

# Thinking Ahead About XR

CHARTING A COURSE FOR VIRTUAL,  
AUGMENTED, AND MIXED REALITY

The Bipartisan Policy Center partnered with the XR Association to bring together stakeholders from industry, civil society, academia, and elsewhere to study immersive technologies, including virtual, augmented, and mixed reality, and identify relevant policy issues.

## WORKFORCE APPLICATIONS

In health care, surgeons and doctors train using VR to perform tasks in high-stress, time-sensitive situations.



XR provides alternatives to some in-person workforce trainings that can be too dangerous, costly, or impractical to perform in the physical world.

XR tools redesign educational and developmental experiences in and out of the home.



## KEY TAKEAWAYS

### TAKEAWAY

VR, AR, and MR technologies have been rapidly expanding in a broad range of domains, including health care, workforce training, and education.

### TAKEAWAY

XR technologies raise important policy questions in areas like access, privacy, and inclusion that should be further researched and addressed.

### TAKEAWAY

A diversity of backgrounds and viewpoints should be included when designing XR tools, policies, and standards.

### TAKEAWAY

Existing policies and standards should be reviewed to identify how they might apply to XR and find any gaps or areas in need of modification.

### TAKEAWAY

XR interacts with other technologies, such as AI and neurotechnology, so policy should be mindful of their interactions.

### TAKEAWAY

Keeping the broader public informed about XR and the issues it brings is critical to soliciting meaningful input to better guide policy.

Learn more from BPC's report: "[Thinking Ahead About XR: Charting a Course for Virtual, Augmented, and Mixed Reality](#)"

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## VIRTUAL REALITY

VR offers a fully immersive, three dimensional environment that can be interacted with in real time.



## AUGMENTED REALITY

AR is an immersive technology that allows a person to superimpose a virtual image on the real world. Like placing a virtual tree in a park.



## MIXED REALITY

MR allows the virtual and real world to interact with each other. Your physical hand can interact with a virtual object like pulling leaves off a virtual tree.



## POLICY ISSUES

### PRIVACY

Given the data XR tools collect, appropriate privacy protections for users and bystanders will be key to building trust in the technologies.

### SECURITY

Security is a key factor in protecting users' sensitive data and privacy when XR devices collect and store information about them.

### ECONOMIC ISSUES

XR is already having effects on labor markets, business models, and the economy that are important to consider.

### ACCESS AND ADOPTION

Despite growth in XR adoption, many face access barriers, including affordability and technical literacy.

### EQUITY AND INCLUSION

Technological change can exacerbate or mitigate existing societal inequities, so addressing equity and inclusion issues early on is important.

### SAFETY

Comprehensive safety measures to protect individuals' physical well-being and safety online are essential.

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