.**

The main area of technology investment according to our survey results is in programmes and software that facilitate construction and real estate management, with 77% of respondents saying they expect to see an increase in investment. 68% of respondents also expect growth in digital solutions that support environmental commitments, regulating energy efficiency and renewable energy. Finally, another major area of investment that stands out in the sector is BIM (Building Information Modelling) methodology, according to 66% of respondents.

As for advances in artificial intelligence and virtual reality, while still far removed from the day-to-day lives of most industry workers relative to other innovations, we already see around 43% of professionals expecting growth in investment over the next three years.

Other technological developments, such as robotics or 3D printing, seem to be outside of the scope of investment priorities in the next three years for most companies in the sector, but some, around 27%, do expect to increase investment in these areas over this period.

Below is a summary of the countries with the highest number of companies willing to invest in each of the main technologies analysed.

**Construction Management Software and Platforms investment in the next 3 years**

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | **89%** | 7% | 4% |
| **Austria** | **80%** | 15% | 6% |
| **Brazil** | **96%** | 0% | 4% |
| **Croatia** | 71% | 26% | 3% |
| **Czech Republic** | 68% | 25% | 7% |
| **France** | **85%** | 2% | 13% |
| **Germany** | **82%** | 9% | 9% |
| **Hungary** | 65% | 22% | 13% |
| **Italy** | 73% | 23% | 4% |
| **Poland** | **81%** | 9% | 9% |
| **Romania** | **86%** | 5% | 8% |
| **Serbia** | 65% | 18% | 17% |
| **Slovakia** | 65% | 14% | 21% |
| **Spain** | **88%** | 10% | 3% |
| **United Kingdom** | 64% | 20% | 16% |
| **Total average** | **77%** | **14%** | **9%** |

Source: Survey PlanRadar 2023

Some 86% of companies surveyed in these countries say they will increase investment in this technology, in contrast to the global average of 77%.

## Energy Efficiency and Renewable Energy in the next 3 years

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | **74%** | 19% | 7% |
| **Austria** | **75%** | 21% | 4% |
| **Brazil** | **73%** | 23% | 4% |
| **Croatia** | 64% | 30% | 6% |
| **Czech Republic** | 68% | 25% | 7% |
| **France** | **74%** | 11% | 15% |
| **Germany** | **80%** | 14% | 6% |
| **Hungary** | 61% | 25% | 14% |
| **Italy** | 65% | 33% | 2% |
| **Poland** | **74%** | 12% | 15% |
| **Romania** | 67% | 23% | 9% |
| **Serbia** | 59% | 20% | 22% |
| **Slovakia** | 64% | 16% | 20% |
| **Spain** | **74%** | 22% | 4% |
| **United Kingdom** | 56% | 26% | 18% |
| **Total average** | **68%** | **21%** | **10%** |

Source: Survey PlanRadar 2023

Some 75% of the companies surveyed in these countries say they will increase investment in this technology, compared to the global average of 68%.

## BIM investment in the next 3 years

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | 68% | 25% | 7% |
| **Austria** | 63% | 29% | 8% |
| **Brazil** | **93%** | 7% | 0% |
| **Croatia** | 56% | 38% | 6% |
| **Czech Republic** | 60% | 35% | 5% |
| **France** | **77%** | 11% | 13% |
| **Germany** | 66% | 26% | 8% |
| **Hungary** | 57% | 28% | 15% |
| **Italy** | **75%** | 21% | 4% |
| **Poland** | 69% | 25% | 6% |
| **Romania** | 66% | 21% | 13% |
| **Serbia** | 61% | 24% | 15% |
| **Slovakia** | 52% | 23% | 25% |
| **Spain** | **75%** | 19% | 7% |
| **United Kingdom** | 52% | 29% | 18% |
| **Total average** | **66%** | **24%** | **0%** |

Source: Survey PlanRadar 2023

Around 80% of the companies surveyed in these countries say they will increase investment in this technology, compared to the global average of 66%.

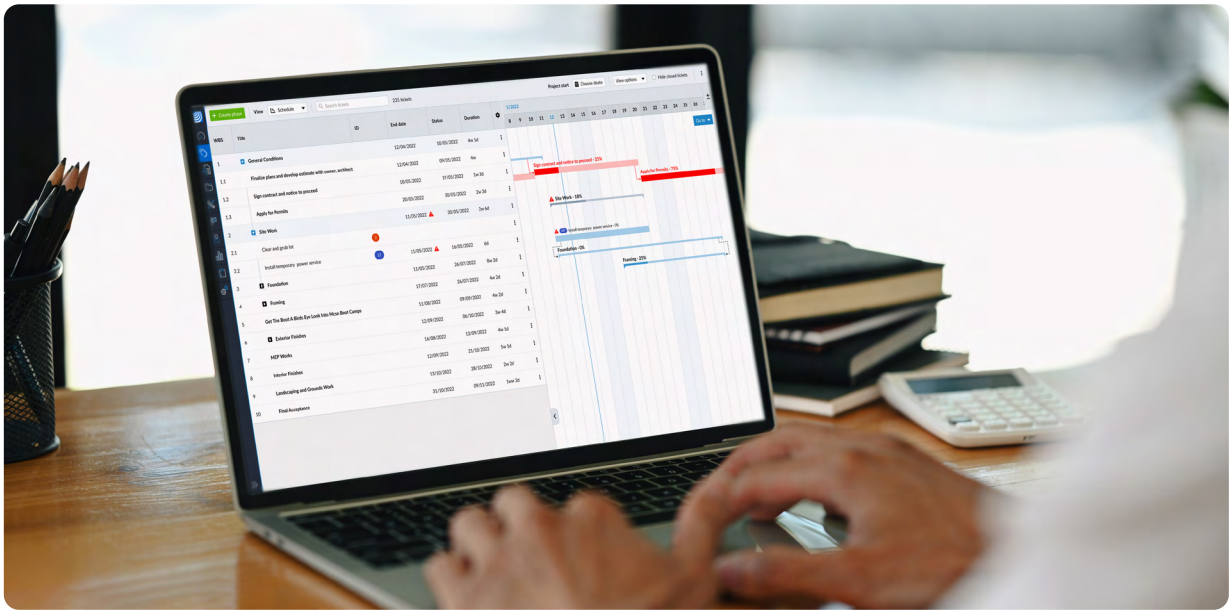
## Artificial Intelligence (AI) in the next 3 years

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | **75%** | 21% | 4% |
| **Austria** | **44%** | 44% | 12% |
| **Brazil** | **63%** | 26% | 11% |
| **Croatia** | 28% | 63% | 9% |
| **Czech Republic** | 39% | 48% | 13% |
| **France** | **47%** | 38% | 16% |
| **Germany** | 41% | 42% | 16% |
| **Hungary** | 32% | 43% | 25% |
| **Italy** | 40% | 56% | 4% |
| **Poland** | 39% | 39% | 21% |
| **Romania** | **52%** | 34% | 14% |
| **Serbia** | 37% | 51% | 12% |
| **Slovakia** | 33% | 33% | 35% |
| **Spain** | **46%** | 41% | 13% |
| **United Kingdom** | 41% | 36% | 23% |
| **Total average** | **44%** | **41%** | **15%** |

Source: Survey PlanRadar 2023

Some 54% of the companies surveyed in these countries say they will increase investment in this technology, in contrast to the global average of 44%.



## Virtual Reality investment in the next 3 years

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | **56%** | 41% | 4% |
| **Austria** | 33% | 55% | 12% |
| **Brazil** | **56%** | 26% | 19% |
| **Croatia** | 34% | 56% | 9% |
| **Czech Republic** | 34% | 59% | 7% |
| **France** | **55%** | 27% | 18% |
| **Germany** | 37% | 52% | 11% |
| **Hungary** | 31% | 48% | 21% |
| **Italy** | 44% | 54% | 2% |
| **Poland** | 36% | 45% | 18% |
| **Romania** | **47%** | 39% | 14% |
| **Serbia** | 41% | 49% | 10% |
| **Slovakia** | 35% | 37% | 29% |
| **Spain** | **48%** | 40% | 12% |
| **United Kingdom** | 34% | 45% | 22% |
| **Total average** | **41%** | **45%** | **14%** |

Source: Survey PlanRadar 2023

Some 52% of the companies surveyed in these countries say they will increase investment in this technology, in contrast to the global average of 41%.

## Automation and Robotics investment in the next 3 years

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | **46 %** | 46 % | 8 % |
| **Austria** | 16 % | 74 % | 10 % |
| **Brazil** | 15 % | 73 % | 12 % |
| **Croatia** | 22 % | 69 % | 9 % |
| **Czech Republic** | 29 % | 67 % | 4 % |
| **France** | **38 %** | 49 % | 13 % |
| **Germany** | 17 % | 72 % | 11 % |
| **Hungary** | 16 % | 59 % | 25 % |
| **Italy** | 31 % | 65 % | 4 % |
| **Poland** | 22 % | 66 % | 13 % |
| **Romania** | 27 % | 59 % | 14 % |
| **Serbia** | 30 % | 59 % | 11 % |
| **Slovakia** | 31 % | 43 % | 26 % |
| **Spain** | 28 % | 61 % | 10 % |
| **United Kingdom** | 24 % | 55 % | 21 % |
| **Total average** | **26 %** | **61 %** | **13 %** |

Source: Survey PlanRadar 2023

Some 42 % of the companies surveyed in these countries say they will increase investment in this technology, in contrast to the global average of 26 %.

### 3D Printing in the next 3 years

% of respondents who expect a growth of investment in their company

| | Average or Large investment | No investment | Unsure |
|---|---|---|---|
| **Australia** | **42%** | 46% | 12% |
| **Austria** | 25% | 63% | 12% |
| **Brazil** | 23% | 62% | 15% |
| **Croatia** | 25% | 66% | 9% |
| **Czech Republic** | 31% | 58% | 12% |
| **France** | **38%** | 47% | 16% |
| **Germany** | 23% | 64% | 13% |
| **Hungary** | 27% | 54% | 20% |
| **Italy** | 29% | 63% | 8% |
| **Poland** | 22% | 59% | 19% |
| **Romania** | 28% | 58% | 14% |
| **Serbia** | **41%** | 51% | 7% |
| **Slovakia** | 34% | 35% | 31% |
| **Spain** | **36%** | 52% | 12% |
| **United Kingdom** | 22% | 57% | 22% |
| **Total average** | **30%** | **56%** | **15%** |

Source: Survey PlanRadar 2023

Some 39% of the companies surveyed in these countries say they will increase investment in this technology, in contrast to the global average of 30%.

# Conclusions

The sector seems to have committed to increased investment in technology, with 97% of over 1300 respondents saying they will increase investment in digitalisation in the next 3 years. However, one can say that there is still a rather traditional outlook compared to other sectors. We see many companies in countries such as Australia, Brazil, Germany, Italy, Hungary and Romania expecting to increase their investment by higher percentages, between 11% and 30%, however, there are still many companies that do not expect to invest more than 10% in countries such as Austria, Spain, Slovakia, Croatia, France, UK, Czech Republic and Serbia.

Having worked with more than 120,000 professionals in more than 75 countries, we can corroborate the difficulty that 77% of the professionals surveyed state in incorporating new technologies in a company. The main challenge we find in most countries is an attachment to traditional thinking and processes from certain leaders in the sector, with doubts about the results that technological investment can bring to the ROI of their projects.

However, we also asked professionals whether they were already using construction project management software (the area in which the largest number of companies are expected to increase their investment, 77%), and if so, how much they estimated they had saved on their projects thanks to this digital solution. These were the results: 95% of the respondents consider that the use of the software has meant a cost reduction in their projects, 35% estimate it to be between 10% and 30%, 33% estimate it to be between 5% and 10%.

**95% of the respondents consider that the use of construction management software has resulted in cost savings. 35% estimate it at between 10% and 30%.**

It is necessary to differentiate between the different digitalisation options that exist on the market, as not all of them involve the same level of difficulty, investment and risk. We are convinced that any technological advance brings greater efficiency to companies and, consequently, greater profitability, but not all companies are ready to make the leap to technologies such as 3D printing, virtual reality, robotics or artificial intelligence.

PlanRadar's focus is on the simplicity and ease of use of our software, accompanying our clients during their digitalisation process and gradually incorporating new improvements that will fit seamlessly into their existing processes. The successful digitalisation of a company is only possible with the collaboration of companies like our customers, formed by teams that are in favour of taking a step further towards innovation, efficiency and process optimisation.

Companies that start to increase their percentage of investment in technology solutions will be the ones that start to see the best results in terms of efficiency and performance of their projects.

We are confident that the key for all those companies that want to move forward is to go beyond the traditional thinking barrier and go digital, allowing themselves to be accompanied by experts who can guide them on how to achieve greater efficiency in their day-to-day work.

For more information, **contact the PlanRadar team** or **request a free demonstration**.


# We show you how to digitise your workflows.

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