# Immersive Technologies

## Enabling businesses to drive maximum value

**Customer Experience (CX)** is the battlefield for brands. Differentiated CX is core to improving and retaining customer loyalty. Mindtree, with its deep digital expertise, has been at the forefront of helping enterprises deliver enhanced and contextual experiences to their end clients.

User Experience is undergoing a **tectonic shift** in terms of how customers perceive and interact with the digital world. The shift in perception augmented by AI and interactive technologies like **Augmented Reality (AR), Virtual Reality (VR) and Mixed Reality (MR)** is driving multisensory and multimodal user experiences. This unleashes new possibilities to transform interactions throughout the customer experience & industry 4.0 touchpoints.

- *Gartner: 100 Million Consumers Will Shop in Augmented Reality Online and In-Store by 2020\*.*

- *IDC: Worldwide spending on AR/VR products and services will continue a strong growth throughout the 2017-2022 forecast period, achieving a five-year compound annual growth rate (CAGR) of 69.6%\*.*

- *IDC: Online retail showcasing ($558 million) and industrial maintenance ($413 million) will nearly overtake augmented reality gaming in 2022\*.*

With physical and virtual worlds converging, Mindtree is well-positioned to help clients, rapidly unlock value from their immersive technology business use cases

## Where can one use this?

| Prototype | Sales & Marketing | Customer Experience | Training | Service & Operations |
|---|---|---|---|---|

# Which Industries?

**Manufacturing**  **Automotive**  **Education**  **Retail**  **BFSI**  **Travel & Hospitality**  **HiTech & Media**

# Technology Essentials

True immersive experience is an amalgamation of various technologies like AR VR MR, Computer Vision and Artificial Intelligence (AI).

| Category | Tools/Activities | | |
|---|---|---|---|
| **3D Content Authoring** | Blender or Maya | Unity 3D | Gimp, Photoshop |
| | 3D Modeling \| UV Unwraping \| Shading & Texturing \| Skinning, rigging \| Animation \| Unity shading & texturing \| Lighting, Baking, Rendering | | |
| **Game Engine / IDE** | Xcode(IOS), SceneKit Android Studio, PyCharm - Python Dev Visual Studio, Sceneform Unity Editor and Unity Engine | | |
| | Compositing \| VFX \| Interactions \| Integrating AI \| Voice Integration \| Sound Integration \| Cloud Integration | | |
| **Augmented Reality SDK** | Vuforia<br>Vuforia Expert capture - AR Instructions \| Vuforia Studio - Author and publish AR Apps \| Vuforia Engine - Advanced computer vision, calibrated performance and cross platform \| Vuforia Chalk - Remote \| ARCore - Android \| AR Kit - iOS \| Hololens | | |
| | Full feature AR App Development \| Integrating SDK's \| Platform specific modification \| Camera Scene Capturing \| Advanced Scene Processing \| Display – Rendering Effects \| Positional and Orientation Tracking \| Screen flooding \| Object / Image Tracking | | |
| **Mobile App Development Frameworks** | Native App Development Frameworks: Android SDK \| iOS SDK<br>Cross Platform Development Frameworks: Xamarin \| Ionic / Cordova<br>React Native \| Flutter \| Appcelerator | | |
| | UI Design \| Animations \| API integrations \| DB handling \| Plug-in integration \| Deployment | | |
| **Hardware Technologies** | True Depth camera (iOS) \| Depth sensing camera \| Gyroscope and accelerometer \| BLE | | |
| | Using point cloud for environment understanding and face tracking \| Device Motion Control Integrating with peripheral devices | | |
| **Artificial Intelligence (AI) & Computer Vision (CV)** | TensorFlow, PyTorch, Keras, TuriCreate, OpenCV, Apple computer vision, Microsoft Vision, Vuforia Model Target Generator \| Natural Language Processing (NLP) Engines - Microsoft (LUIS), Amazon (Lex, Alexa), Google (Dialogflow), RASA, Mindflow, Salesforce Einstein, SAP Leonardo | | |
| | Training of Models \| Object detection \| Face shape detection \| Edge Detection \| Model Detection \| Creation of TF Lite Model and Core ML \| Conversational Interaction | | |

# Immersive Industry Use Cases

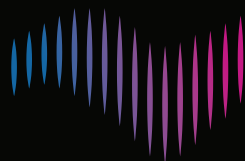| | Prototype | Sales & Marketing | Customer Experience | Training | Service & Operations |
|---|---|---|---|---|---|
| **Automotive** | Digital Twins<br>Collaborative Design<br>Design Review | Digital Catalogues<br>Augmented Marketing Ads<br>Shared AR Based Selling | Virtual Walkthrough<br>Product Customization<br>Augmented User Manuals | Simulation Training<br>Product Training<br>Expert Coaching<br>Facility Equipment Training | Remote Expert Asst<br>Service Manual Instructions<br>Augmented Assembly Instructions<br>Augmented Quality Assurance |
| **Manufacturing** | Digital Twins<br>Collaborative Design<br>Design Review | Digital Catalogues<br>Augmented Marketing Ads | Virtual Walkthrough<br>Augmented User Manuals | Product Training<br>Safety Product Training<br>Expert Capture<br>Facility Equipment Training | Remote Expert Asst<br>Service Manual Instructions<br>Service Inspection Instructions<br>Augmented Quality Assurance |
| **Retail** | Space Planning<br>Store Visualization | In-Store Holographic Display<br>AR Marketing Ads<br>Digital Catalogues | Virtual Product Trials<br>Virtual Shopping Experience<br>DIY Home Décor<br>Augmented Smart Shopping | Store Associate Training<br>Customer Service Simulator<br>Product Usage Training<br>Facility Equipment Training | Inventory Operational Assistance<br>Shipping & Logistics Assistance<br>Picking & Merchandising<br>Planogram Compliance |
| **Education** | Design University<br>Design Facility Center<br>Design Laboratory | Virtual University Tours<br>Digital Brochure / Catalogues | Virtual Learning Experiences<br>- Virtual Classrooms<br>- Virtual Labs Simulations | Training Educators<br>Expert Coaching<br>Virtual Learning Experiences - Internal Staff<br>Facility Equipment Training | Remote Expert Assistance<br>Service Manual Instructions |
| **BFSI** | Design Banking Center<br>Design Facility Center | Shared AR Based Selling<br>Portfolio Management<br>Immersive Conference Experiences | Virtual Banking Services<br>Virtual Trading<br>Augmented Physical Asset informationt | Employee Training<br>Products & Services Training<br>Advisor/Agent Training | Visual Claims<br>Damage Estimation |
| **Travel & Hospitality** | Design Hotel & Restaurants<br>Design Facility Center<br>Design Airports | Virtual Destination Tour<br>Virtual Airport Tour<br>Virtual Museum | AR/VR Guided Booking<br>AR Check-in & Check-out App<br>AR Navigation Assistance | Ground Crew VR Training<br>Maintenance Training<br>Simulation Based Training | Remote Expert Assistance<br>Service Manual Instructions |
| **HiTech & Media** | Design Facility Centers | AR Marketing Ads<br>Smart Ads | Augmented & Virtual Games<br>Augmented Guided Tours<br>Smart News | Process Training<br>Quality Assurance Training<br>Expert Capture | Remote Expert Assistance<br>Service Manual Instructions |

**Our Experience**

CES Innovation Award

30+ pilots/implementations across industries, delivered at scale

State of the art experience center

# IMMERSIVE AURORA

*Where Possibilities Come Alive*

An India-based center of excellence, to develop immersive technology experiences that unleashes new possibilities.

## Welcome to Possible.