SensX

X-Senses over 5G

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The reality of today... may “feel” different tomorrow

Internet of Senses through XR
5G is here to enable XR

Growing fast and strong!

2.6bn
In 2025, 2.6 billion 5G subscriptions are forecast.
65% world Population

So how fast is 5G really?

It’s out of the ballpark!!

- 10-100x more connected devices
- 10x-100x data rate
- 1000x bandwidth (High Density Graphics))
- 10x more battery life
- 5x low latency (1 ms)

Latency: Human reaction time is 250 ms
Combined with Edge → Real Time

Edge: Remote data processing → Thin and cheaper devices

Truly Immersive Experiences (XR)
Sight - capture the monsters on the go

500 Million Downloads
$3 Billion Spending

Value proposition
Mobile device
Connect to childhood

Monetization
Gamer
Local stores

Pokémon GO Worldwide User Spending by Year

https://sensortower.com/blog/pokemon-go-catches-3-billion-usd-in-lifetime-revenue
**Touch the world as you imagine it**

**Companies**
- **TeslaSuit** by VR Electronics Ltd, UK
- **HaptX (Gloves)** by HaptX, Seattle, WA

**Business Model**
- Sell products / devices
- Sell software & services
- Revenue share model

**Suit / Glove:** Stretchable, breathable; technology with sensor inputs and outputs, biometry

**Software:** Powerful analytics & program control

**Microfluidic skin:** Flexible, smart textile, pneumatic actuators, microfluidic channels

**AR/VR:** Utilizes system with or without VR and AR

**Development kit:** A library of haptic feedback and programming options

**Pneumatic Control:** Mini-compressor, pneumatic

**Force feedback exoskeleton**

**Magnetic motion tracking**
Making the world a safer place, one person at a time

from training grounds... to real time assist and monitoring
The world comes together in what you smell

Company
- Multisensory Mask by Feelreal

Business Model
- Sell products / devices
- Sell software & services
- Entertainment, gaming, meditation, aromatherapy

Wind: Micro-cooler
Rain Water: Ultrasonic ionizing system
Vibration: Haptic feedback
Eat Anything, Anywhere - Guilt Free!!
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- Early stage startup - Kokiri Lab, LA (Project Nourished)
- Motivation
  - Eat guilt free (sustainability)
  - Time together virtually
- Business Model
  - Sell unique dining experience
  - Provide toolkit for others
- Ecosystem
  - Royal Caribbean Cruise Ships offering similar experiences
Immersive experience → stress less, get motivated

- Crowded screens → visual fatigue
- Simultaneous speakers → hard to see
- Emotional cues → challenging to pick up
- Single display → insufficient while presenting

- Sense of depth and variety makes it engaging
- Positional audio can be tracked by turning head
- Holograms with body language means better EQ
- Haptic, and Digital Skin enables handshakes, hi-fives.
- Choice of avatars for privacy
- Team lunches with virtual food and drinks
- 5G → realtime, higher bandwidth, lighter devices
How much is AR/VR worth?

VR: 2023
- $10B-$15B revenue
- 30 million installed base

AR (Mobile & Smartglasses): 2023
- $70B-$75B revenue
- 2.5 billion installed base

Ref: https://www.youtube.com/watch?v=0y31TFNPRlk&feature=youtu.be
Show me the money!

Ref: https://www.youtube.com/watch?v=0y31TFNPRIk&feature=youtu.be
Evolution of 60+ years...

Ref: https://learn.g2.com/history-of-virtual-reality
Accelerated in last decade...

2012 & before

2013

2014

2015

2016

2017

2018

2019 & beyond
Google goes after enterprise market

Consumer Edition
$1500
March 2013

Enterprise Edition 1
$1500
March 2017

Enterprise Edition 2
$999
May 2019
Facebook goes after consumer market

Oculus Acquisition
$2.3 Billion
March 2014

Oculus Rift
20 countries
$599
March 2016

Oculus Go
1 million units
$199
Oct 2017

Oculus Quest
0.5 million units
$399+
Sept 2018

Oculus Rift S
$100M revenue
$399
March 2019
XR is real

XR is picking up and the ecosystem is fully integrated. Some players present in multiple spaces.

Cloudification & Faster processing a great infrastructure to support XR.
Key Takeaways

With 5G the technology for XR has arrived

Ecosystem players are partnering to accelerate XR

Adoption accelerating because of compelling applications
Our prediction for the future...

Your brain is the user interface
Fifty-nine percent of consumers believe that we will be able to see map routes on VR glasses by simply thinking of a destination.

2030
The possibilities of a new tomorrow

Internet of Senses, XR
Thank You

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