

Report outlines priorities for specifiers

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In June 2022, [PlanRadar](#) conducted a research project into future trends, priorities and strategies for architecture according to leading industry voices in 12 countries. This piece, directly from PlanRadar, outlines its findings.

Building design is heavily influenced by local conditions. Architects have always been constrained by what materials are available locally, people's tastes, unique needs, and climatic conditions.

In our globalised era, many of the materials used in buildings, and the trends affecting architecture, are increasingly universal. For example, buildings in practically every country today rely heavily on materials like steel and concrete, whereas in the past local materials like bamboo, stone, clay or even ice dominated. In the same way, architects everywhere are responding to global challenges – particularly climate change and rising temperatures.

Yet differences between countries persist. Looking at climate change again, its impacts will be felt differently across the planet – and therefore affect architecture in unique, localised ways. Architects in the Arabian Gulf, for instance, will need to design for extreme heat, while those in western Europe will need to build for the threat of flash floods.

Understanding the future of architecture

As a construction software business with customers around the world, PlanRadar has a keen interest in the global trends affecting architecture. To understand how architects in the countries we work in are adapting to change and planning for the future, we decided to conduct in-depth research to learn what experts predict architecture in their countries will look like in the coming decades.

To ascertain this information, we reviewed predictions, regulations and analyses about the future of architecture in 12 countries. We sourced publicly available data from experts, independent institutes, professional associations and government bodies to understand their priorities, ambitions and strategies. The countries we chose to focus on were: the US, the UK, Germany, Austria, France, Spain, Czechia, Slovakia, Hungary, Italy, the UAE, and Poland.

This exercise has revealed several fascinating trends. In this introductory blog, we provide an overview of our key findings about what experts believe the future of architecture will look like in their respective countries. Should you wish to dig into the details further, we have produced an ebook that goes into more depth.

Why do we need a global view of the future of architecture?

Did you know that Italy is the only country where experts seriously consider ‘de-paving’ (removing asphalt) as a major trend for tomorrow’s urban design? Or that Spain is the country with the greatest taste for innovative urban development concepts, while Hungary is most sceptical? Or that, while two-thirds of countries see hemp as a building material with great potential, France is the only place that perceives flax as having a future?

By comparing what different countries are prioritising in the coming years, we can identify what kinds of trends will be felt globally, and which have a more local flavour. By conducting this international comparison, we hope to:

- Identify global trends, strategies and priorities that architects around the world share
- Identify unique and idiosyncratic goals in certain countries
- Attempt to understand the differences between countries and regions
- Analyse why countries have different visions for the future of architecture
- Share information about what different countries are doing and promote best practise

A Note on Methodology

PlanRadar’s team researched 12 countries in which the company is active, across Europe, North America and the Middle East. There is a Euro-centric bias in the countries selected since this is where most resources were available. We selected sources based on the following criteria:

1. From a government-led or government-sponsored report, project, or legal requirements.
2. From a report made by the Association or Chamber of Architects within this country (e.g. RIBA in the UK).
 1. If there is a professional association of Urban Planners, Civil Engineers, Designers, Interior Designers or Furniture Makers, these are also potential sources for certain relevant questions.
3. OR from articles published within a journal or magazine owned by the Association or Chamber or Architects (e.g. RIBA Journal for the UK).
 1. As in 2.1 above, for certain questions, the magazines or journals of other professional bodies are also acceptable sources.
4. The sources had to be as recent as possible, and date from no earlier than June 2020, so that we

exclude pre-pandemic predictions. Government regulations could pre-date the pandemic, but must still be current. Sources had to specifically refer to an individual country, not to global trends.

5. Where no answers were available from relevant industry bodies or their publications, other third-party sources were used. In most cases these comprised media interviews with leading members of the local association or chamber of architects. These occurrences have been marked in the full list of sources.

You can access a [full list of sources here](#).

Key findings: the future of global architecture

So, what do leading experts in the 12 countries studied expect for the future of architecture in their nations? By analysing reports, regulations, projections and recommendations, we identified several commonalities and differences.

The main trends in global architecture

As displayed above, there are several almost universal trends affecting the future of architecture. Our research shows that the following issues, priorities and strategies will be of concern to architects almost everywhere:

1. **Sustainability:** The leading architectural bodies and experts in all the countries we studied have made commitments to improving the sustainability of the profession. Almost **two-fifths** of global carbon emissions are attributed to the planet's buildings (through construction, use and demolition), and so architects around the world are keenly aware of their role in improving the sustainability of the structures they design.
2. **Net Zero:** Net zero construction refers to the creation of carbon-neutral buildings and is a key trend in 10 of the 12 countries. In a net zero building, the materials used, the construction itself, its operation and eventual decommissioning, should produce no emissions. Where this is not possible, carbon offsets are purchased.
3. **Liveability and human-centric design:** In seven of the 12 countries we studied, a focus on liveability emerges. There is a growing awareness that buildings can be more than just places to work, sleep or pass the time, but that they can be designed in such a way that they improve people's quality of life, health and wellbeing. While this has long been understood as part of architectural theory and training, it is positive to see it set into the policy of so many countries' architects.
4. **Buildings as part of the environment:** For many years, buildings have been built with little acknowledgement of the surrounding environment. Regardless of location, they would be built using similar materials and designs. But, in half of countries, architects are now prioritising a more locally-sensitive approach to construction, where the building's surrounding landscape, natural light, orientation, weather and other factors influence the approach used.
5. **Resilience against extreme weather conditions:** As climate change starts to bite, five of the 12 countries say they plan to begin designing more resilient buildings. It is noteworthy that some of the countries which have emphasised the importance of resilience have themselves been significantly affected by extreme weather.

Sustainability

Given the impact of climate change, it is unsurprising that all countries in the study highlighted sustainability as a key trend for the future of the architecture sector. However, when digging into the data, we began noticing different strategies and interpretations of what 'sustainability' means.

10 of the 12 countries specified 'net zero' construction as a feature of future construction. This is the notion that buildings should be designed in such a way that as little carbon dioxide is released during the construction process as possible. Then, any emissions which do occur must be offset in some way. For the EU nations included in this study, it must be noted that the bloc has committed to challenging emissions goals and that this international focus likely drives local initiatives. However, it is interesting to see one EU member, Hungary, placing less value here.

Meanwhile, five of the 12 countries (US, UK, Germany, France, and Italy) see resilience against extreme weather conditions as a key architectural trend in the coming decades. These countries are arguably taking a pragmatic approach to the fact that the climate is changing and are prioritising ways to build for this new reality.

What are best practices to achieve sustainability goals?

While all countries recognise sustainability as an important trend, they are finding different ways to 'do' sustainability. Proposed best practices are seen both at the level of an individual building and at that of the wider urban environment. Here, architecture spills over into urban development, and relies on broader strategies to deliver sustainable buildings.

For example, half the countries studied say they expect that renewable energy features will be incorporated into architecture in the future. Whether this is through the integration of solar panels, ground source heat pumps or other renewable energy sources, this approach could reduce the carbon emissions associated with keeping buildings powered. Improvements to renewable energy supply, however, are beyond one architect's means to deliver. It requires structural change.

Ten of the 12 countries say that prioritising walkability in urban developments is a way of making architecture more sustainable. By providing more opportunities to walk (as well as cycle or use public transport), this approach means cities can cut back on emissions associated with transport. It is interesting to note that only Poland and the United States appear *not* to view walkability as a best practice for making urban development more sustainable. In the United States, this could be down to sheer practicality; most of the country's cities were historically designed for the use of the automobile. Walkability is often not a realistic option given their pre-existing layout.

Globally speaking, architects also appear to be committed to a variety of practices that can make the industry more sustainable. Seven of the 12 countries talk about circular economy and reusable construction materials, whilst eight mention water conservation as a common feature of future architecture. Eight of the 12 recognise that reduced energy consumption in buildings is an effective way of making urban developments more sustainable, and seven say that conservation of existing land and environments is a key strategy.

Besides general trends, it is also valuable to look at the strategies that only one or two countries are prioritising. For instance, it is surprising that Poland and Hungary appear to be the only countries that formally consider improving the use of insulation to be a good practice for making urban development more sustainable in the future. One reason might be that other countries, such as the UK, have been pushing schemes for better insulation for over two decades and no longer consider it a future trend.

The United States, meanwhile, is the only country that encourages architects to focus heavily on encouraging sustainable supply chains. And the UAE is the only place that believes creating low-rise and smaller buildings will make urban developments more sustainable. Given the UAE's extensive experience with high-rise and ultra-high-rise buildings, this is an interesting change of direction.

Construction materials of the future

In the previous question, we established that several countries were reporting plans to use a wide variety of new 'renewable' biomaterials in construction. As a follow-up question, we sought to understand the key materials that experts believe will become more common in the coming years.

Eight of the 12 countries believe both wood and hemp will become more commonly used in construction in future, five expect straw and other grasses to become widely used, while three expect that mycelium (fungi) will play a big role. All these biomaterials are highly sustainable since they absorb carbon dioxide while growing, and then 'store' it for decades in a building's structure.

One that is expected to have the most widespread take-up is hemp, which eight of the 12 countries expect to see used more frequently. This renewable material can be used as a form of concrete - offering similar structural qualities to traditional materials while being inexpensive and quick to grow. There is also widespread interest in wood and cross-laminated timber, thanks to their ability to manage heavy loads while acting as a carbon store.

There is also a desire to utilise more recycled materials (plus recycled concrete and bricks). Reusing these sorts of materials means that architects can avoid the emissions associated with their initial extraction and manufacturing. The production of new concrete alone represents [some 7%](#) of global CO2 emissions, so recycling building materials could reduce their impact significantly.

While most countries expressed an interest in new materials such as wood, recycled materials, straw and other 'new' materials, several countries are charting their own course.

Experts in Italy, for example, predict architects will use the widest number of new materials in future construction, including things like graphene, ecological photocatalytic paints, regenerated nylon, composite materials, and carbon fibre concrete, among other new materials. The UK, meanwhile, is the only place to demonstrate an interest in biocomposite concrete and rammed earth. France is uniquely interested in transparent translucent concrete. By contrast, other countries are relatively conservative when it came to experimenting with new materials. For instance, Hungary only identifies wood and cross-laminated timber as 'new' materials that will be used in the coming years, while the United Arab Emirates only expresses an interest in 'smart materials'.

Resilience

Resilience in construction refers to a building's ability to withstand external shocks. Our research shows that five of the 12 countries emphasise resilience against extreme weather conditions. These are the US, UK, Germany, France and Italy.

This response to extreme weather is, at least in part, linked to these countries' history of natural disasters. The United States, for instance, has been hit by a variety of floods, hurricanes and wildfires over the past two decades. In northern Europe, countries like the UK and Germany have been struck by several flash floods in recent years, while in Italy, earthquakes remain a perennial threat.

Given that climate change will affect all countries, it is somewhat concerning that other nations appear to not yet be seriously considering ways to make their architecture more resilient. Spain, for instance, is continually threatened by the risk of drought and wildfires, while the UAE faces threats from rising sea levels along its low-lying coast.

Retrofit vs new-build

The global population continues to expand so there is a continual need to construct new housing. However, the more we build using, the greater the cost to the planet. As a result, a growing number of countries are prioritising retrofitting, renovation and re-purposing of existing buildings. In one form or another, seven of the countries (US, UK, Germany, Austria, France, Spain, Czechia) highlighted renovating and repurposing buildings as a future trend.

Renovation is of course an excellent way to reduce the release of emissions, but it isn't popular everywhere. This could be due to demographics, cultural tastes, and priorities of the construction industry. Renovation and repurposing also require different skills to building new structures.

From the local to the global

Architects have always needed to understand both universal principles of design and engineering and the local environment and its resources. By studying the future projections of 12 countries' architecture experts, we can see that this need to balance the local and the global remains pertinent today, with local forces exerting increasing pressure as a result of climate change.

As the research shows, there are several trends and topics that seem to affect architecture everywhere, with sustainability in particular emerging as a standout factor. Yet, at the same time, global trends don't always translate to the specific context of individual countries, and different nations are taking very different approaches to deal with similar challenges.

To continue digging into this research for yourself, you can [download the complete eBook here](#).