

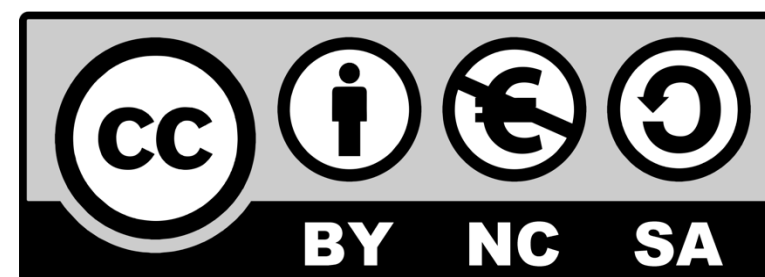
**Futures Designed.**

**Module 6**

# **Future Trends in Digital Design**



Co-funded by  
the European Union



# Overview

This module delves into the adoption of new technologies and explores the latest trends and advancements in digital advertising. It provides an in-depth exploration of the process of adopting new technologies in digital advertising, including the use of artificial intelligence, machine learning, augmented reality, and personalized advertising strategies. Additionally, it explores the influence of emerging technologies on consumer behaviour and the changing landscape of digital advertising. It also investigates the potential of using AI to decrease carbon emissions.

# **Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)**

In the 1990s, there was much excitement about AR/VR technology, but it quickly faded due to the lack of suitable hardware and digital content. However, in the past decade, there has been renewed interest in immersive displays driven by emerging technologies that have greatly improved AR/VR display systems.

# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

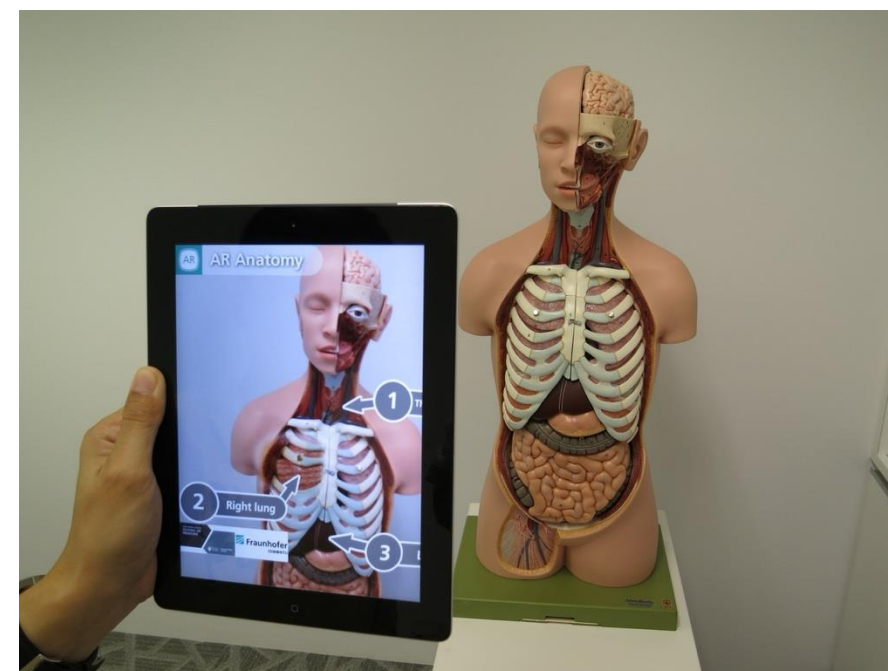
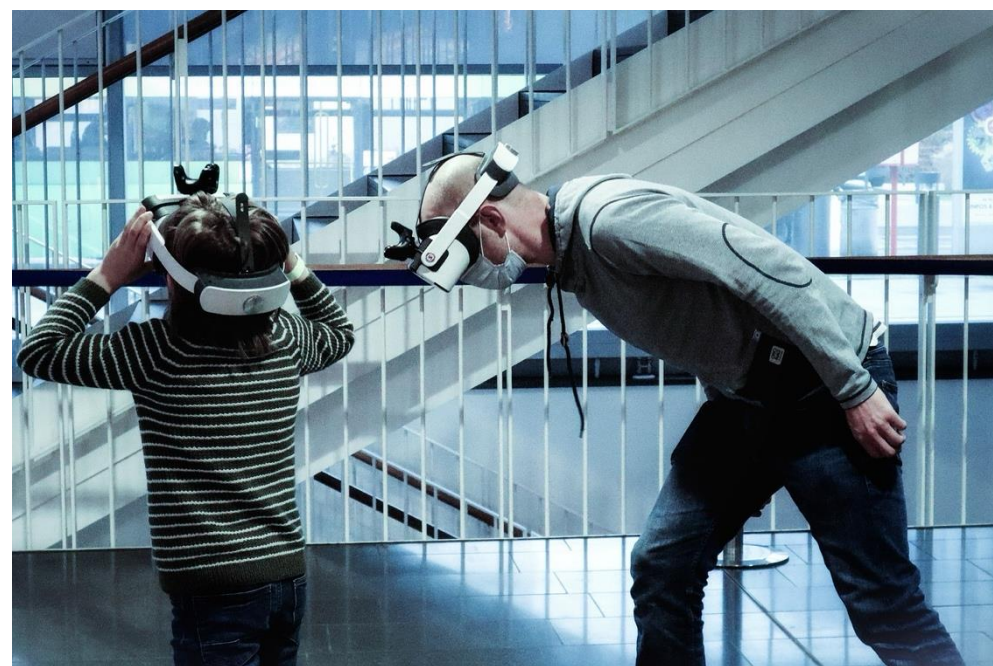
Recent technological advancements offer more engaging human-digital interactions that go beyond traditional flat panel displays. Augmented reality (AR) and virtual reality (VR) headsets are becoming the next generation of interactive displays, offering vivid three-dimensional (3D) visual experiences.





# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

VR and AR have exciting potential in many fields in the future. Both technologies are known for their enriched experience that brings together a virtual world and the real one with enhanced 3D visuals. They have various applications in education, healthcare, engineering, gaming, and advertising.





# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

Augmented reality (AR) and virtual reality (VR) are two distinct technologies with significant differences in functionality and user experience. AR is a technology that superimposes digital information such as images, videos, or 3D models onto the user's view of the real world, typically using a smartphone or a tablet's camera or screen. This allows users to interact with both the digital and physical world simultaneously.



# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

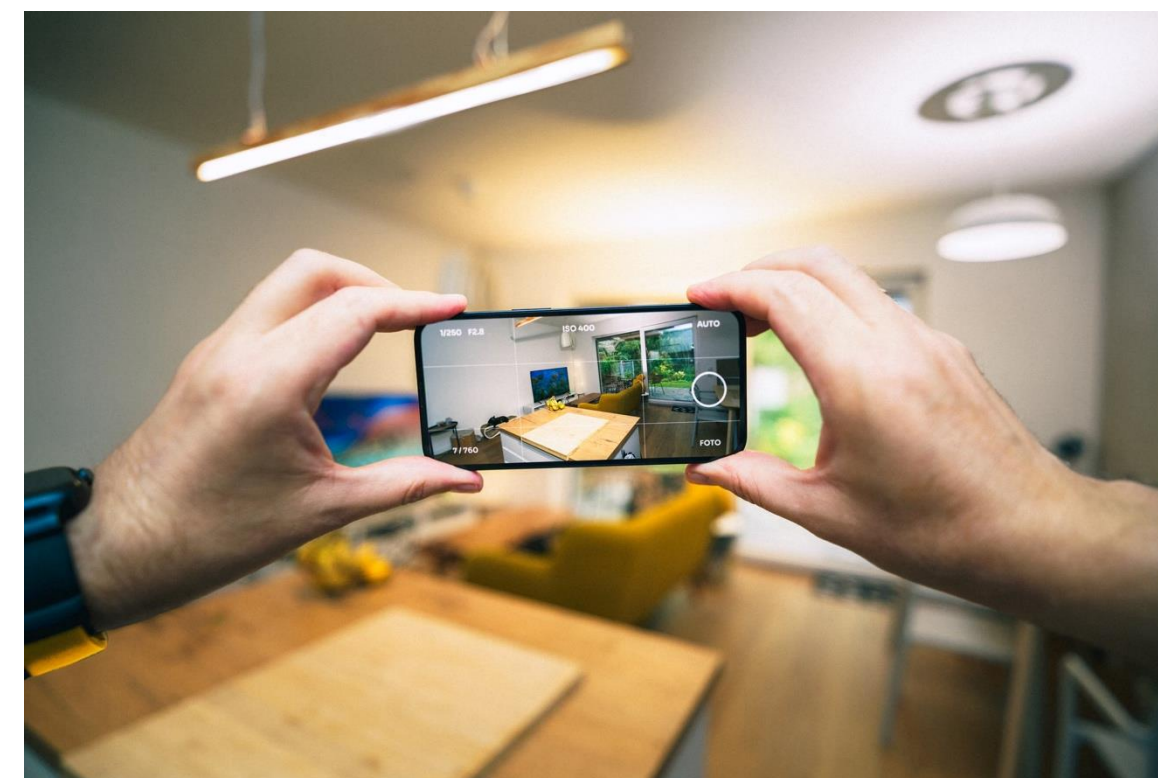
On the other hand, VR creates a completely immersive, computer-generated environment that transports users to a virtual world using specialized equipment such as VR headsets, sensors, and controllers.





# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

One key difference between AR and VR is their immersion and interaction level. AR integrates digital content into the user's real-world environment, allowing for interactive experiences that blend the virtual and physical worlds.





# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

In contrast, VR completely replaces the user's real-world surroundings with a simulated environment, providing an immersive and often interactive experience within a purely digital realm.



# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

In terms of hardware requirements, AR is generally accessible through everyday portable devices like smartphones and tablets, making it more widely available to the general public.





# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

VR, on the other hand, typically requires specialized headsets and accompanying equipment, which can limit its accessibility to a certain extent.



# Emerging Technologies–Virtual reality(VR) and Augmented Reality (AR)

While both AR and VR have their unique applications and benefits, it's important to understand their distinctions to fully appreciate the diverse experiences they offer and the potential they hold for various industries and fields, including gaming, education, healthcare, advertising, and more.

Here are some links with examples of augmented-reality advertising:

<https://wear-studio.com/top-examples-of-augmented-reality-ads/>

<https://www.youtube.com/watch?v=V5bC4hnrPkg&t=6s>

<https://www.youtube.com/watch?v=iFaKhtlBU7A&t=1s>



# Advances in AI and machine learning in advertising

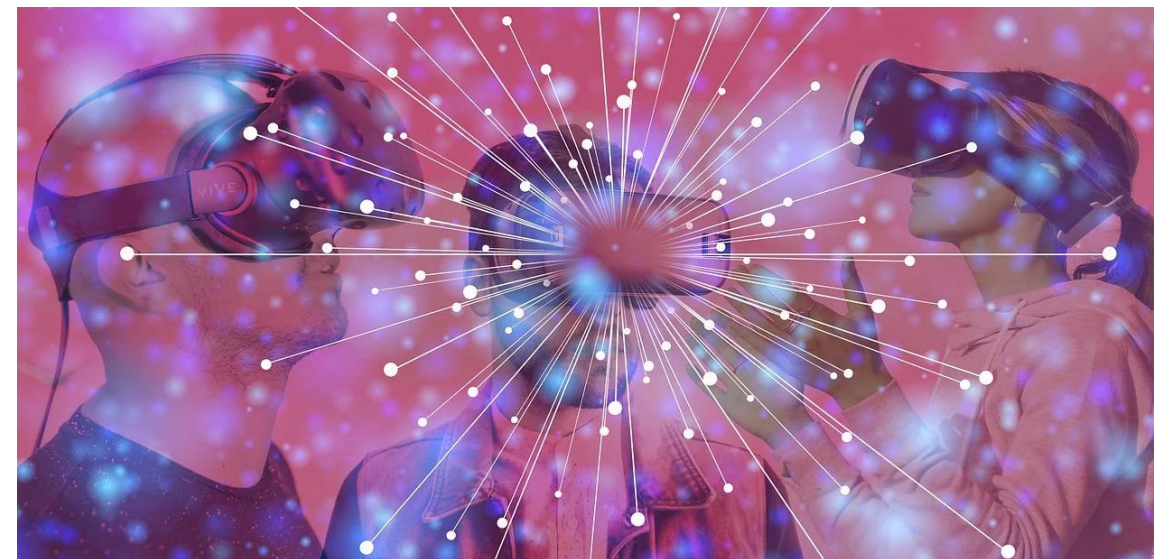
Artificial Intelligence (AI) is a rapidly evolving field that involves the development of computer systems capable of performing tasks that typically require human intelligence. These tasks include visual perception, speech recognition, decision-making, and language translation. AI encompasses various techniques and applications, including Machine Learning (ML), Natural Language Processing (NLP), and Computer Vision.

Here is a link to an example of an advertising campaign created using AI.

<https://musebyclios.com/data-creativity/adventures-ai-sparked-stunning-work-georgetown-optician/>

# Advances in AI and machine learning in advertising

Machine Learning, a subset of AI, focuses on creating algorithms that enable computers to learn from data and improve their performance on specific tasks over time without explicit programming. This approach involves the use of statistical models and algorithms to enable machines to improve their performance on a specific task through experience. Common approaches within machine learning include supervised learning, unsupervised learning, and reinforcement learning.





# Advances in AI and machine learning in advertising

Artificial Intelligence (AI) and machine learning (ML) have significantly improved the optimization of systems and control engineering through the analysis of large amounts of real-time data. AI algorithms can predict system behaviours and adjust controls to enhance efficiency and reliability. Meanwhile, ML models continuously refine their predictions and decisions, enabling systems to dynamically adapt to changing environments.



# Advances in AI and machine learning in advertising

The advertising industry is undergoing significant changes due to the impact of artificial intelligence (AI) and machine learning. These technologies are transforming advertising by being widely used in programmatic advertising, predictive analytics, and online platform-specific strategies. AI and ML are employed to analyse large datasets, identify trends and patterns, optimize ad targeting, and personalize ad content, ultimately resulting in more effective and efficient advertising campaigns. Moreover, AI-powered chatbots and virtual assistants are being used for customer interaction and engagement in the advertising industry.





# **Sustainable Practices: Innovations in eco-friendly design**

In recent years, there has been a growing demand for businesses to actively seek out and implement innovative strategies to promote environmental conservation and minimize the carbon footprint associated with advertising. These strategies encompass a wide range of initiatives, including, but not limited to, the use of sustainable materials in marketing materials, the adoption of energy-efficient technologies for digital advertising, and the incorporation of environmentally friendly practices throughout the entire advertising process. This concerted effort reflects a growing awareness of the importance of sustainability in the business world and a commitment to reducing the ecological impact of advertising practices.

# **Sustainable Practices: Innovations in eco-friendly design**

As customer engagement and marketing strategies evolve to meet the increasing demand for eco-friendly options, one notable approach involves shifting to printed materials made from recycled paper with high post-consumer content and using eco-friendly inks. This strategic change significantly reduces the environmental impact associated with marketing activities. Additionally, there is a growing emphasis on choosing sustainable materials for packaging and promotional products, highlighting the growing importance of environmentally conscious marketing efforts. Another effective strategy involves reducing the size and frequency of printed materials, while also replacing in-person events with virtual alternatives, thus making significant contributions to reducing the environmental footprint. Embracing these eco-friendly approaches not only demonstrates a commitment to environmental preservation but also resonates positively with environmentally conscious consumers, strengthening brand affinity and loyalty..



# **Sustainable Practices:**

## **Future directions for digital sustainability**

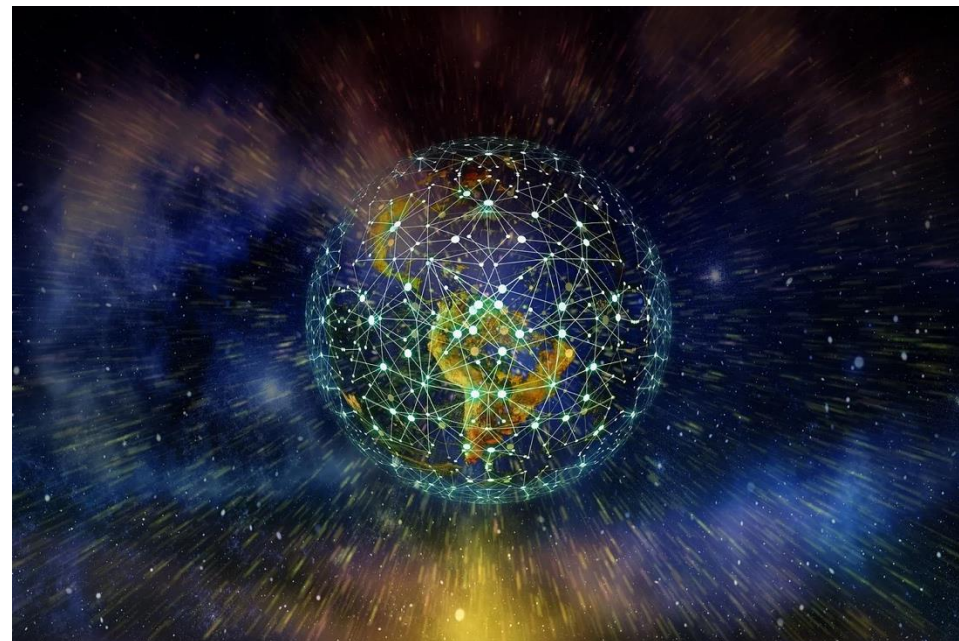
The environmental impact of digital marketing is a subject of ongoing discussion, particularly with regard to its substantial energy consumption and associated carbon footprint. However, there are several proactive steps that can be taken to lessen these environmental concerns. One effective approach involves the optimization of digital assets, such as images and videos, which can lead to a significant reduction in energy requirements for both storage and transmission processes. Additionally, selecting web hosting providers that not only prioritize renewable energy sources but also actively work towards carbon neutrality can make a substantial contribution to environmental sustainability within the digital marketing industry.

Here is a link explaining content optimisation

<https://www.sharethrough.com/blog/5-simple-ways-brands-can-make-display-ads-more-sustainable>

# Sustainable Practices: Future directions for digital sustainability

In addition, businesses can have a meaningful impact by actively supporting carbon offset projects. This allows them to compensate for their own carbon emissions and promote environmental conservation efforts. Addressing the issue of e-waste is also crucial and can be achieved through promoting energy-efficient devices and implementing sustainable energy-saving measures across digital platforms.





# Sustainable Practices: Future directions for digital sustainability

Further, the integration of artificial intelligence (AI) technologies into more sustainable targeted advertising practices can significantly reduce electronic waste and its negative impact on the environment. This approach has the potential to yield far-reaching positive effects on the environment, such as reducing the carbon footprint associated with traditional advertising methods and promoting responsible consumption. This area calls for continued exploration and development to harness the full potential of AI in promoting environmental sustainability within the advertising industry

