

Microsoft HoloLens

Dr. Ilan Spillinger

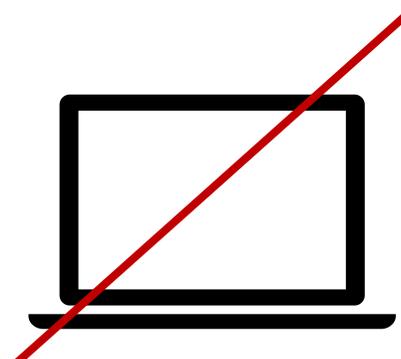
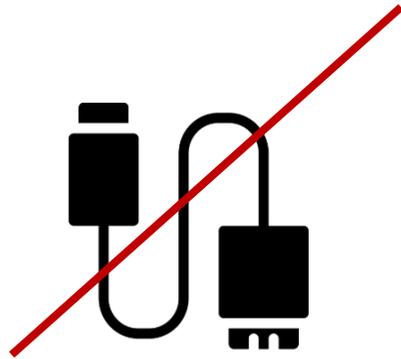
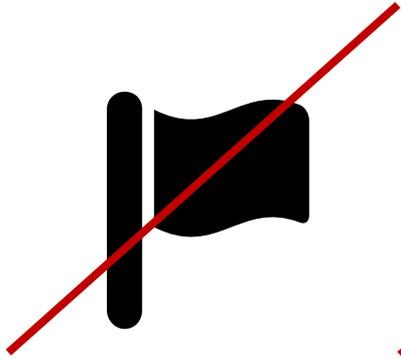
Corporate Vice President, Technology and Silicon
Microsoft



INPUT

OUTPUT

FORM FACTOR

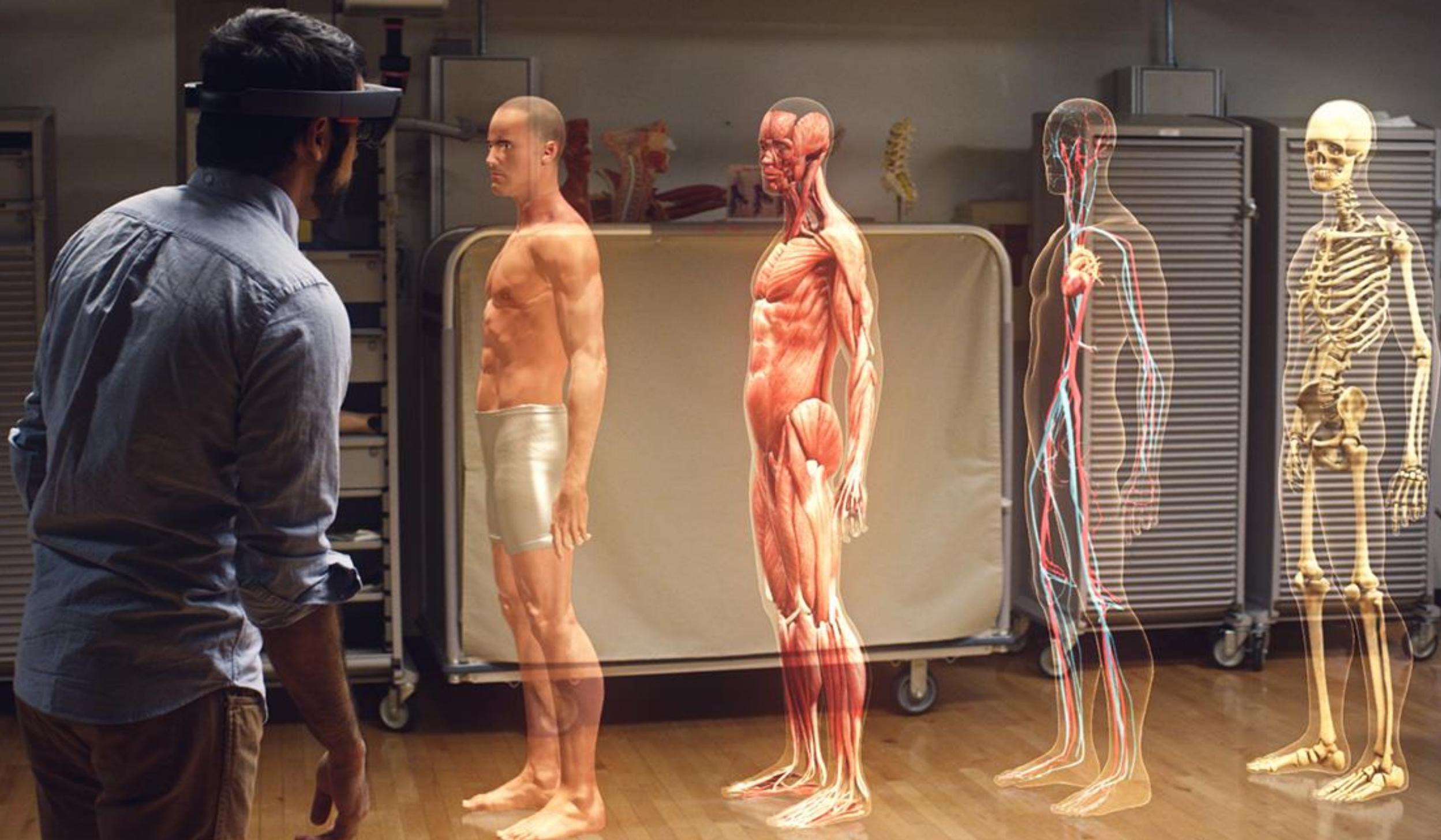


What is HoloLens?

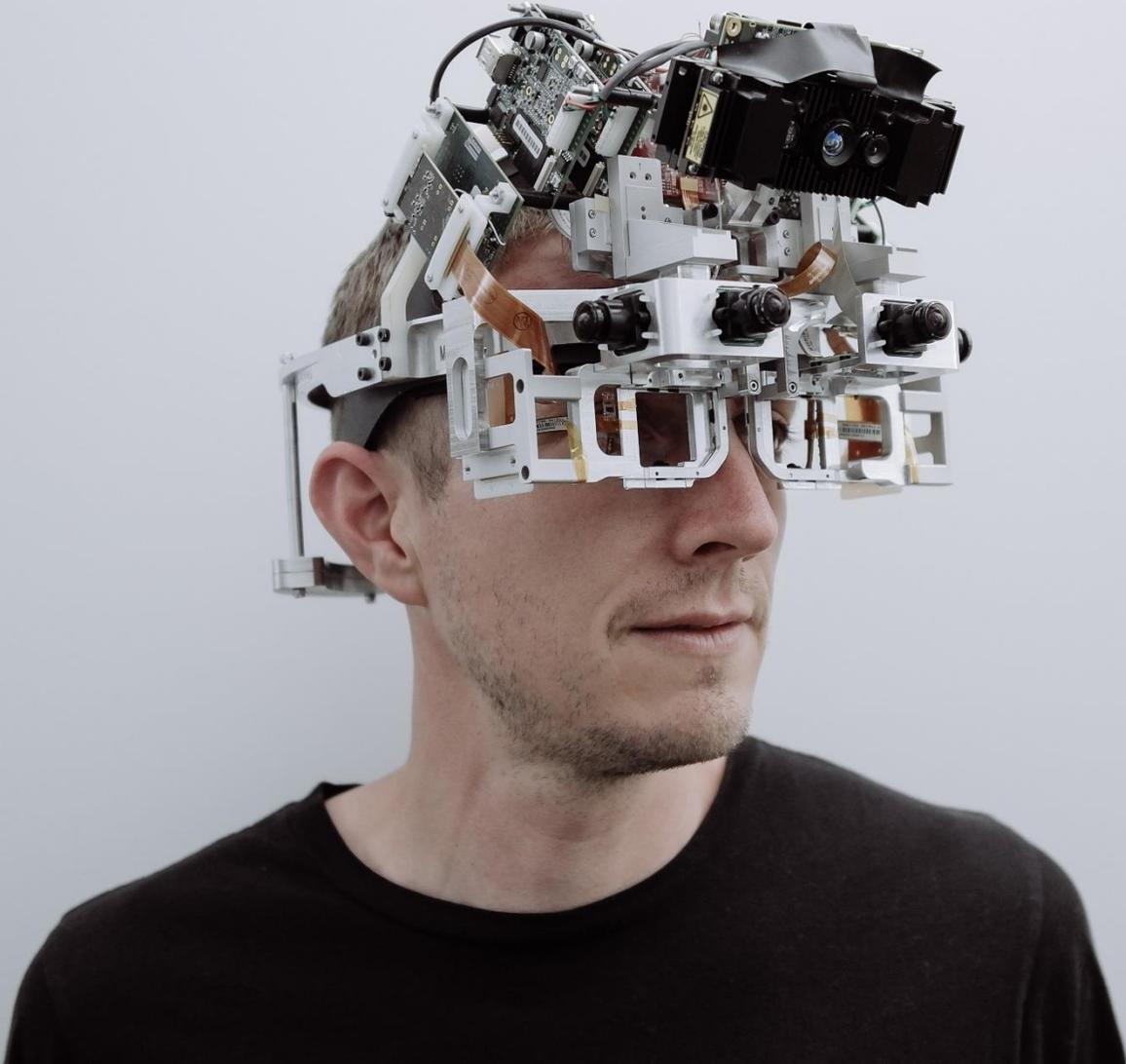
- The first fully untethered, holographic computer with see-through lenses.
- It enables high-definition holograms to come to life in your world, seamlessly integrating with your physical places, spaces, and things.
- We call this experience mixed reality. Holograms mixed with your real world will unlock all-new ways to create, communicate, work, and play.



VIDEO: Mixed Reality Blends Holograms with the Real World



VIDEO: Windows Mixed Reality - An Evolution for Education







HoloLens Sensor Bar

Depth Camera

4 Environment Understanding Cameras



Ambient Light Sensor

2MP Photo / HD Video Camera



HoloLens Optics and IMU





HoloLens MLB (Main Logic Board)



- **Windows 10**
- **Custom-built Microsoft Holographic Processing Unit (HPU 1.0)**
- **64GB Flash**
- **2GB RAM (1GB CPU and 1GB HPU)**
- **x86 architecture**

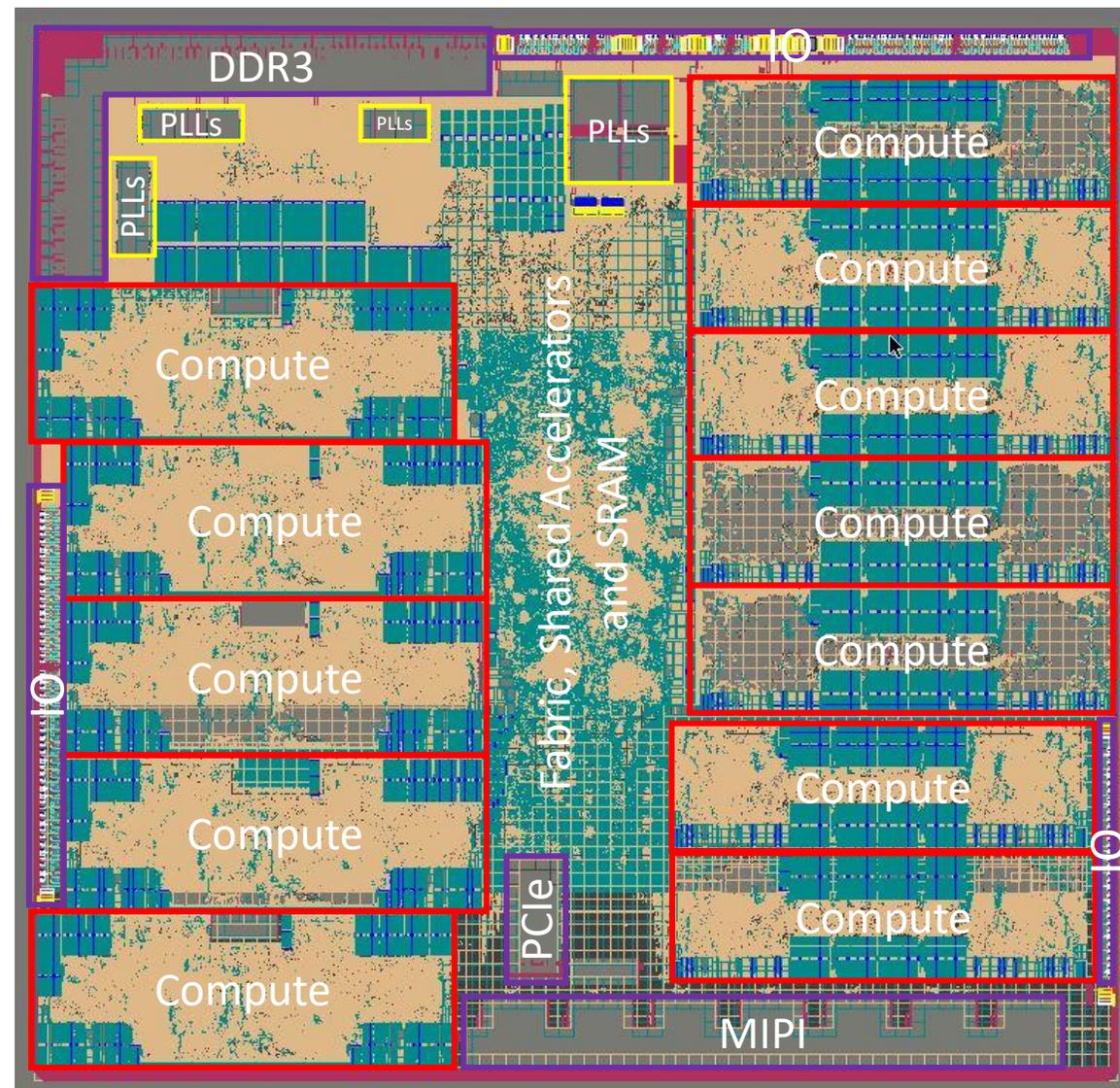
HPU (Holographic Processing Unit)

TSMC 28nm HPC

Logic Gates: ~65M

SRAM : ~8 MB

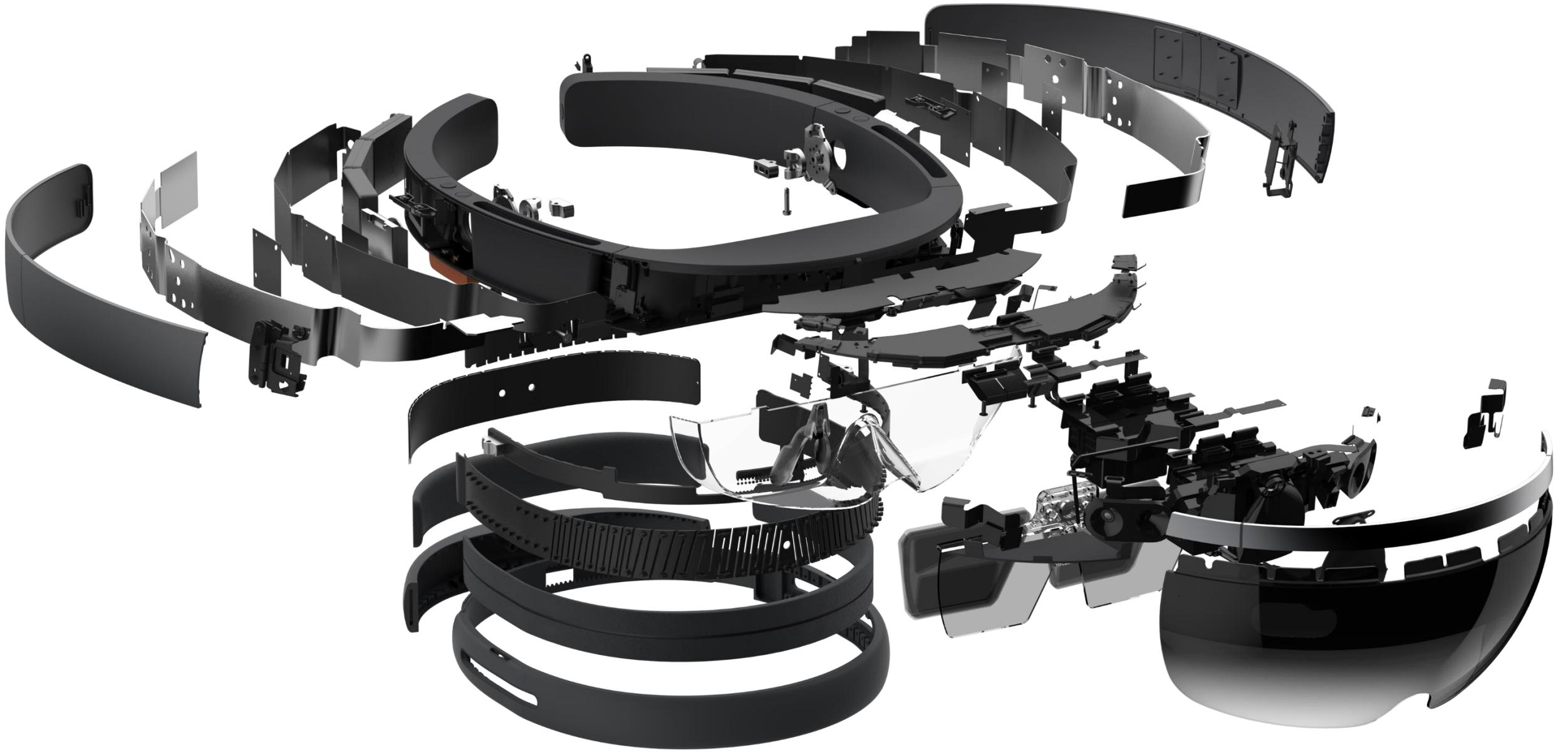
- Sensor aggregator with environment and gesture processing
- Computed output is very compact, e.g. fully processed pose data to Host SOC
- 24 Tensilica DSP cores with custom TIE instructions
 - “Tensilica Instruction Extensions” allows new instructions to be added directly to the ISA
- Flexible DMA and fixed-function accelerators
 - Stand-alone accelerators, as well as
 - Accelerators tightly coupled with the DSPs
- Algorithms accelerated up to 200x over pure SW implementation
- Low power (less power budget than Host SOC)

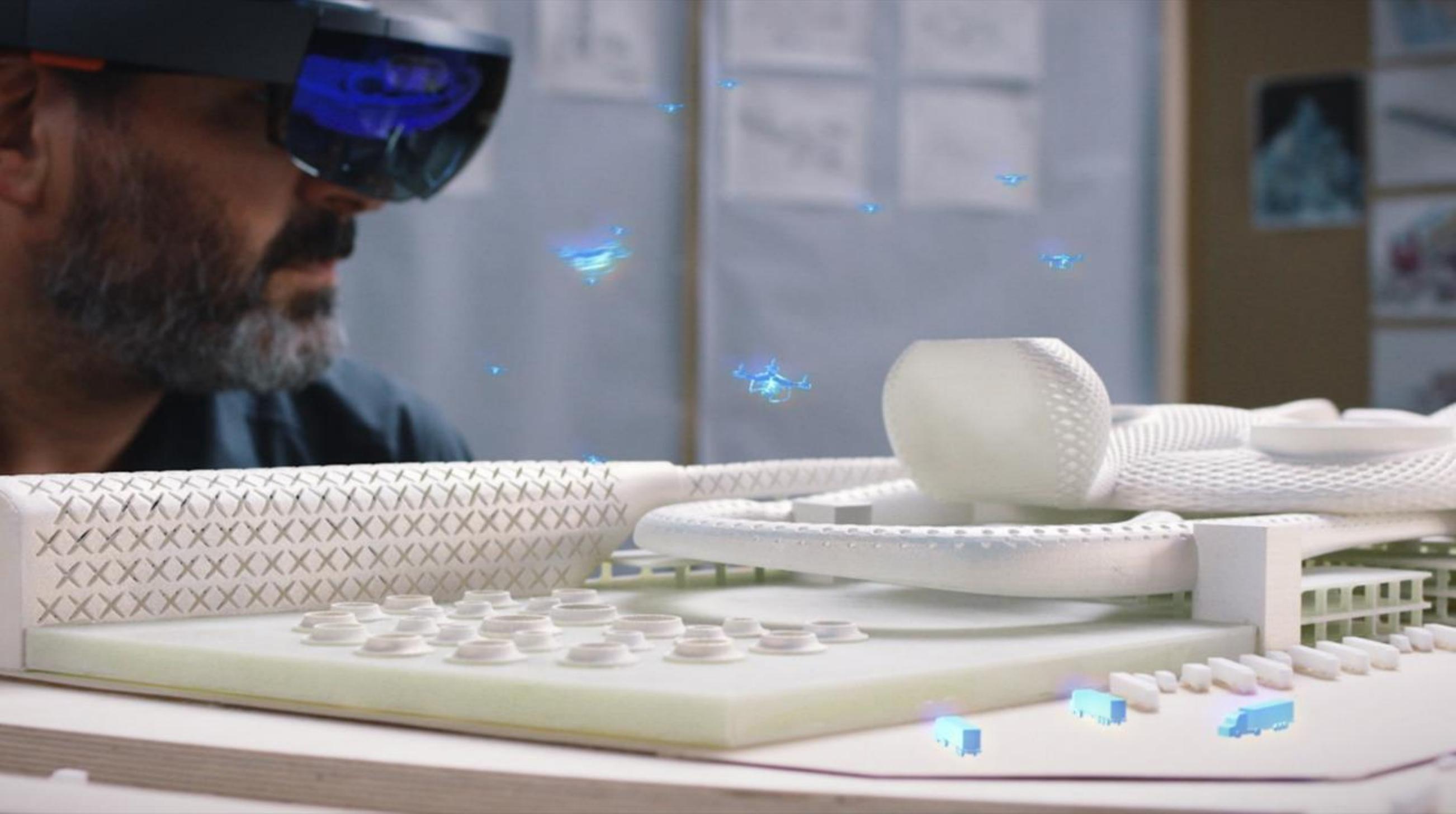






HoloLens Spatial Sound





VIDEO: Partners



VIDEO: Microsoft HoloLens - Partner Spotlight with thyssenkrupp



VIDEO: CAE VimedixAR with Microsoft HoloLens

Available today on [MicrosoftStore.com](https://www.microsoft.com/store)

At this time, HoloLens is available in Australia, Canada, France, Germany, Ireland, Japan, New Zealand, the United Kingdom, and the United States (including Puerto Rico).

HoloLens Development Edition

\$3000

Limit 5 devices

HoloLens Commercial Suite

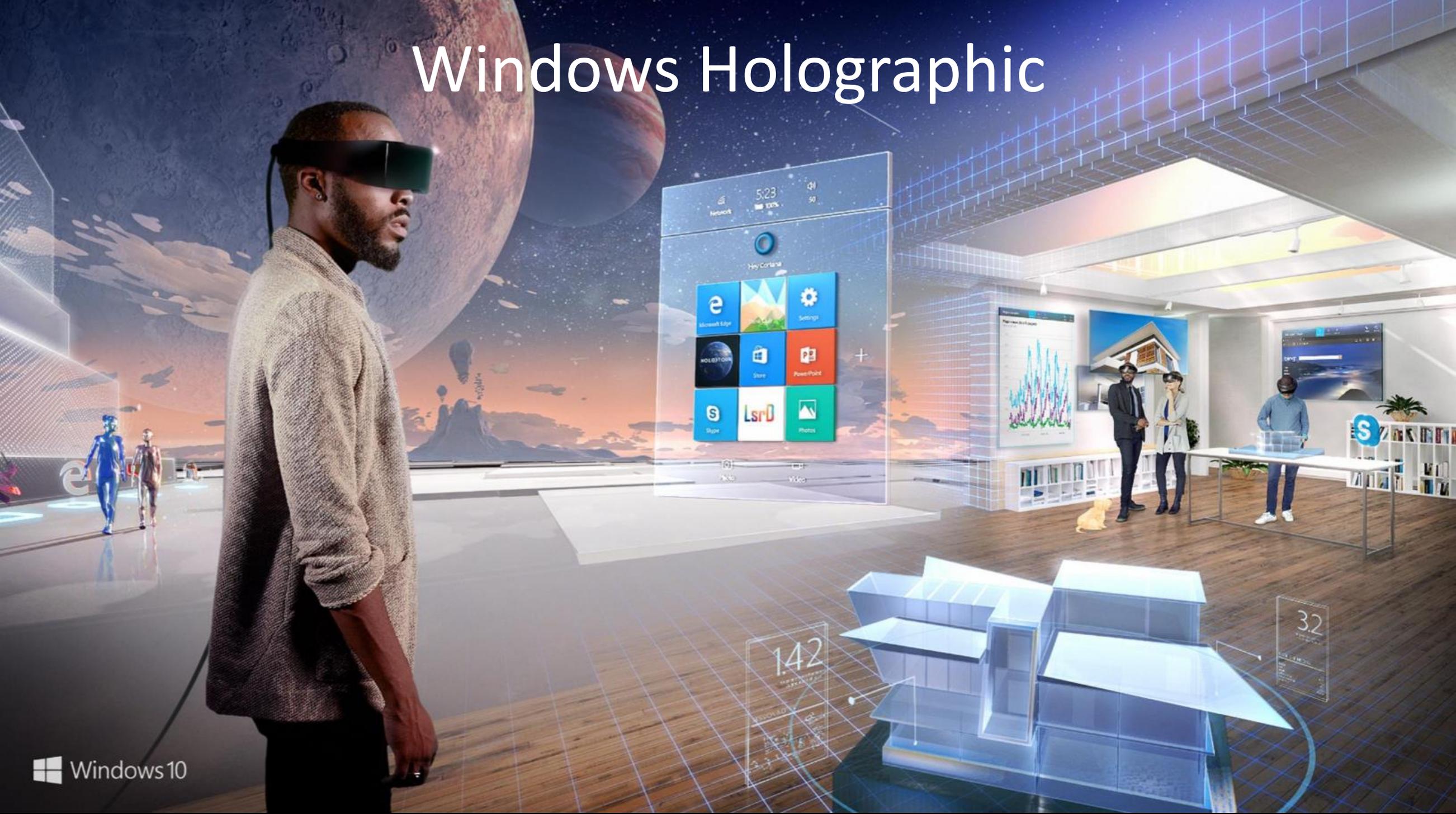
\$5000

Ideal for organizations, the Commercial Suite includes the Development Edition, enterprise features, and a warranty.

For more information: www.hololens.com



Windows Holographic



VIDEO: Windows Holographic - Enabling a World of Mixed Reality

Thank you

