CARPET INSTITUTE OF AUSTRALIA LIMITED

Augmented Reality and Carpet

Augmented reality (AR) is changing how consumers, designers and businesses visualise and select flooring. By integrating digital imagery with real-world environments, AR technology allows users to preview carpet colours, patterns and textures within a space before installation.

Traditionally, carpet selection has relied on physical samples, product catalogues and showroom displays. While these remain important, they can make it difficult to visualise how a particular carpet will appear across an entire room. AR helps address this limitation by providing an interactive representation of flooring within an existing interior.[1]

How Augmented Reality Works

AR combines computer-generated content with a view of the physical environment, typically through a smartphone, tablet or other compatible device. Unlike virtual reality (VR), which immerses users in a completely digital environment, AR incorporates digital elements into the user's view of the real world.[2]

AR also differs from artificial intelligence (AI), which enables computer systems to analyse information, recognise patterns and perform tasks that typically require human intelligence. While AR focuses on enhancing real-world environments with digital content, AI can be integrated into AR applications to improve object recognition, visualisation accuracy and personalised user experiences.

In flooring applications, digital visualisation technology can identify or map floor surfaces and overlay a selected carpet design onto the space. Users can then compare different colours, patterns and finishes without physically replacing the existing flooring.



AR technology can assist with:

- Visualising carpet within existing residential and commercial interiors.
- Comparing different carpet colours, textures and patterns.
- Exploring how flooring complements furniture and surrounding finishes.
- Communicating design concepts to customers and project stakeholders.

Residential Applications

Carpet plays an important role in shaping the appearance, comfort and atmosphere of residential interiors. However, selecting the right carpet from a small sample can be challenging, particularly when considering larger spaces and different lighting conditions.



AR allows homeowners to preview flooring alternatives within their homes, helping them understand how different carpet styles may complement existing furniture, wall colours and decorative finishes.

For example, a homeowner renovating a bedroom can digitally compare neutral, textured and patterned carpets before making a final selection. This provides a more complete visual representation than a traditional sample alone.

By offering customers an interactive way to explore products, AR can also support online flooring retailers and showroom experiences, making carpet selection more accessible and convenient.[3]

Commercial Applications

In commercial environments, flooring selection often involves several decision-makers, including architects, interior designers, developers and facility managers.

AR can assist the design process by allowing flooring concepts to be visualised within offices, hotels, retail spaces, educational facilities and other commercial interiors.



Digital visualisations can help demonstrate how carpet patterns, colours and layouts contribute to the overall design of a space. They can also support communication between designers and clients, particularly during the early stages of planning and specification.

For larger projects, AR can provide a useful visual reference when comparing flooring alternatives. However, commercial carpet selection must also consider technical requirements such as durability, acoustic performance, maintenance and suitability for the intended application.

Benefits for the Carpet Industry

AR offers opportunities for carpet manufacturers, retailers and designers to improve how flooring products are presented and selected. Research into AR-assisted shopping suggests that interactive product visualisation can enhance consumers' understanding of products and increase purchasing confidence.[4]

Table 1. Potential Benefits of AR in the Carpet Industry

Application	Potential benefit
Product visualisation	Demonstrates carpet in a realistic room setting.
Customer confidence	Helps consumers evaluate options before purchasing.
Design flexibility	Allows comparison of colours, textures and patterns.
Commercial specification	Supports design presentations and stakeholder discussions.
Online retail	Provides an interactive alternative to traditional product catalogues.
Customer engagement	Encourages greater interaction with flooring products.

A 2024 study published in the International Journal of Information Management found that mobile AR product visualisation improved consumers' ability to evaluate products and had a positive effect on sales in the experimental settings examined. These findings suggest opportunities for the carpet industry, although results may vary depending on the product and application.[5]

Augmented Reality in Practice

Viewa is a Carpet Institute member, and they provide 3D, AR and AI-assisted product visualisation solutions, including technology suitable for carpet and other flooring materials. Its Viewa Surface platform enables customers to upload images of interiors and digitally preview alternative floor finishes. For residential applications, this can help homeowners compare flooring options within their homes, while in commercial settings, similar visualisations can assist designers and suppliers in presenting proposed flooring finishes to clients and project stakeholders.[6]

Limitations and Considerations

Although AR provides valuable visualisation capabilities, digital representations may not perfectly reproduce the physical characteristics of carpet.

Screen resolution, lighting conditions and digital rendering can influence the appearance of carpet colours and textures. Furthermore, visualisation cannot fully communicate tactile characteristics such as pile softness, density and underfoot comfort.

Physical samples, technical specifications and professional advice therefore remain important when selecting carpet, particularly for commercial applications where performance requirements must also be considered.

Footnotes

1. Fatemeh Zare Ebrahimabad et al., "Augmented Reality Versus Web-Based Shopping: How Does AR Improve User Experience and Online Purchase Intention," Telematics and Informatics Reports 15 (2024): 100152, https://doi.org/10.1016/j.teler.2024.100152.
2. Apple, "Augmented Reality," Apple Developer, accessed November 11, 2026, https://developer.apple.com/augmented-reality/.
3. Jingyi Yang and Zhibin Lin, "From Screen to Reality: How AR Drives Consumer Engagement and Purchase Intention," Journal of Digital Economy 3 (2024): 37–46, https://doi.org/10.1016/j.jdec.2024.07.001.
4. Ebrahimabad et al., "Augmented Reality Versus Web-Based Shopping."
5. Pratik Tarafdar et al., "Understanding the Impact of Augmented Reality Product Presentation on Diagnosticity, Cognitive Load, and Product Sales," International Journal of Information Management 75 (2024): 102744, https://doi.org/10.1016/j.ijinfomgt.2023.102744.
6. Viewa, "Viewa Surface," accessed November 13, 2026, https://www.viewa.com/solutions/surface;

Further Information

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About the Carpet Institute of Australia

The Carpet Institute of Australia Limited (CIAL) is the lead industry association for Australia's $1.6 billion carpet industry. CIAL represents carpet manufacturers, carpet retailers and other suppliers of goods and services to the industry.

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