

ARIA Gen 2



Inside **Meta's** ARIA Gen 2



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Introduction to ARIA Gen 2



Meta's Aria Gen 2 research glasses are designed to study how machines can perceive the world through human eyes.

Unlike consumer smart glasses, these contain no display – instead, they pack **18** specialized sensors into a **74g** frame to record real-world interactions.

The system focuses on three core capabilities:

1. **Environmental understanding**
2. **Biometric sensing**
3. **Movement tracking**

Lets breakdown Gen 2's features in the coming slides ->



The Vision System



Human eyes are amazing, but they have limits. Aria's vision system goes further:



**Solves
Motion
Blur**

**Handles
Lighting**

**Tracks
move-
ment**

**Built
3D
Map**

Gen 2 can monitor your heart rates just using its nose pad →

Biometric Sensing



Aria Gen 2 transforms ordinary glasses into a clinical-grade monitoring platform.

The nose pad alone contains sensors capable of:



- **Clear Voice Pickup**

- Hears your voice through nose vibrations
- Blocks 30x more background noise than normal mics

- **Heart Rate Monitoring**

- Uses dual-light sensors to track blood flow
- Detects heartbeat 128 times per second
- Matches hospital-grade accuracy (98.2%)



- **Precision Tracking**

- All sensors sync within 0.00005 seconds
- Tracks head movements 200 times/sec
- Pinpoints sound direction within 2 degrees

Built for Research!



Meta designed a custom AI chip for Gen 2 that can perform 15 trillion operations per second.

Gen 2 is made for research with capabilities like:

- Hand positions: 21 points at 60Hz
- Eye gaze: 0.5° accuracy
- Environment mapping: 50,000 points/sec

Custom AI Chip

- All data processed on-device
- Hardware encryption (AES-256)
- Automatic face/ID blurring

Privacy First Design

- 15 TOPS processing power
- Runs 3 neural networks simultaneously
- 8GB LPDDR5 RAM for instant analysis

Real Time Tracking

Lets go through some other use cases of Gen 2 ->

Real World Use Cases



While ARIA Gen 2 is not available for commercial sale right now, its technology paves the way for transformative workplace solutions.

1. Remote Expert Assistance

- **Problem:** On-site workers face delays waiting for specialists.
- **Solution:** Live AR annotations and video calls let remote experts guide repairs in real time.

2. Hands-Free Employee Training

- **Problem:** Traditional training is time-consuming and passive.
- **Solution:** Interactive AR simulations overlay step-by-step instructions.

3. Smarter Quality Control

- **Problem:** Human inspectors miss subtle defects.
- **Solution:** AI-powered AR highlights anomalies in real time.

4. Real-Time Data at a Glance

- **Problem:** Workers lose time switching between tools and manuals.
- **Solution:** Vital metrics and schematics appear in their field of view.

Gen 2 with these capabilities sets a new benchmark for research-grade wearable technology.

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Object Detection with Large Vision Language Models (LVLMs)

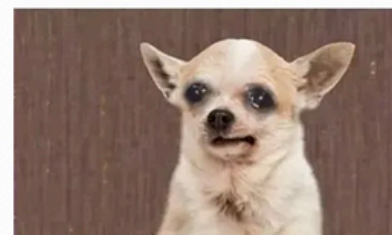
Object detection, now smarter with LVLMs

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