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Transformation

Eyes on the future: Smart glasses

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Key takeaways

- AI glasses, a type of smart eyeglasses that provide audio and visual capabilities to users, have gained traction since early 2024. With tech giants entering the space and shipments expected to exceed 10 million units in 2025, AI glasses are currently driving the smart glasses market - but consumer interest may fall as augmented reality (AR) glasses gain momentum.
- AR glasses offer a richer, more interactive experience, as they are capable of overlaying digital content onto the real world, thanks to advanced components like waveguides and micro-displays. Though heavier and more expensive, AR glasses are expected to mature by 2027 and could surpass AI glasses in volume by 2030, reshaping how users engage with wearable tech.
- The future of smart glasses hinges on expanding applications - from navigation and translation to social media and real-time interaction. As AR glasses integrate more sensors and tracking capabilities, they're poised to become a complementary accessory to smartphones, driving sustainable growth through a broader ecosystem.

Seeing smarter: AI vs. AR in focus

Smart glasses are wearable devices that integrate technology into traditional eyeglass frames.[1] There are two common types – artificial intelligence (AI) glasses and augmented reality (AR) glasses – that are gaining momentum. In fact, according to Forrester's 2025 Consumer Technology Insights Survey, roughly 17% of US adults indicate they have used smart glasses – up from 4% in 2024.[2] Why? For one, the last few years have been hallmarked by rapid advances in artificial intelligence that give smart glasses more functionality, allowing users to interact with the world in new ways in real-time.[3]

AI glasses

AI glasses, which provide users with audio and visual capabilities, have gained popularity since early 2024. Per BofA Global Research, this rise can be attributed to their lightweight, stylish design, easy content creation via first-person view, and AI-embedded functions.

AI glasses are usually equipped with one 12MP (megapixel) camera, acoustics (i.e. speakers and a microphone), and a battery, and are powered by a system on a chip (SoC) with AI-embedded software. In turn, they provide basic functions like listening to music, the ability to take a photo or video, and AI-powered capabilities to gather information. Notably, all functions are audio/video only, and do not include any type of display, meaning they have simpler hardware features with a lower bill of materials (BOM) cost.

Smart glasses manufacturers are focused on delivering a lightweight, compact design with a stylish appearance, making them practical for everyday use and potential replacements for day-to-day sunglasses or prescription glasses. Currently, most AI glasses weigh around 40-50g, close to normal eyeglasses' 18-38g.

AR glasses

AR glasses, on the other hand, are deemed to be the "ultimate" form of smart glasses. While they maintain a similar design to AI glasses, they provide a more integrated experience. Besides the basic functions provided by AI glasses, AR glasses can be more interactive with functions like navigation (driving/cycling), simultaneous translation (daily communication, traveling), teleprompting (presentations), calls and messages, and AI-powered information push (audio/text).

AR glasses feature a see-through function that lets users view the real world while overlaying digital content. This is made possible by an optical combiner – typically a waveguide – which merges physical and virtual visuals into a single, seamless display. However, as AR glasses feature more components than AI glasses (Exhibit 1), they also weigh more, which, combined

[1] Best Buy. (n.d.). *What Are Smart Glasses and How Do They Work?*
[2] Proulx, M. (2025, September 17). *Meta Connect 2025: AI Glasses Make a Mark.* Forrester.
[3] Stranbrell, F. (2025, July 21). *The Rise of Smart Glasses: From Novelty to Necessity.* IDC.

with cost, are two important considerations when it comes to user experience. The majority of current AR glasses weigh in above 49g, with many in the 70-95g range.

Exhibit 1: AR glasses contain all of the same components as AI glasses, but with several added that help enable a richer experience. However, these components also make AR glasses a bit bulkier in size.
Smart glasses components, AI and AR

Source: BofA Global Research

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A new way to listen: Smart glasses in action

Smart glasses have many practical everyday use cases. For example, they could be utilized as a discreet hearing aid. This is a sizeable market for the industry as the World Health Organization believes roughly 20% of the world's population experiences some degree of hearing loss.[4]

[4] Ibid.

What would this look like in practice? With AI glasses, the technology could leverage built-in microphones to pick up external sounds in front of the lenses and amplify it via speakers in or near the user's ear. This could help a partially deaf individual hear better in loud or noisy environments.

AR glasses, on the other hand, are capable of taking a slightly different approach, as they also have display capabilities. Using its microphone to pick up conversations, AR glasses could then transcribe conversations/dialogue in the user's field of vision – like reading subtitles during a movie.[5]

AI glasses are in focus – for now...

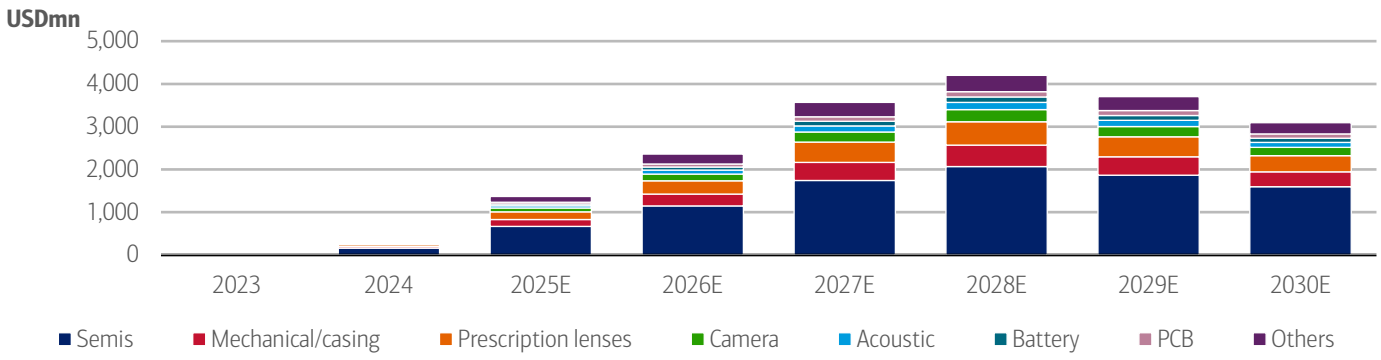
In the wake of recent product launches, BofA Global Research expects AI glasses to be the major driver of the smart glasses industry over the next two to three years. Although more and more brands have launched and are planning to launch AI glasses in 2H25-2026, the majority of the product stockings remain small at less than one million units per brand. That said, in 2025 alone, AI glasses are anticipated to account for over 90% of the market by shipment volume.

However, BofA Global Research believes that AR glasses will soon gain momentum. While they are not new to the market, volume has historically remained low due to technology bottlenecks for key components. But over the past two to three years, technology and manufacturing capabilities have been improving, and AR glasses should gradually mature with volume production from 2027 onwards. In fact, by 2030 BofA Global Research expects smart glasses shipments to reach 55 million – with AR glasses contributing over 50% to this shipment volume.

Market trend: Are AI glasses really spec-tacular?

As of 2024, the component TAM (total addressable market, a.k.a. total revenue opportunity available) for AI glasses measured less than $500 million. However, according to BofA Global Research, given AI glasses' near-term growth potential, this figure could increase to $4.2 billion by 2028. But this upswing could wane with the potential for AR glasses to gradually replace AI glasses; the component market could decline to around $3.1 billion by 2030 (Exhibit 2).

Exhibit 2: The AI glasses component market could expand to $4.2bn by 2028 (compared to less than $500mn in 2024)
AI glasses component TAM to supply chain, 2023-2030E ($million)



Source: BofA Global Research

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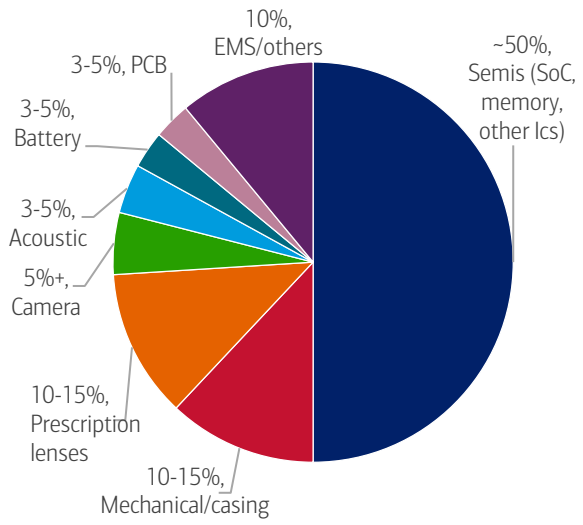
Through the assembly lens

From a manufacturing perspective, almost all the components in AI glasses require miniature designs, leading to higher difficulty at the packaging/module level. As seen in Exhibit 3, semis (SoC, memory, ICs (other integrated circuits)) are the most expensive components, contributing around 50% to the BOM (bill of materials, a.k.a. total value of components needed to manufacture the product) cost, followed by mechanical/casing at 10-15%, prescription lenses at 10-15%, the camera module at around 5%+, a battery at 3-5%, acoustics at 3-5%, and the printed circuit board (PCB) at 3-5%. Assembly, or electronic manufacturing services (EMS) makes up around 10% of the BOM.

[5] Ibid.

Exhibit 3: Semi components are expected to contribute ~50% of the BOM
AI smart glasses BOM cost breakdown (%)



Source: BofA Global Research

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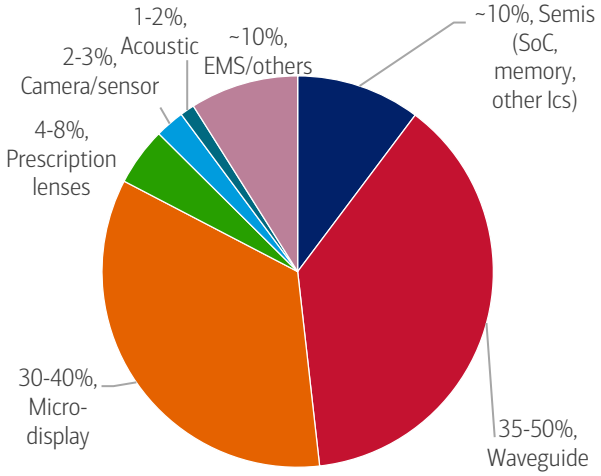
Exhibit 4: Waveguide lenses account for 35-50% of the BOM, followed by micro-display at 35-40%
AR glasses (dual-eye) BOM cost breakdown (%)



Source: BofA Global Research

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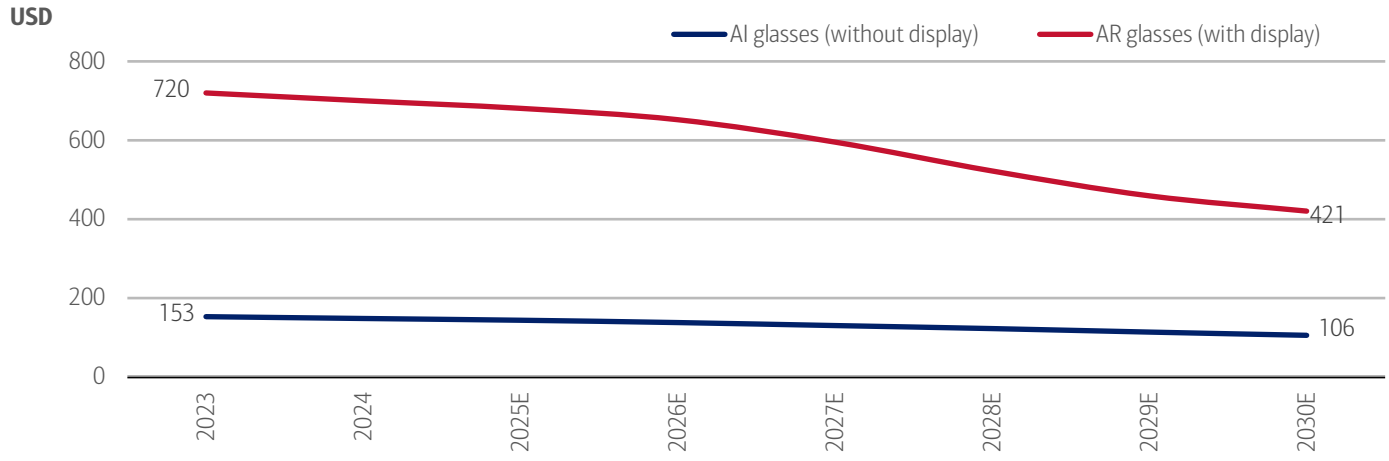
Compared to AI glasses, the components in AR glasses are higher in value, increasing the required BOM significantly (Exhibit 4). Today's AR glasses typically cost between $350 and over $1,000 (vs. $250-400 for AI glasses), likely as a result of waveguides and micro-displays – which when combined, account for roughly 65-90% of AR glasses' BOM – driving up costs. However, with resolved technology bottlenecks and rising scale, the average BOM cost for a dual-eye AR glasses could gradually decline to an average of around $400 by 2030E, per BofA Global Research (Exhibit 5).

Exhibit 5: By 2030, the BOM cost for AR glasses could drop to around $400
Smart glasses BOM cost trend, 2023-30E, USD



Source: BofA Global Research estimates

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Framing the future

Many internet and smartphone brands are developing their own smart glasses – which makes sense – internet companies have an edge when it comes to applications and content (AI, short video, social media, etc.), while smartphone brands have a strong user base. Tech giants peeking through the lens of the smart glasses market bodes well for the industry's volume upside.

In fact, BofA Global Research believes that shipments of smart glasses will exceed 10 million units in 2025, vs. around two million units in 2024. And looking even further out, they expect smart glasses to post 64% shipment compound annual growth rate (CAGR) in 2024-30 to 55 million units by 2030.

But which glasses will consumers reach for? Thanks to a richer day-to-day experience, BofA Global Research believes that AR glasses may gradually replace AI glasses in the next two to three years.

The AR glasses of the future will likely feature more sensors and more wearable accessories. Eye-tracking, hand-tracking, and world-tracking will enable richer functions and more interactions between virtual and physical worlds. Besides general functions like picture taking, navigation, translation, instant search, etc., BofA Global Research believes the industry will be able to launch more new applications with a comprehensive tracking system, which in turn could drive demand and lift penetration.

And it is these applications that will be key in driving sustainable growth. Going forward, applications could further expand to social media and more as the user base and ecosystem continue to grow. AR glasses could be a replacement of current true wireless stereo (TWS) earbuds but would be difficult to replace smartphones given their limitation on aspects like weight, size, and battery life. Instead, AR glasses could become a second, or complementary, accessory to smartphones.

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