



Press Release

Why now is the right time for a new single vision lens design

ZEISS SmartLife is extending the eye-lens model by a new dimension

AALEN; 06.04.2020

For the ZEISS SmartLife lens portfolio ZEISS has also rethought the single vision design. Conventional wisdom is to use a model which concentrates on the eye and the lens. A further dimension has now been added - the observed object in the space.

Where are we looking? Not always into the distance - everyone is clear about that. But until now the majority single vision lenses have been precisely optimized for infinity. Every point in the lens, irrespective of whether it was a stock lens or a customized lens, was calculated for a minimum distance of six meters, and often even calculated for infinity. But in reality, people focus also on closer objects, particularly through the lower part of the lens. Today more than ever.

A study confirms a new way of looking at things

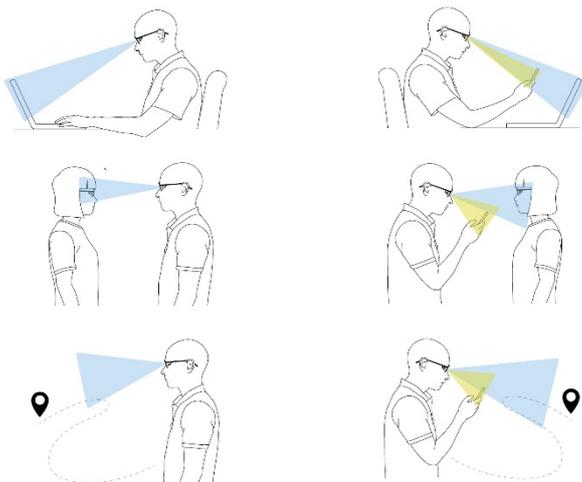


Figure 1: Smartphones significantly impact gaze distribution



Our visual behavior has fundamentally changed. The [Dynamic Gaze Study](#) conducted by the ZEISS Vision Science Lab¹ in Tübingen also confirmed this finding. Calculations performed showed a significant vertical widening of the gaze distribution, as well as a downward shift in the gaze distribution average. It was also evident that smartphone gazes undergo a significant downward shift relative to the center, straight-line gaze. This means that when viewing a smartphone head movement mimics eye movement less, or barely at all.

It was therefore time that the design of single vision lenses should be fundamentally rethought. As the new ZEISS SmartLife lens portfolio defines exactly this new on-the-move and perpetually connected lifestyle as the basis for a complete portfolio - whatever the customer's age - the new single vision design should be part of this ZEISS SmartLife lens portfolio.

Not an addition - but a new point for point calculation

ZEISS has used the findings of the Tübingen study as well as the outcome of market and lifestyle observations to extend the "eye-lens model" by the new "object-space" component now for the calculation of single vision lenses. This has adapted the lens to today's reality - the world outside the eye-lens system is included in the mathematical model. The secret of it all is not to add an addition in the close range as already familiar in progressive lenses, but to recalculate the focus points in the lower part of the lens.

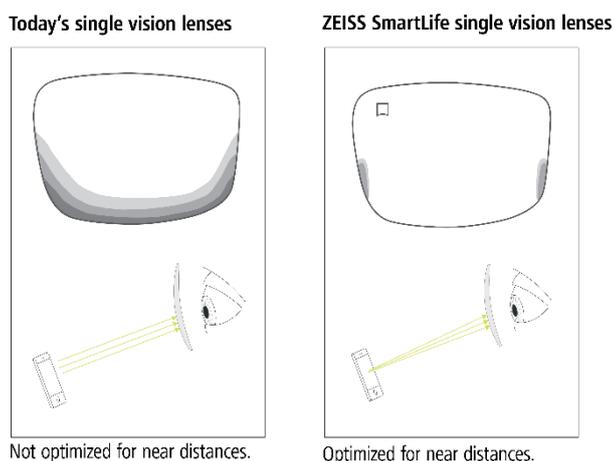


Figure 2: The focus points in the lower part of the lens have been recalculated.

In the past the calculation with focus points at an infinite distance led to aberrations in close work. The recent integration of what have been called "Smart Dynamic Optics" as a component of the

¹ Dynamic gaze study – Changes in gaze behavior through digital devices. ZEISS Vision Science Lab, Institute for Ophthalmic Research, University of Tübingen, 2019. Data on file.



ZEISS SmartView technology has produced the advantage that the new single vision design of ZEISS was optimized for the first time for close *and* distant views. This results in up to 88 percent of larger clear fields of view.² The basic requirement is the highly complex calculation of the lens which involves both the distance of the object and the associated gaze angle over the entire lens surface. Such a highly complex product can only be manufactured with the aid of modern freeform technology.

Thanks to this new single vision design concept, consumers can be certain that the lens is optimized for modern everyday life - in other words for today's gaze behavior at all distances. The values measured by the eye care professional are now achieved not just for distant work but also for near work.

SmartLife is a registered trademark of Carl Zeiss Vision GmbH.

Contact for the press

ZEISS Vision Care

Joachim Kuss

Tel. +49 151 42112288

Email: Joachim.kuss@zeiss.com

www.zeiss.com/newsroom

www.zeiss.com/vision-news

About ZEISS

ZEISS is an internationally leading technology company in the optics and optoelectronics industry. In the previous fiscal year, the ZEISS Group generated annual revenue totaling more than 6.4 billion euros in its four segments, Industrial Quality & Research, Medical Technology, Consumer Markets and Semiconductor Manufacturing Technology (status: September 30, 2019).

For its customers, ZEISS develops, produces and distributes highly innovative solutions for industrial metrology and quality assurance, microscopy solutions for the life sciences and materials research, as well as medical technology solutions for diagnostics and treatment in ophthalmology and microsurgery. The name ZEISS is also synonymous with the world's leading lithography optics, which are used by the chip industry to manufacture semiconductor components. ZEISS brand eyeglass lenses, camera lenses and binoculars are popular, trendsetting products in markets around the globe.

With a portfolio aligned with future growth areas like digitalization, healthcare and Industry 4.0 as well as a strong brand, ZEISS is shaping technological progress and through its solutions is extending the horizon of the world of optics and associated areas. The company's significant, sustainable investments in research and development lay the foundation for the success and continued expansion of ZEISS' technology and market leadership.

With over 31,000 employees, ZEISS is globally active in over 50 countries with around 30 production sites, 60 sales and service locations and 25 research and development facilities. Founded in 1846 in Jena, ZEISS is headquartered in Oberkochen, Germany. The Carl Zeiss Foundation, one of the largest foundations in Germany committed to the promotion of science, is the sole owner of the holding company, Carl Zeiss AG.

Further information is available at www.zeiss.com

ZEISS Vision Care

ZEISS Vision Care is one of the world's leading manufacturers of spectacle lenses and ophthalmic instruments. The area is part of the Consumer Markets segment and develops and produces offerings for the entire spectacle lens value creation chain which are distributed globally under the ZEISS brand.

² Analyses by Technology & Innovation, ZEISS Vision Care, DE