



Portrait of Essilor

*We have only one product...
But few products have so many facets.
We are specialized...
But few companies are as global.*

More than 50% of the world population needs eyesight correction

Number of Essilor lenses produced in 2002
(million)

180

R&D expenditures
(% of sales)

4%

Number of lens combinations for presbyopes
(billion)

5

15

A byword for progressive lenses since 1959. The fifth-generation Varilux® for presbyopes, Varilux® Panamic®, was released in 2000. It offers total vision freedom, record accommodation speed, and wider panoramic vision.



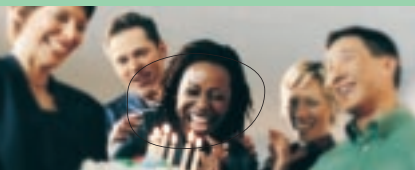
High technology. A familiar name to consumers for its photography know-how, Nikon also offers a complete range of high-tech lenses that are thinner and more transparent.

Polycarbonate lenses. Polycarbonate is a material that exhibits excellent shock resistance. Very light and very thin. Blocks UVA and UVB rays. Scratch-proof thanks to its outstanding hardening coat. Offers unmatched transparency with Crizal®.



Three-in-one system combines smudge-proofing, scratch-proofing, and anti-reflective treatment. The market benchmark for lens treatments.

Variable-tint lenses. The lens adjusts to the intensity of light by darkening outdoors and lightening indoors. The fourth-generation Transitions® features a higher activation rate of up to 70% in 30 seconds.



Varilux® advertising campaign in Spain



Essilor products and brands

Consumers expect from their lenses:

- Comfort provided by lightness, transparency, and vision quality.
- Esthetic enhancement thanks to thinness, flatness, and transparency.
- Shock resistance and UV protection.

These benefits are obtained by combining the three dimensions of a lens: material quality, design quality, and treatment quality.

Materials

Lens materials fall into two categories: glass and plastic (organic). Plastic lenses are subdivided into two groups: thermosetting plastics and thermoplastics (polycarbonate).

Benefits: lightness, thinness, transparency, shock resistance, UV protection.

Material	Refraction index*	Essilor name
Glass	1.5-1.9	Stigmal®
Plastic Low and medium indexes	1.5	Orma®
	1.56	Ormex®
Polycarbonate	1.59	Airwear®
Plastic High and very high indexes	1.6	Thin & Lite® 1.6
	1.67	Stylis®, Thin & Lite® 1.67
	1.74	NL ∑ AS

* The refraction index measures the angle of deviation of light as it travels through the material. The higher the index, the wider the angle. As a result, for a given correction, it is possible to make a thinner lens with a higher index material.

Design

The design or surface imparts the optical correction to the material. Given the infinite number of eyesight corrections, the number of designs is almost infinite.

Benefits: sharpness of vision.

Designs	Description	Correction	Essilor or associated brands
Unifocal or single vision lens	Identical correction regardless of vision distance.	Myopia Hypermetropia Astigmatism	
Bifocal lens	The lens has two separate correction areas. A segment of the lower half corrects for near vision; the rest of the lens corrects for distance vision.	Presbyopia	
Progressive lens	The power varies in a progression from distance vision in the upper part of the lens to near vision in the lower part, with no break in optical continuity. A single pair of glasses enables the user to see at all distances. The most effective correction for presbyopia.	Presbyopia	Varilux® Nikon® Presio i Evolis®/Ovation®



Beauty Eyes® tinted lenses

Advertising campaign for the launch of Airmark® Crizal® in Canada

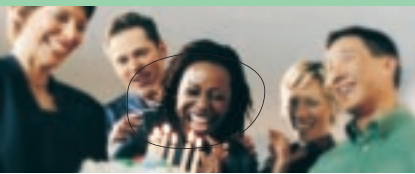


Treatments

Treatments are integrated into the front and back of the lens to enhance visual comfort and lens protection.

Benefits: improved durability, easy maintenance, visual comfort, eye protection, reduced eyestrain.

Treatment	Description	Essilor Names/Brands
Anti-reflective	Thin integrated layer that eliminates light reflections on lenses. Improves esthetics as well as sharpness of vision (night vision) and contrast sensitivity.	Crizal® Trio® RFNP®
Scratch-proofing	Hardening coat that protects lens against scratches.	Supra® Orma® Junior
Smudge-proofing	Water-repellent top coat that prevents dirt deposits on the lens and makes it easier to clean.	Alizé®
Photochromism	In-depth treatment that enables lens to darken in brighter light and becomes clear in shade.	Transitions®
UV protection	Treatment that provides greater eye protection from UVA and UVB rays, which are harmful for the crystalline lens, retina, and other parts of the eye.	UVX UV-max
Polarization	Lens that incorporates a filter that removes glare and dazzle caused by light reflections on flat surfaces (water, roads, snow).	
Tinting	Tinted lens for esthetic effect and for reducing sun glare.	Beauty Eyes® PhysioTints®



The market by volume

Characteristics:

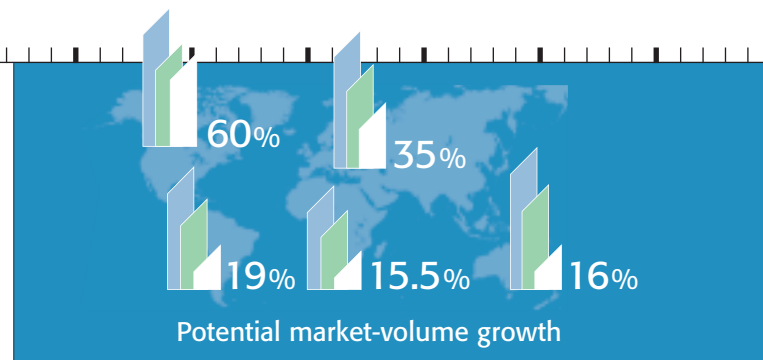
- 800-850 million lenses per year
- €7-8 billion in sales
- estimated annual growth: 1-2%
- lens replacement frequency: 2-3 years

Of the world's over 6 billion inhabitants, an estimated 4 billion or so need eyesight correction. At present, however, only 22% of the world population has access to correction. The most advanced region is North America. Two other regions, Asia and Latin America, are closing the gap and should thus offer the brightest prospects for medium-term growth.

The corrective lens market

Lenses with high value-added content account for a growing share of the ophthalmic lens market. This market structure is beneficial to Essilor, which has long concentrated on these lens segments and has won commanding positions in them.

Stylis® advertising campaign in Brazil



- Total population per region
- Eyesight correction needs
- Corrective lenses wearers



The market by value

Expanding segments

Not all optical lens markets are growing at the same pace. Total market value is rising by about 3-4% a year, but the fastest growth is expected in polycarbonate lenses and high index lenses. Essilor is the market leader in the first group and – thanks to its partnership with Nikon – in the second. Growth projections are also high for progressive, anti-reflective, and photochromic lenses. Essilor is number one in all three categories.

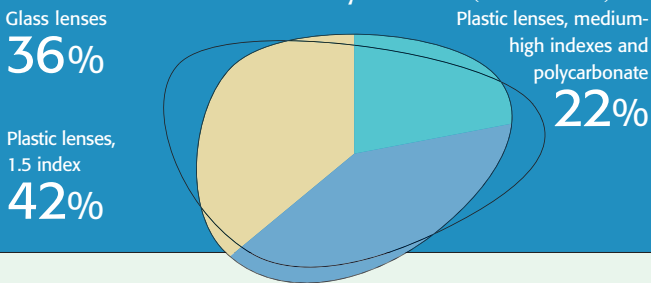
Materials: polycarbonate and high index

The substitution of plastic lenses for glass lenses is an inexorable trend that Essilor has largely anticipated. Glass lenses are on the verge of disappearing in the most developed countries, including the U.S., Japan, the U.K., and France where they account for less than 20% of the total. A related development is the expanding market share of polycarbonate and high index materials, whose average annual growth rate is estimated at more than 10%.

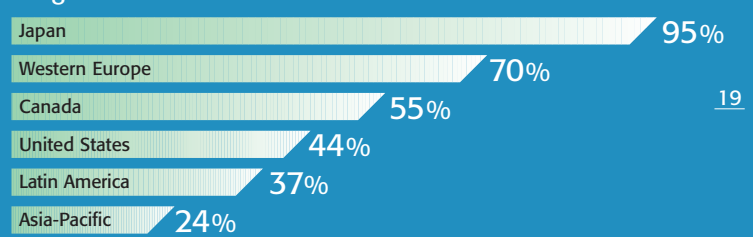
Design: progressive lenses

Presbyopia can be corrected with different types of lenses, including single vision and bi/trifocals, but the most effective is the progressive lens. With an average annual growth rate of about 8%, progressives have already captured a 42% share of the multifocal lens market (bi/trifocals + progressives). Most significantly, they are gaining ground on bi/trifocals, whose share is in steady decline.

Lens market breakdown by material (in volume terms)



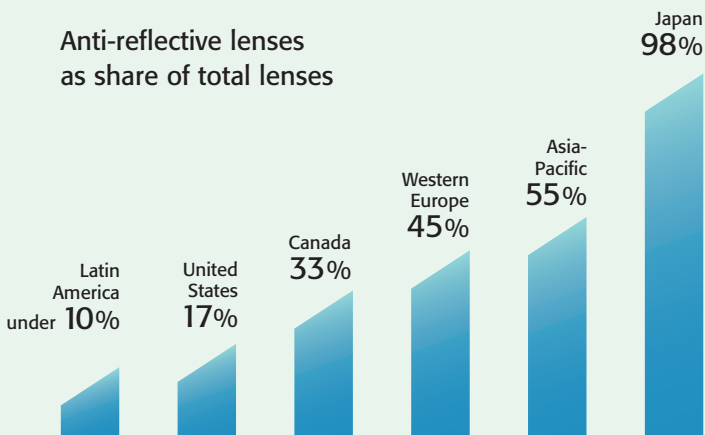
Progressive lenses as % of multifocal lenses



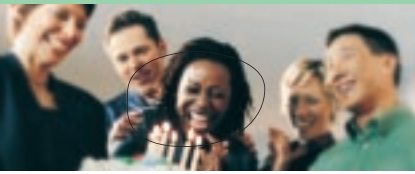
Treatments: anti-reflection

The world market share of anti-reflective lenses averages 34%. However, this figure conceals sharp disparities between countries. The leader is Japan, where nearly all lenses are sold with anti-reflective treatment. A sure source of value added, anti-reflective treatment is on a fast growth track, most notably in the U.S. where its market share is expanding every year. The future annual world growth rate for anti-reflective lenses is estimated at over 8%.

Anti-reflective lenses as share of total lenses



Beauty Eyes® tinted lenses



Market dynamics

The organization of the world ophthalmic lens market

20

Production of raw materials

Series-produced lenses

Prescription lenses

Edging, mounting

Retail distribution

Chemical and glass producers

Manufacturers of finished and semi-finished lenses with integrated finishing laboratories

Essilor

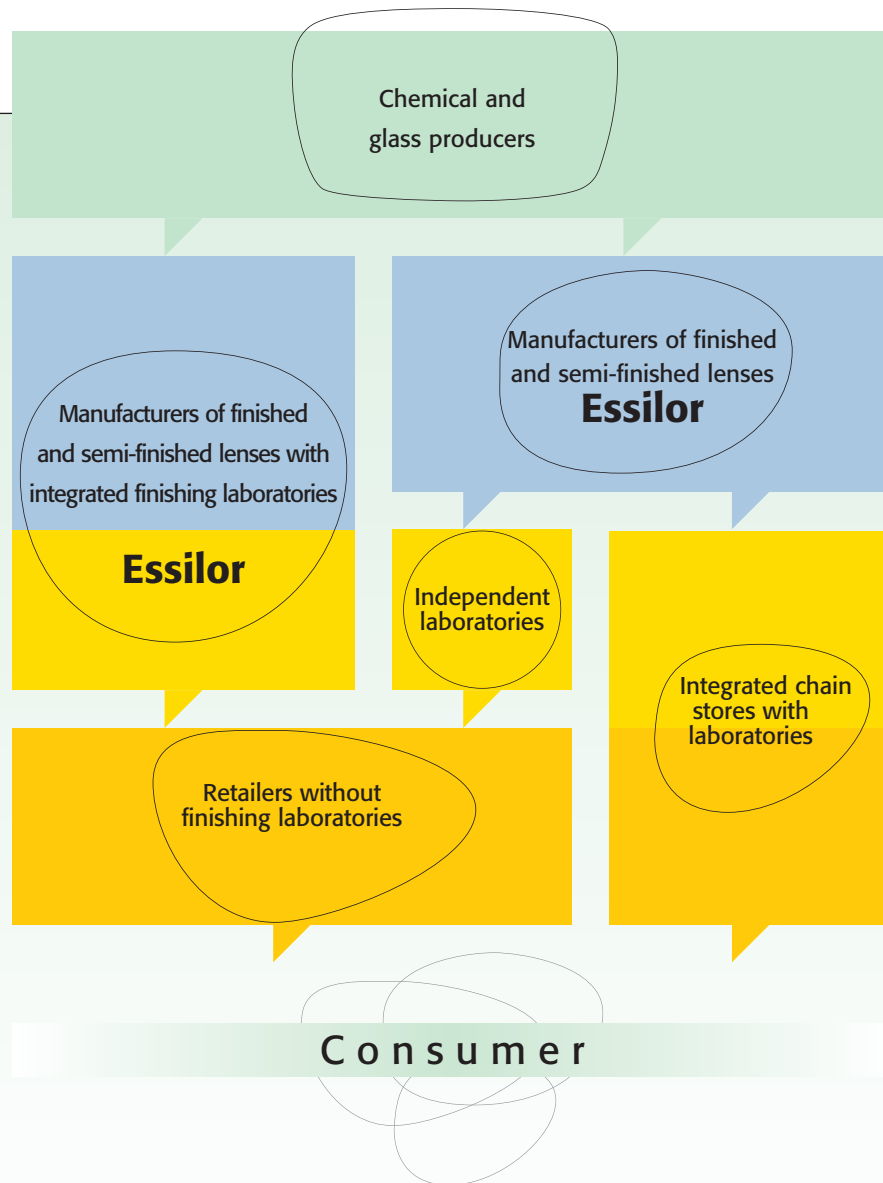
Manufacturers of finished and semi-finished lenses
Essilor

Independent laboratories

Integrated chain stores with laboratories

Retailers without finishing laboratories

C o n s u m e r



Essilor operations and organization

