Committee of experts

SILMO Next /
Futurology

White Paper

Sessions
2023 - 2025

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Connected glasses, AI, and a new strategic landscape for the optical industry

Foreword

SILMO Paris, through the **SILMO Next** forward-looking platform and its Committee of Experts, has been engaged for several years in a process of reflection on the future of optics and eyewear: the rise of smart glasses, the emergence of artificial intelligence, new in-store uses, and environmental and ethical issues.

This white paper summarizes this work to provide professionals with a **strategic overview** of the changes underway and the decisions that need to be anticipated.

The goal is not to predict the future, but to give industry players the information they need **to judge for themselves** the value of these transformations... and choose to take part in them.

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1.

A sector at a turning point

1.1.

From eyewear as an "object" to eyewear as an "interface"

Glasses are no longer just a corrective device or a stylish accessory. They are gradually becoming an **interface between the eye, the brain, and the digital world:** displaying information, capturing images, biometric sensors, voice assistants, augmented reality.

The Committee's sessions highlight a fundamental shift:

• Convergence between traditional glasses, connected frames, and immersive headsets (prospective "Cocoon XR" project).
• Ambition of certain projects (such as Orion) to eventually **replace smartphones with a pair of connected glasses**.
• An expected explosion in the smart glasses market from the mid-2020s onwards, particularly following the success of models such as Ray-Ban Meta.

1.2.

The massive entry of tech giants

The arrival of major digital players (platforms, manufacturers, OS publishers) is changing the rules of the game:

• These companies have a greater command of software ecosystems, data, and AI than of the eyewear itself.
• They are testing new distribution channels, often direct or online, which can partially bypass traditional optical channels.

For the industry, this is both a threat and an opportunity to embrace new uses, provided it redefines its role.

2.
Key ideas
from the Committee of Experts

2.1.
A technological promise
that is still incomplete

Experts agree on one point: technology is advancing rapidly, **but everyday use remains fragile**.
Recurring limitations include:

• The weight, ergonomics, and battery life of the glasses.
• Miniaturization that is still insufficient to offer comfort, computing power, and display quality all at once.
• Use cases that are often unclear to the general public, which fuels the risk of the product becoming a mere "gadget."

Strategic challenge:
The market shift will not come from a leap in technical performance alone, but from **clarity of use** and integration into everyday life (health, mobility, work, leisure). Models such as Ray-Ban Meta.

2.2.
Physical health,
mental health:
an angle that is still
underestimated

Smart glasses offer significant opportunities in healthcare:

• Vision aids (visual impairment, real-time subtitling, navigation, assisted reading).
• Biometric data monitoring, support for healthy aging, support for certain cognitive disorders.

But the Committee also emphasizes the risks:

• Eye strain, neck pain, visual overload due to constant notifications.
• **Cognitive delegation** and "mental laziness" when AI takes over memorization, orientation, or decision-making instead of the user.
• The psychological impact of a filtered, personalized, even fragmented reality, which has yet to be studied in depth.

Strategic implication:
Players who can position their products as **enhancing** cognition and health, rather than replacing them, will have a sustainable competitive advantage.

2.
Key ideas from the Expert Committee

2.3.
Environment, life cycle, and techno-responsibility

Smart glasses pose several environmental challenges:

• Electronic components with lifespans that differ from those of frames and lenses.
• Issues with batteries and recyclability.
• A carbon footprint that could be several times greater than that of conventional glasses, depending on the technological scenarios.

The Committee highlights the following avenues:

• Modular design (replaceable components, repairability).
• Recyclable and eco-designed materials.
• Economic models that encourage **long-term use** rather than rapid replacement.

2.4.
AI: a key technology!

Artificial intelligence is not just another feature: it is the **central engine** that can transform connected glasses into truly useful, sustainable, and widely adopted tools. It is what enables them to evolve from an impressive technological object into **an everyday companion**, capable of interpreting situations, contextualizing information, and providing concrete assistance at the right moment.

The example of **smartwatches** is particularly illuminating. Their widespread adoption did not come about simply because of a stack of sensors, but because of the emergence of **clear and credible health use cases**: heart monitoring, alerts, prevention, and long-term support. When the technology began to produce benefits that were perceived as useful and reassuring, the watch went from being a gadget to a trusted tool.

Smart glasses are currently in a similar phase. Worn at eye level, they are closest to essential signals related to vision, attention, posture, fatigue, and the environment. AI allows these signals to be exploited not in a raw way, but in an **intelligent and personalized** way: detecting risky situations, recommending adjustments, encouraging better visual practices, or supporting vulnerable audiences. It is this capacity for interpretation and prevention that can create long-term value.

AI assistants and contextual AI play a decisive role here. Unlike traditional assistants, they no longer simply respond to a command: they understand the visual context, the situation, and the user's intention. This allows them to offer discreet, hands-free assistance that is integrated into the real environment. This approach paves the way for a more natural, fluid, and above all, relevant experience, **which is essential for adoption**.

However, this power requires a framework. The AI embedded in the glasses must remain **augmentative rather than substitutive**: it must support the user without depriving them of their autonomy, particularly in health-related uses. Transparency, user control, and simplicity of interactions will be key factors in building trust.

So, just like smartwatches yesterday, smart glasses today have the opportunity to cross a decisive threshold. Provided that AI is used for clear purposes (health, well-being, contextual assistance), they can become a pillar of the new generation of optical products, offering high added value for wearers and the entire industry.
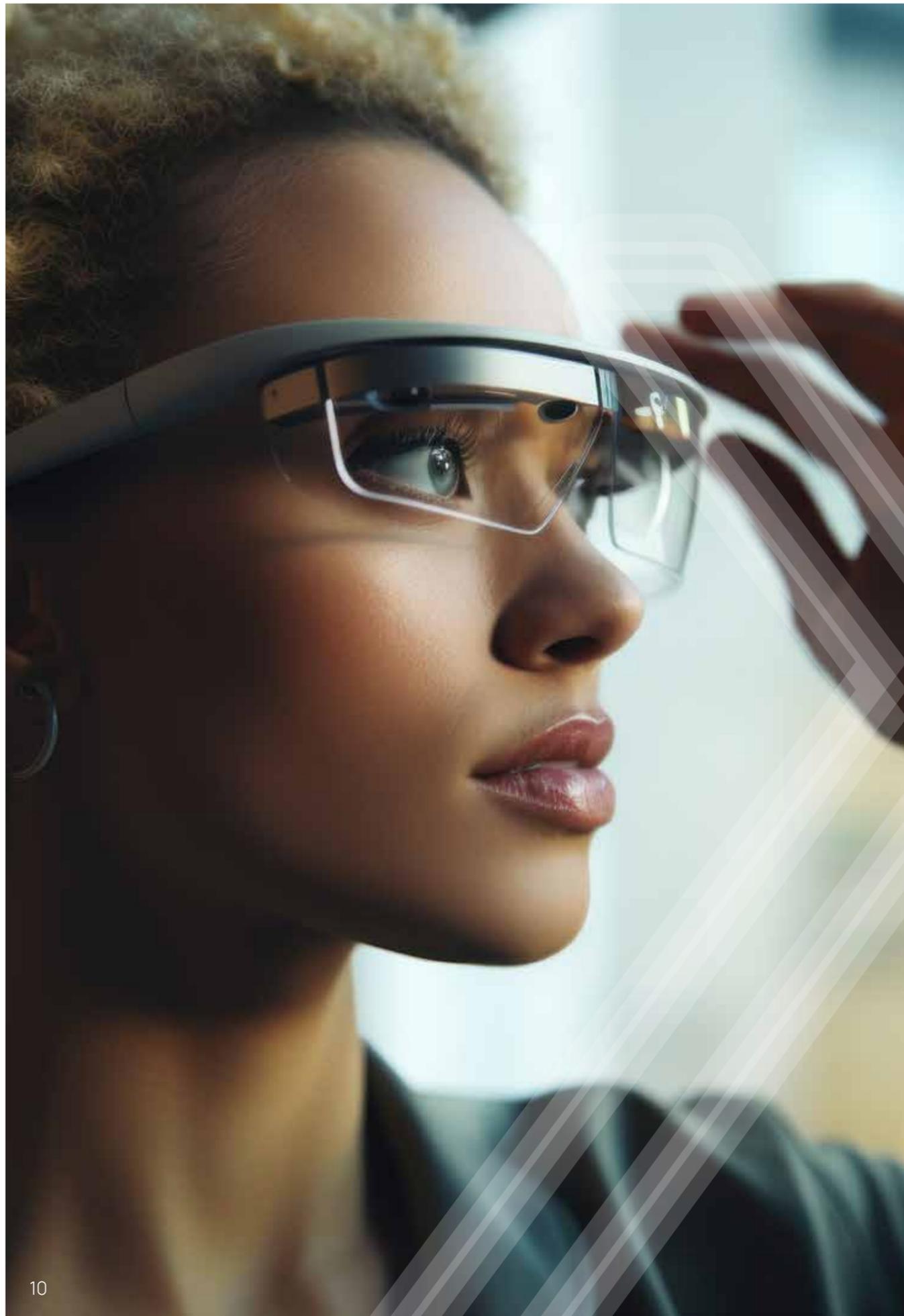
3.
Strategic opportunities for the optics industry

3.1.
Redefining the role of the optician: from frame seller to "techno-health mediator"

Reports agree on this point: opticians are the **natural interface** between technology, visual health, and everyday use. However, they are currently **insufficiently involved** in the smart glasses value chain and lack training in these new products.

Concrete opportunities:

• Become **a digital visual solutions advisor** (device selection, configuration, usage training).

• Offer **adjustment, testing, and follow-up services** specific to connected glasses.

• Develop assessments that incorporate **screen behavior, visual fatigue, and digital hygiene.**

• Position yourself as a trusted source for questions about **data, privacy, and mental health impacts.**

3.2.
New business models: from product to service

The rise of connected devices and AI is paving the way for hybrid models:
• Subscriptions combining equipment, software updates, maintenance, and support.
• Partnerships with health platforms, insurers, or mobility players (navigation, safety, sports).
• Offers dedicated to high value-added **niche segments** (visual impairment, hearing impairment, professionals in complex environments, active seniors).

3.3.
Positioning Europe on a "techno-responsible" path

The dual shift identified by SILMO Next—the rise of technology and the demand for accountability—could become a **differentiating advantage** for European players:
• Products aligned with environmental, social, and ethical requirements.
• Transparency regarding embedded AI, its training, and its limitations.
• Promotion of an approach focused on visual health and user dignity. Dedicated to high value-added niche segments (visual impairment, hearing impairment, professionals in complex environments, active seniors).

4.
Major risks
& points to watch out for

4.1.
Disintermédiation et perte de contact avec le client final

If smart glasses are distributed mainly online or via the ecosystems of tech giants, there is a real risk that opticians will be relegated to a secondary role, or even bypassed altogether.

Possible consequences:
• Loss of control over customer relations.
• Standardization of offerings and increased pressure on margins.
• Dependence on a few international platforms.

4.2.
### Gadgetization & rejection by the general public

In the absence of clear benefits, sufficient comfort, and a reassuring framework (health, privacy, ethics), smart glasses may be perceived as **intrusive gadgets**. The Committee emphasizes that many products are coming onto the market "without a clear vision of their real long-term usefulness."

4.3.
Digital & social divide

Entry costs, complexity of use, lack of training: all these factors mean that the first beneficiaries are a tech-savvy minority. The risk is that this will widen the gap between those who are equipped (and supported by AI) and those who remain marginalized, particularly the elderly and vulnerable.

4.4.
Health, environment, ethics: regulatory blind spots

From carbon footprints to recyclability, mental health impacts, and liability for damage caused by embedded AI, many issues remain largely unregulated. Experts note that "regulations always come after the products," with potentially high social costs.
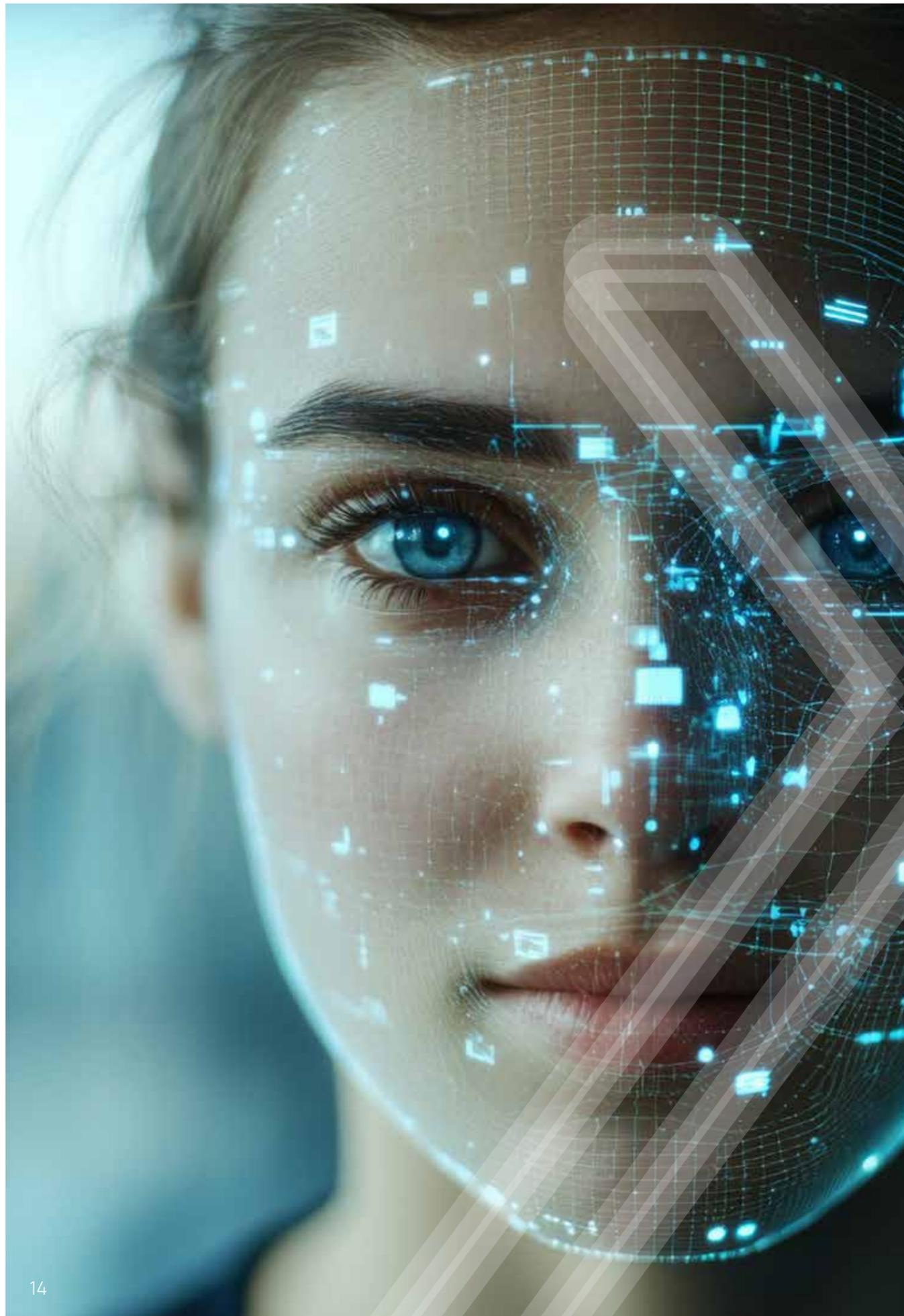
5.
Three strategic priorities for players in the optical industry

Axis 01
### Train and position yourself as an expert in connected uses

• Integrate modules on **AI, smart glasses, augmented reality, and digital health** into curricula and continuing education programs.
• Develop demonstration and testing areas in stores (smart glasses corners, educational workshops).
• Create simple explanatory tools for end customers (brochures, responsible use checklists, information on risks and benefits).

Axis 02
Co-designing products with manufacturers and platforms

• Participate in pilot programs with manufacturers of frames, lenses, and electronic components.
• Promote designs that are **adaptable to corrective lenses**, repairable, and compatible with the constraints of everyday wear.
• Co-design patient journeys that involve the optician from the outset (prescription, trial, follow-up, feedback).

Axis 03
Adopting a visible approach to techno-responsibility

• Highlight products and solutions that minimize environmental impact and the risks of cognitive dependency in the offering.
• Develop an internal or network charter on AI and smart glasses: transparency, restraint, respect for privacy, inclusion.
• Actively communicate this differentiating positioning to end customers, influencers, and institutions.
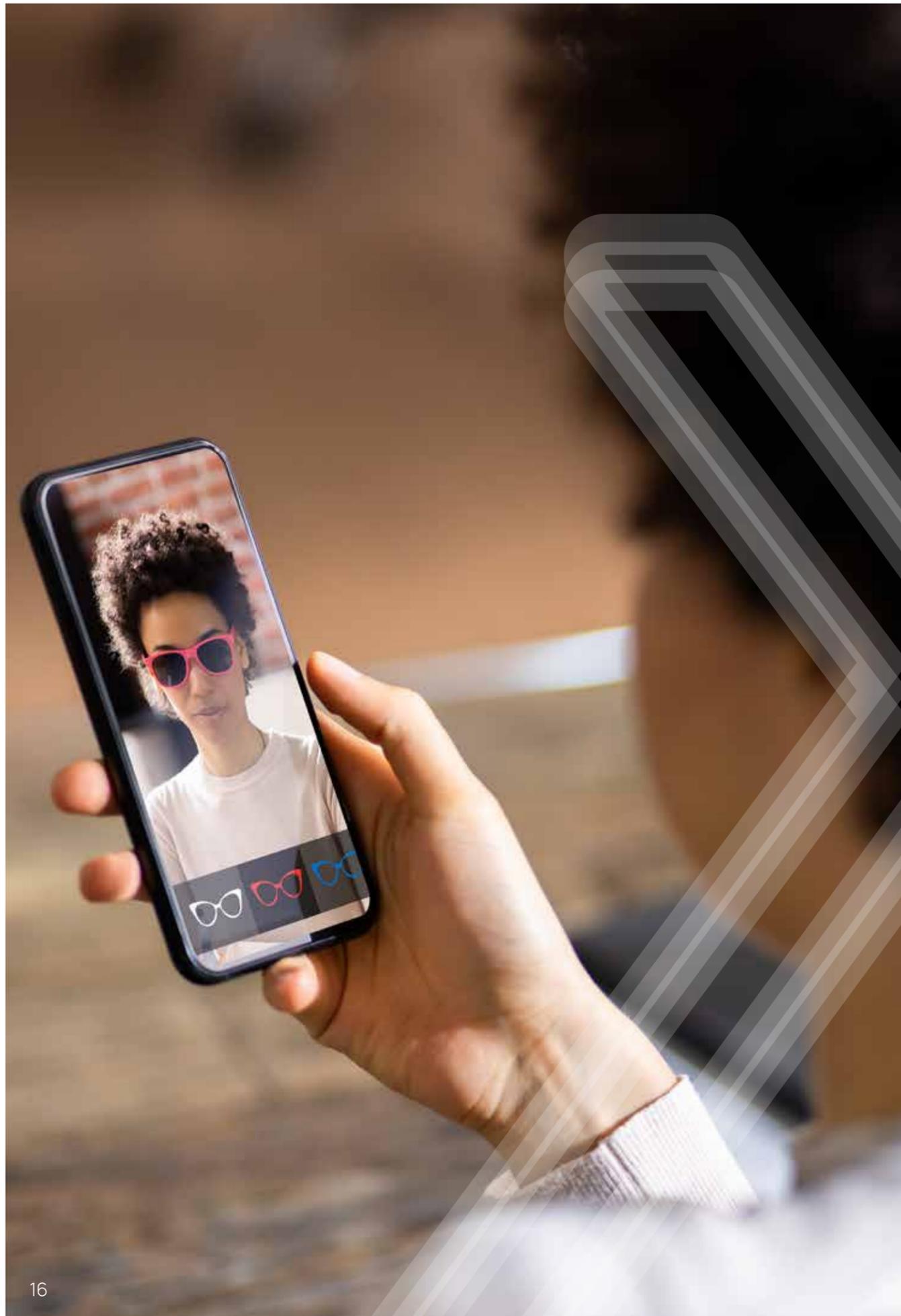
6.
Market development scenarios for 2030

Scenario 01
Platform dominance

Tech giants control almost the entire ecosystem (devices, OS, AI, data, distribution). Connected glasses are becoming a natural extension of their services.

• Opticians are limited to the role of fitting and adjustment.
• Value is concentrated in software and data.
• Regulation attempts to keep up, without always succeeding in correcting imbalances.

Scenario 02
European
techno-responsibility

Driven by frameworks such as the GDPR, the AI Act, and sector-specific initiatives, a European approach is emerging:

• Priority given to visual health, ethics, and sustainability.
• Transparency regarding embedded AI, user control over data.
• Enhanced role for opticians as guarantors of quality and trust.

Players who align themselves with this trajectory benefit from a reputation advantage and greater resilience.

Scenario 03
Fragmented market,
partial adoption

Smart glasses are finding their place in niche markets (healthcare, industry, sports, disability), but are struggling to gain mass appeal.

• Traditional optics remain dominant in terms of volume.
• Opportunities exist, but require a high degree of specialization and targeted partnerships.
• The risk is missing out on valuable opportunities due to a lack of structured investment.
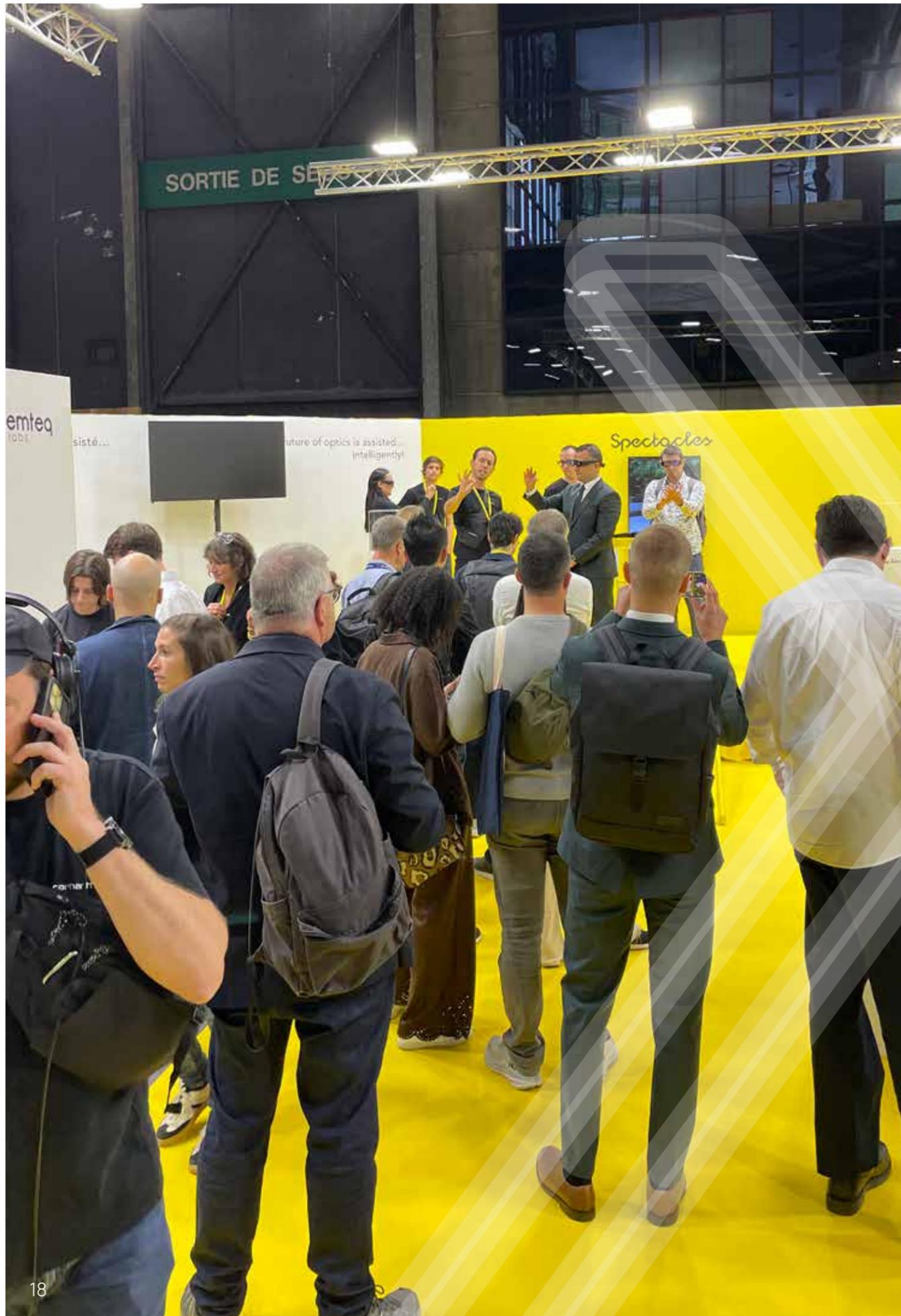
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7.
Role of SILMO
& call for membership

Through the Futurology space, its Expert Committee, and its annual programs, SILMO Next positions itself as a laboratory of ideas and a strategic observatory for the entire optical industry.

This white paper shows that:

• The smart glasses and AI revolution is neither a passing fad nor an inevitability imposed from above.
• It is a prime area where the industry can exert influence, provided it organizes itself, trains its workforce, and speaks with one voice on certain key issues (health, the environment, ethics, training).

Why get involved, join, subscribe?

• To gain continuous access to analyses, reports, and product focus produced by the Expert Committee.
• To participate in discussions that will shape the future direction of the trade show, manufacturers, and distributors.
• To give a voice to the reality on the ground, that of opticians, manufacturers, and schools, in the face of large technology platforms.
• To turn uncertainty into opportunity by making SILMO Paris not just a trade show, but a true strategic center of gravity for the sector.
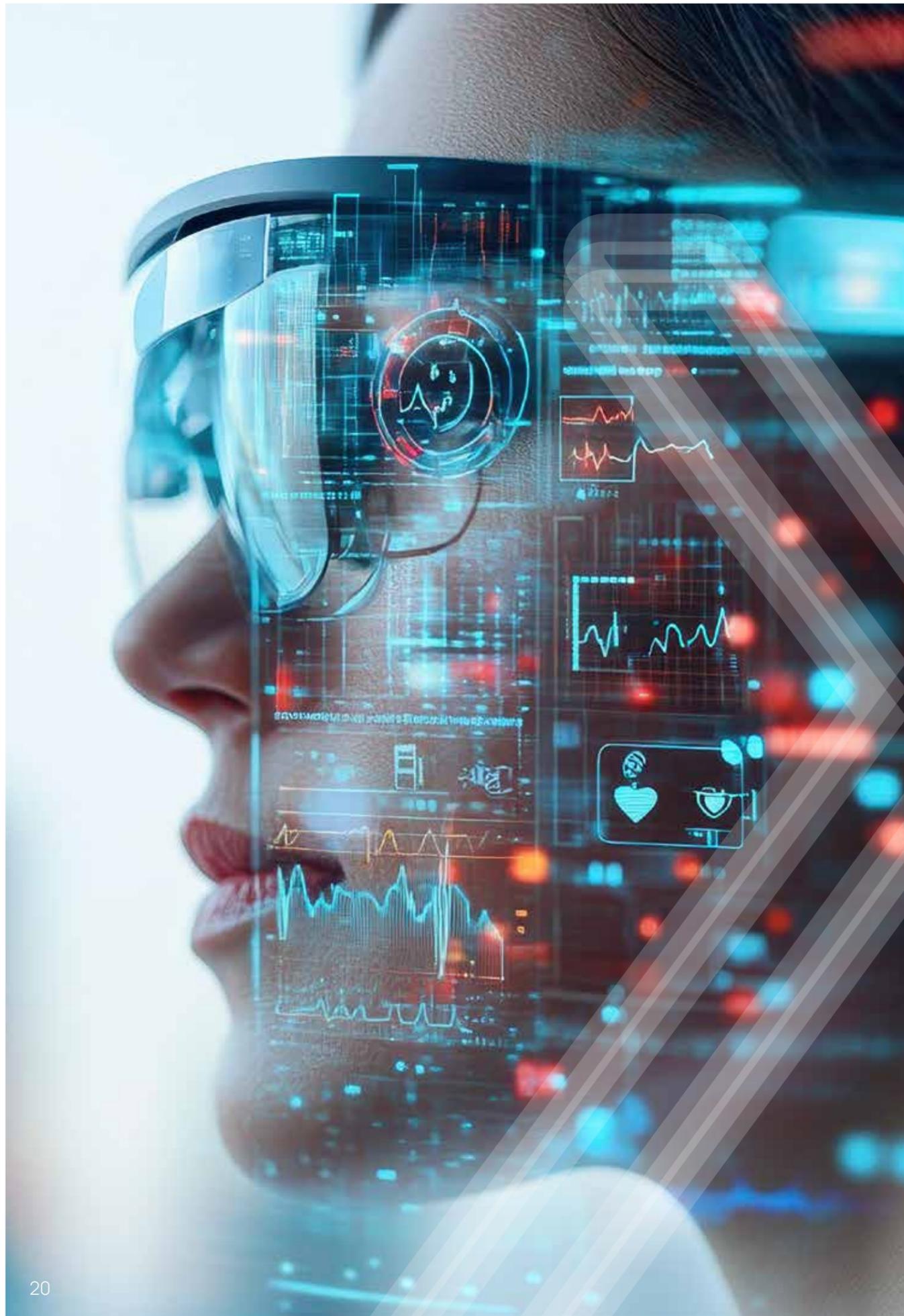
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Conclusion

**The optical market is undergoing profound change, at the crossroads of health, digital technology, and social responsibility.
Connected glasses and artificial intelligence are not a passing fad: they are already redefining wearers' expectations, the value structure, and the place of traditional players.**

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This white paper invites every reader (opticians, manufacturers, trainers, institutions) to evaluate the value of this information, assess their own position, and choose:

• To remain a spectator of the transformations to come,

or

• To become a co-author of the future of the industry, alongside SILMO Paris and the community brought together by SILMO Next.

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By:
Sébastien **Brusset**
Jean-Luc **James**