

Ink, Wear, Touch: Evolution of Personal Tech

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MWC24

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**Unlocking the Future w/
Cathy Hackl:**

**The Age of AI Hardware,
Smartglasses, &
Spatial Computing is Here**

MWC 2024

Nice to meet you



When did you have your last aha moment?



“I believe even more about how profound spatial computing is. When you’ve tried it, it’s an aha moment, and you only have a few of those in a lifetime.”

Tim Cook, CEO of Apple, Sep. 2023

"The era of spatial computing is here."

Tim Cook, Apple's CEO



Spatial Computing is:

- An evolving 3D-centric form of computing
- That, at its core, uses AI, Computer Vision, XR & a wide range of technologies to blend virtual experiences into the physical world
- Making almost every surface a spatial interface
- It combines software, hardware, data/information & connectivity
- It enables humans to interact & communicate in new ways with each other & with machines/tech, as well as gives machines/tech the capabilities to navigate & understand our physical environment in new ways.
- From a business perspective, it will expand computing into everything you can see, touch, and knowion & Perception


Harvard Business Review Sign In

Technology And Analytics

What Leaders Need to Know About Spatial Computing

by Cathy Hackl

November 10, 2023



HBR Staff/Damir Khabirov/ Andriy Onufriyenko/Getty Images

Summary. Spatial computing is an evolving form of computing that blends our physical world and virtual experiences using a wide range of technologies, thus... [more](#)

Earlier this year, Apple unveiled its entry into a completely new market segment. During the company's June developers conference, Tim Cook announced the launch of the Apple Vision Pro, a head-mounted device with just as much

Spatial Computing



Information

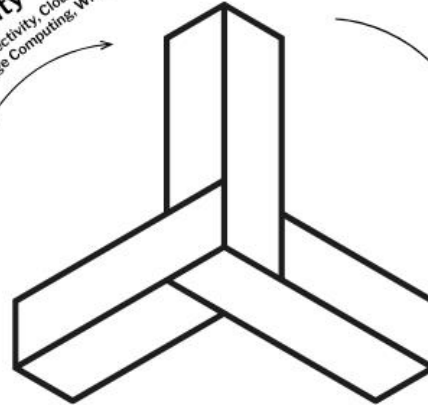
Real-World Data, Data Lakes, Images, Text, Video, Pixels, Voxels, Wearer Data. Digital Assets, etc.



Hardware

Head-Mounted Displays (HMDs), Pins, Wearables, Robots, Sensors, Cameras, Audio Devices, Input Devices, Processing Units, etc.

Connectivity
5G/6G, IoT Connectivity, Cloud Computing, Edge Computing, Wifi 6, etc.



Software

Operating Systems, AI (including Generative AI), Computer Vision, Content Creation Software, Development Tools, Tracking and Calibration Software, Cloud Services, Game Engines, etc.

**The Next Big Thing in AI:
The ongoing convergence of the physical
and virtual worlds is producing new
applications and investment opportunities.
Enter spatial computing, AI hardware,
wearables/smartglasses and Large Vision
Models.**

**AI is One of the Keys to
Unlocking Spatial Computing**



TECH

**Samsung to announce new phones
'powered by AI' on Jan. 17**

AI Hardware / AI Wearables



AI in 2024 and Beyond

- Vision
- Perception
- Perspective
- Context



Smartglasses

“The most advanced piece of technology on the planet in its domain. In the domain of consumer electronics, it might be the most advanced thing we have ever produced as a species,”
Andrew Bosworth, CTO of Meta,
Dec. 21, 2023.

They might be unveiled in 2024.



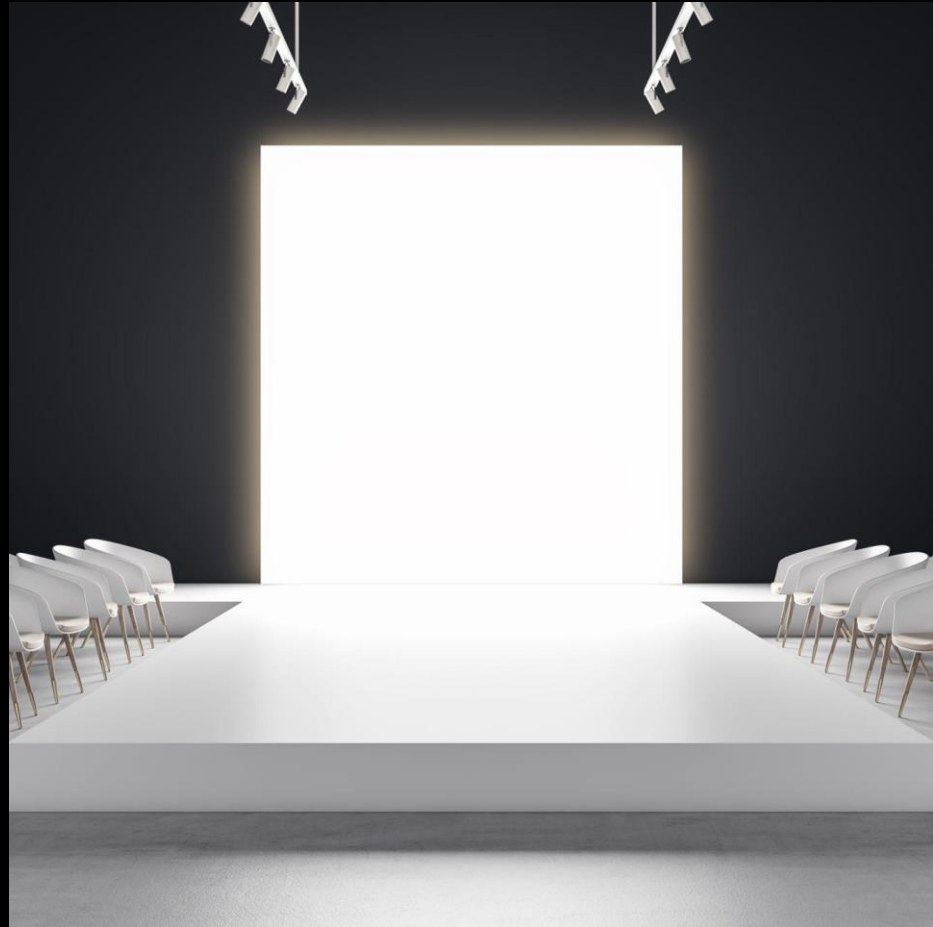
Large Vision Models



World modelling
World building

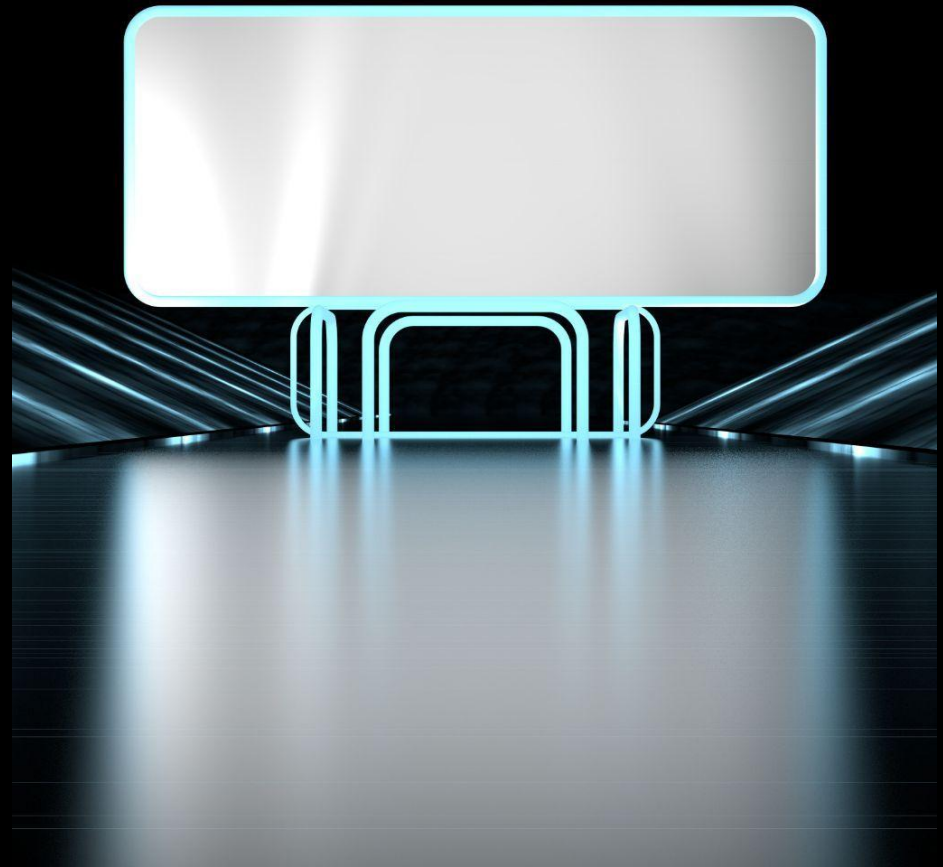


**The Physical world
becomes the
canvas/catwalk.
The possibilities are infinite**



**A revolution on wheels. Every surface is
a spatial interface.**

***A new frontier for entertainment,
services, and experiences.***



Spatial Memories



**PAY
ATTENTION
TO
GAMING**



Play
GAMES

HAVE  FUN!

**Gaming is for everyone and is everywhere
(CES)**

- **Gaming will be the biggest growth in software spend in 2024**
- **Two of the biggest films of 2023 were based on Games (Super Mario Bros & FNAF)**
- **One of the biggest TV hits too (The Last of Us)**
- **The Gaming industry is around eight times bigger than the Movie industry**
- **1 in 3 people in the world is a gamer**
- **Gaming will permeate business in the years to come, executives are ill prepared**



Gen Z and Gen Alpha

What happens in the virtual world is very real to them



The future looks...

spatial.



We will navigate the world with virtual beings, robots, autonomous vehicles, holograms, and humans.

New ways to communicate, work, shop, entertain, etc. AI will be infused into every aspect, even space travel.



The Year of Vision



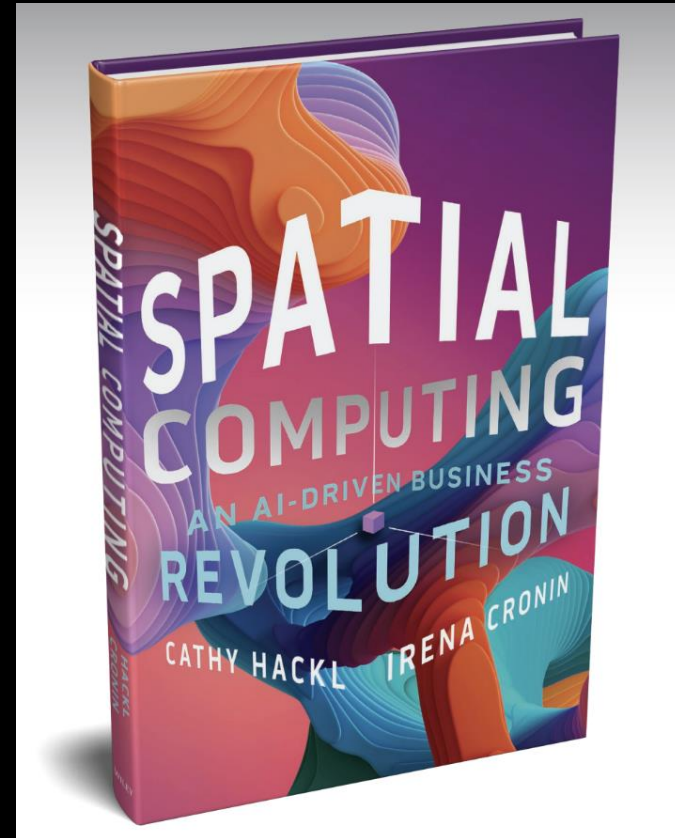
Thank you!
Gracias!

Connect with me & stay tuned

**New Course: Spatial
Computing for Business
Leaders coming soon.
Scan for more info.**

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SpatialComputingBook.com

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Tom Carter

CEO & Co-Founder

Ultraleap



We **break the boundaries** between
physical and digital worlds







AVAILABLE CHARGING SPACES: 0

ark
out



AVAILABLE CHARGING SPACES: 3



Harbourside Parking
0 Charging spaces available
£00.48 per kWh
★★★★★



Re-Route?



HPH



185 Miles





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Valerie Allie

Video Solution Senior Director

InterDigital



Empowering Haptic-Enhanced Immersive Experiences

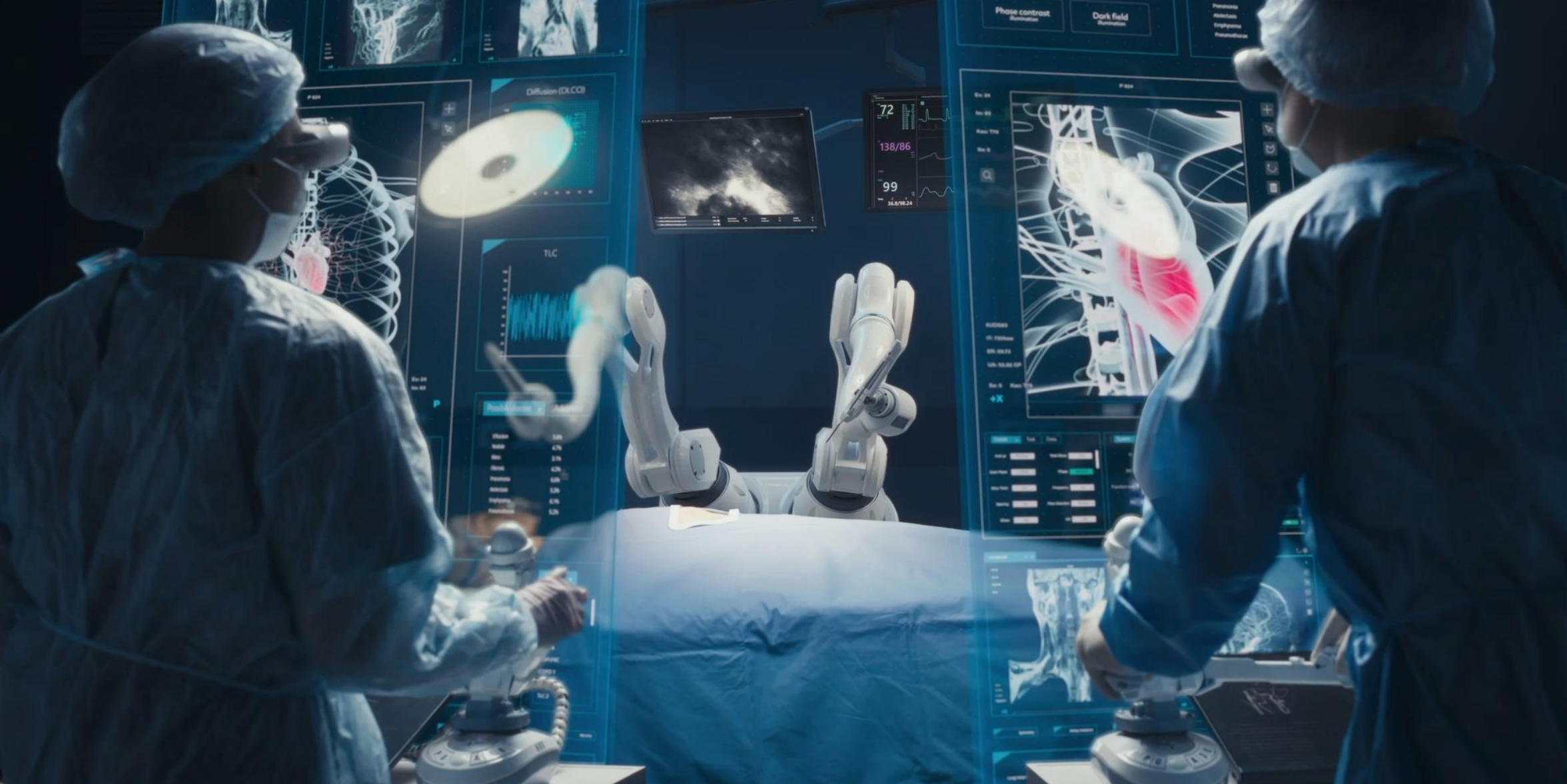
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Innovating Today,
Empowering Tomorrow









Phase contrast illumination

Dark field illumination

Diffusion (DLCO)

72
138/86
99
10.8/10.24

TLC

Parameters

Phase	5.0%
Rate	4.7%
Flow	2.1%
Stroke	4.2%
Pressure	6.8%
Arterial	5.3%
Respiratory	6.1%
Perfusion	5.2%

Parameter	Value	Unit
Heart Rate	72	b/min
Blood Pressure	138/86	mmHg
Oxygen Saturation	99	%
Respiratory Rate	10.8	l/min

Understanding the Evolution of Immersive Communications

2D Video



3D Video & Immersive



Sensory & Haptics



Understanding the Evolution of Immersive Communications

2D Video



3D Video & Immersive



Sensory & Haptics



Research and Innovation **Making the Future Possible**



Collaborations Helping to Realize the Possible





**Experience our Haptic-Enhanced
Immersive Video Demo
at Hall 7 Booth 7B31**



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Up Next

Molding Tomorrow: Innovating with the Materials of the Future

14:45 - 15:45

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