# Take on everything your eyes face today.



Seeing beyond

#### **ZEISS SmartLife Lenses**

The best complete lens portfolio by ZEISS. An innovative, complete and modern lens portfolio, to cater for the visual needs of today's consumers.

www.zeiss.com/vision



## We live in a digital community. Being connected is the new normal.

#### Is this lifestyle a blessing or a curse? What impact does it have on our vision?

People browse, click, zoom and swipe... whenever they want, wherever they are. We can do much more than ever before – both online and offline.

With digital devices being an integral part of our lives, we have access to more people, information and things. The ability to connect with the world lies within the palms of our hands. This is the new normal.

Being constantly connected is a blessing in so many ways, but it also means that we rarely switch off – neither our devices nor our minds. The same is true for our eyes.

In response to relevant consumer insights and extensive research on modern visual behaviour, ZEISS has developed a new lens portfolio to help all spectacle lens wearers keep up with the times. The first of its kind, the ZEISS SmartLife Lens Portfolio is a complete, all-day lens offering to address the everyday visual needs of modern consumers, throughout their lives.

This portfolio, which features exciting new technology, has been carefully developed to simplify how eye care professionals choose and sell the right lens for each patient.

Now, in addition to full UV protection (standard in clear ZEISS Lenses\*), you can offer your patients a product specifically designed for a connected, fast-paced lifestyle, so they can take on everything their eyes face today.



## 1. We share a connected and on-the-move lifestyle.

The digital community is growing and connectivity is increasing regardless of age.





More than 1/2 of the world's population now carries a portable digital device.<sup>1</sup>





+1 Million new internet



55+ is the age goup with the largest current smartphone



over 1/3 own or have access to a connected television.

48% YoY growth of smart watch shipments in Q1 2019. users per day.<sup>2</sup>

penetration growth rates.<sup>1</sup>



#### **Smartphones are** increasing our mobility and flexibility.

Since 2014, the average time per day we spend on mobile phones has increased by 49% - now standing at three hours and 14 minutes. In contrast, the average time spent on laptops and tablets has decreased by 24% since 2014.<sup>2</sup>

Mobile devices enable us to socialise, shop and work any time and from anywhere. We're no longer stuck in office buildings and cafés but are constantly on the move using our digital companions every step of the way.



27%

#### Did you know:

Multitasking is so prevalent, researchers are now studying 'distracted walking' and its link to pedestrian accidents.

Being connected and on the move is the new normal.

# How does this affect the vision of your patients?



Consumer Insights



## 2. Being connected and on the move has an impact on our visual behaviour.

#### Our eyes have never been busier.

Visual behaviour and visual habits are determined by lifestyle. In today's fast-paced world, it has become second nature to switch between on and off-line media. We stare at our digital devices and at the same time need to be aware of the world around us.

This interaction with digital devices has changed the way we use our eyes, compared to only a decade or two ago.

Despite this visual multi-tasking, we need sharp, clear and comfortable vision for everything our eyes face each day.



Our daily interactions weren't digital.

We read mostly print media (at a reading distance of approximately 40cm) and tended to concentrate on a single visual task for a longer period of time.



#### In recent years

Connected devices started to become a comodity in our daily lives. This meant:

- More information on smaller & higher resolution displays.<sup>3</sup>
- · Closer reading distance on digital devices.<sup>3</sup>



#### Today

Being constantly connected and more mobile than ever affects our visual behaviour in the following ways:

- Significant increase in downward shifted gaze while using connected devices.<sup>4</sup>
- Central and peripheral vision and additional downward eye rotation required to navigate when using connected devices while on the move.<sup>4,5</sup>
- Constant attention to connected devices leads to changes in body posture and new eye movement patterns.<sup>6</sup>



Our modern, connected lifestyle has an effect on the visual behaviour of all people.

## Our eyes also change with age.





## 3. Our visual needs evolve as we grow older.

Anatomical and physiological changes of our eyes can lead to different visual challenges over time.

No matter how young or old we are, we have to deal with the visual strain that has become part of our modern lifestyle. In addition, our visual needs also change as we grow older. This can be attributed to two key factors:

· A decrease in the amplitude of accommodation.

· A decrease in pupil diameter.

"For me, clear vision at all distances is important, and sometimes I experience a bit of eye strain."



Age

"In addition to clear vision, I want my eyes not to feel tired, especially at the end of a long day."

"Since entering my 40's, I've started to experience near vision discomfort and need some support to focus on nearby objects."

"For a few years now, I've needed additional support for my close and mid range vision. I also find adapting to new lenses can be quite a challenge."

Oculomotor accommodative stress

55

ZEISS

# Addressing the visual needs of spectacle lens wearers today.

ZEISS translated these 3 consumer insights into a complete lens portfolio, offering lens solutions for consumers across all age groups.



#### Connected lifestyle

We are part of a digital community that shares a connected and on-the-move lifestyle.



**2** Dynamic visual behaviour This lifestyle has an impact on our visual behaviour, regardless of age.

3 Age-related visual needsOur visual needs also change as we grow older.



ZEISS SmartLife Single Vision Lenses

The ZEISS SmartLife Lens Portfolio:



ZEISS SmartLife Digital Lenses

ZEISS SmartLife Progressive Lenses



# Let's take a closer look at the ZEISS SmartLife Lens Portfolio.

## Developed with you and your patients in mind, it is:



#### 1 Smart

Addressing relevant consumer needs and a wide target market.



#### 2 Superior

Incorporating innovative new technology and optical expertise.



#### Simple

Saving you time and effort by simplifying lens choice and selling.



## A smart choice.

## One go-to lens portfolio addressing relevant consumer needs.

ZEISS' in-depth understanding of visual behaviour and visual habits has been incorporated into the design philosophy of each and every ZEISS SmartLife Lens, with further optimisation based on age-related visual needs. This was translated into 3 base designs: ZEISS SmartLife Single Vision, ZEISS SmartLife Digital and ZEISS SmartLife Progressive Lenses.

The result is a complete portfolio with great potential benefit to your business:

 $\cdot$  A big target market: One portfolio to serve a wide range of consumers (20 years and up), addressing their visual needs now and in years to come.

· Upsell opportunities: Within each lens category there is an opportunity to upsell to more sophisticated individual lens designs.

• Happy patients: A comprehensive consumer acceptance test with 182 participants, conducted by the Aston University's School of Optometry in the UK, has shown high levels of customer satisfaction.

Would recommend ZEISS SmartLife Lenses to family and friends.<sup>10</sup>



8/10



## **ZEISS SmartView Technology**.

#### The superior science behind ZEISS SmartLife Lenses, built on ZEISS' outstanding knowledge as an optical powerhouse.

The foundation of the new ZEISS SmartLife Lens Portfolio - ZEISS SmartView Technology - is based on consumer insights and scientific research of today's modern visual behaviour and individual age-related vision needs.

Built on a unique combination of expertise in ophthalmology and knowledge in various fields of optics, it is an evolution of the existing ZEISS Precision Technology, now available for the entire portfolio.

#### The four cornerstones of ZEISS SmartView Technology:



#### **1** Clear Optics

Provides precision in every step of the process: From advanced eye model & design calculation to freeform production & manufacturing.

#### **2** Thin Optics

ZEISS Lens Aesthetics with the best balance between optics and thin, light lenses.



#### NEW

#### **3** Smart Dynamic Optics

ZEISS uses state-of-the-art 3D object-space-models and design fingerprints adapted to today's dynamic visual behaviour.

#### NEW

#### Age Intelligence

Considers the evolution of vision needs at every stage of the lens wearer's life.



## **1. Clear Optics**

#### The ZEISS promise of precision throughout the complete design and production process.

#### This is achieved with:

- · High precision in an advanced lens-eye-system.
- · High precision with the point-by-point lens calculation.
- · High precision & leading edge technology in advanced freeform production.

## 

## 2. Thin Optics

ZEISS lens aesthetics with the best balance between optics and thin, light lenses.

## Enabled by the ZEISS thickness optimisation algorithm, thin & lightweight lenses are based on:

- · Optima the ZEISS thickness reduction option.
- $\cdot$  Flexible base curve adaptation for further aesthetic lens optimisation.
- Thinning prism for Digital and Progressive lenses, an individual thinning prism is applied, based on all given order data.



## **3. Smart Dynamic Optics**

## NEW

#### The latest design optimisation by ZEISS.

Smart Dynamic Optics is based on the simulation of binocular vision during dynamic visual behaviour, related to a connected and on-the-move lifestyle (which affects everyone, irrespective of age).



#### In summary this entails:

- A sophisticated 3D object-space-model, now also included in the next generation of ZEISS SmartLife Single Vision Lenses.
- New design fingerprints for ZEISS SmartLife Digital and Progressive Lenses.
- Both the 3D object-space-model and the new design fingerprints take the dynamic visual behaviour from near to far into account, which lead to a smoother transition into the lens periphery with less perceived blur. This enables peripheral vision in a natural dynamic interaction, resulting in comfortable vision and ease of viewing in all distances and directions.<sup>4</sup>



## **3. Smart Dynamic Optics**

#### The 3D object-space-model.

This describes the exact position of a specific object or point, within a 3 dimensional space according to its distance, direction and inclination in relation to the spectacle lens.

The path of light from this object through the lens is calculated binocularly. ZEISS engineers do multiple calculations at a multitude of distances and directions over the entire lens surface, taking modern dynamic visual behaviour into account to optically optimise the lens.



**FA** 



Previously, these calculations were only done for Digital and Progressive lenses. Now the 3D object-space-model is considered for ZEISS SmartLife Single Vision Lenses as well.

ZEISS



## **3. Smart Dynamic Optics**

## NEW

## The new design fingerprints.

#### ZEISS SmartLife Single Vision Lenses

Today's single vision lenses are usually optimised for one distance only – mainly for far vision. Understanding the visual behaviour of single vision lens wearers, Smart Dynamic Optics calculates the single vision lens design for sharp vision in all distances, especially when lowering the gaze while focusing on near objects.

• The next generation of ZEISS Single Vision Lenses with improved optical performance and up to 88% larger clear fields of view.<sup>8</sup>

#### ZEISS SmartLife Digital Lenses

These lenses have a new design fingerprint which provides a smoother transition into the lens periphery, with less perceived blur, to enable peripheral vision in natural dynamic interaction. Lenses with low addition powers are designed to allow for smooth transitions and adaptation for single vision or non-lens wearers. As the addition increases, the design is geared towards ZEISS SmartLife Progressive Lenses for easier transition into progressive lens wear at a later stage.







• More accurate vision at near distance for your connected and on-the-move lifestyle.<sup>9</sup>

#### ZEISS SmartLife Progressive Lenses

Optical performance in the lens periphery is designed for frequent changes of head and eye position, driven by the way in which people interact with their handheld devices while on the move. This new design fingerprint provides a smoother transition into the lens periphery with less perceived blur to enable peripheral vision in natural dynamic interaction. • 8 of out 10 consumers adapted very fast to their new lenses, (within 1 day).<sup>11</sup>

#### Single vision wearer's near point:

Based on reading behaviour, the near point location for people coming from single vision lenses is located higher than for progressive lens wearers.



#### Progressive Lens wearer's near point:

Because of higher addition powers, the near point for experienced progressive lens wearers is lower for more comfort in the intermediate zone. Smoother transition into areas with more blur.

Overall lower blur level compared to current ZEISS Precision Progressive Lenses.



ZEISS SmartLife Progressive Lens





#### 4. Age Intelligence NEW

#### Addressing the evolution of lens wearers' visual needs.

1. Lenses are adapted according to the eyes' accommodation ability, taking into account that, with growing age, this ability decreases significantly. Therefore different lens types are offered for different stages of life – fulfilling evolving vision needs as people grow older.



2. Further optical optimisation is done according to the average pupil size of a person's age group. With increasing age our pupils' ability to dilate decreases. For optical optimisation of the lens surface, ZEISS takes the age-specific pupil size for average luminance during the course of the day into account - this is called ZEISS Luminance Design Technology 2.0.





The ZEISS SmartLife Lens Portfolio caters for all connected, on-the-move consumers, irrespective of age – providing clear, comfortable vision to balance their modern lifestyle.





## Simple to sell.

#### ZEISS supports you to choose – and sell – the best age-optimised lenses for all your patients.

Understanding the evolution of vision needs, Age Intelligence within the ZEISS SmartView Technology considers three important indicators in order to recommend an appropriate, age-optimised lens design:

- 1. A person's age, to establish the eyes' decreased amplitude of accommodation and decrease in the pupils' ability to dilate.
- 2. Perceived visual challenges, as an indication of the individual visual needs related to age.
- 3. Current lens solution, to determine current visual habits which the wearer is accustomed to.

Based on these three indicators, the ZEISS Smart Guide has been developed to make the lens choice, consultation and sale simpler and smarter, enabling you to focus your time on what really matters – your patient.



### Lens choice made simple. **ZEISS Smart Guide**













# Help your patients to take on everything their eyes face today.

Life as we know it will keep on changing. Technology will continue to develop - getting better and faster by the day.

We all need to keep up with the times.

Spectacle wearers need lenses that are optimised for frequent gaze changes in all distances and directions, so they can continue browsing, swiping, chatting and living at their preferred pace. As an eye care professional, your business should address the needs of modern consumers, and the visual challenges they face as a result of a connected, on-the-move lifestyle.

With the ZEISS SmartLife Lens Portfolio, ZEISS offers you a complete, holistic solution, and the opportunity to do just that. We see beyond to help you achieve continued growth and success.

## **ZEISS Single Vision SmartLife Individual**



## **ZEISS Single Vision SmartLife**



## **ZEISS Digital SmartLife Individual**



## ZEISS Digital SmartLife



## **ZEISS Progressive SmartLife Individual**



## **ZEISS Progressive SmartLife Superb**



## **ZEISS Progressive SmartLife Plus**



Today's single vision lenses are mostly optimised for one distance only - mainly for far vision. The result: The lower part of the lenses is not optimised for near distances.

#### **ZEISS SmartLife Single Vision Lenses**

#### The next generation of ZEISS Single Vision Lenses with improved optical performance up to 88% larger clear fields of view.<sup>8</sup>

Today's single vision lenses are usually optimised for one distance only – mainly for far vision. However, this is not realistic. Our connected and on-the-move lifestyle has an impact on our visual behaviour. Understanding this behaviour for single vision lens wearers is crucial. ZEISS SmartLife Single Vision - optimise the lens for far to near distances. For the first time in a ZEISS single vision lens, a 3D object-space model is used for the next generation of single vision lenses. The new ZEISS SmartView Technology optimises the single vision lens design for sharp vision in all distances, especially when lowering the gaze while focusing on near objects.

#### Today's Single vision lenses



ZEISS SmartLife Single Vision Lenses are optimised for sharp vision in all distances. Especially when lowering the gaze while focusing on near objects.





#### ZEISS SmartLife Single Vision Lens Portfolio

The ZEISS SmartLife Single Vision Lenses are integrated into the ZEISS Smartlife Lens Portfolio, consisting of Single Vision Lenses, Digital Lenses and Progressive Lenses. ZEISS SmartLife Lenses deliver effortless and comfortable vision in all distances and directions so your patients can take on everything their eyes face today, no matter their age.

	ZEISS SmartLife Single Vision Lenses	ZEISS SmartLife Single Vision Lenses Individual
Optimisation to the individual main daily activities IndividualFit™ Technology*		
Optimisation to the individual position of wear parameter for full potential of lens zones FaceFit <sup>™</sup> Technology		٠
FrameFit Calculator for fast adaption from old to new lenses Adaption Control <sup>™</sup> Technology*		
<b>Optimisation of the corridor for</b> <b>free frame choice</b> FrameFit®+ Technology*		
Optimisation of the near zone for better reading on digital devices Digital Inside™ Technology*		
Optimisation based on average light conditions & age-related pupil diameter Luminance Design™ Technology 2	5	٠
Optimisation based on today's connected & on the move lifestyle SmartView <sup>™</sup> Technology	•	•

\* not applicable for Single Vision Lenses

#### Stamp and Engravings



	-
NIDCO	11100
IN ASA	VIIICI
110.50	 

ZEISS SmartLife	CLAN
Single Vision	SLXX
ZEISS SmartLife	CLIVIA
Single Vision Individual	SLIXX

Organic 1.74	0
Organic 1.67	○●☑▼☆
Organic 1.60	○●☑▼☆
Organic 1.50	○●☑▼☆
Trivex 1.53	○● ▼☆

For further information on detailed power ranges please check your price list.

▼ Transitions - ☆- Polarised

ZEISS SmartLife Single Vision Lenses		iartLife ZEISS SmartLife Single Vision		
Prescription		•	•	
Date of birth		•	•	
	Fitting height	•	•	
Physiological	FrameFit® value		•	
position of Me wear data Baa Par	Monocular PD	•	•	
	Back vertex distance		•	
	Pantoscopic tilt	•	•	
Individual preferences	Wrap angle		٠	
	Frame box height	• (Optima only)	•	
Frame data	Frame box length	• (Optima only)	٠	
	Distance between lenses	• (Optima only)	•	
	Frame shape	• (Optima only)	٠	

Order parameter

Single vision wearers are accustomed to unrestricted horizontal eye movement for far distance vision, free from blur and distortion. Therefore, SmartLife Digital Lenses have a large distance zone.



#### **ZEISS SmartLife Digital Lenses**

#### More accurate vision at near distance for your connected and on-the-move lifestyle.<sup>1</sup>

ZEISS SmartLife Digital Lenses are designed to meet the vision needs of people with a connected and on-the-move lifestyle experiencing tired eyes or near vision discomfort for the first time. Regardless of whether they are single vision wearers or not yet spectacle wearers, these lenses have a new design fingerprint which provides a smoother transition into the lens periphery, with less perceived blur, to enable peripheral vision in natural dynamic interaction. The design is geared towards ZEISS SmartLife Progressive Lenses for a more natural transition into progressive lenses later in life.





#### Large distance zone

#### Compressed corridor

These wearers have sufficient accommodation available for clear mid-range vision and are used to tilting the head for near vision tasks. Therefore, the lens design has a compressed corridor for ease of viewing in all directions.

#### Comfortable near zone

The prescription and the decrease in the amplitude of accommodation of each wearer is different. ZEISS SmartLife Digital Lens design can be customised within 0.5 up to 1.25 D addition power to provide a comfortable near zone.

#### **Consumer benefits**

Designed for more natural head & body posture while reading.

Fit in any frame.

More accurate vision at near distances for your connected and on-the-move lifestyle.<sup>1</sup>

After performing a concentrated near task at 20 cm for 30 min with ZEISS SmartLife Digital lenses compared to ZEISS single vision lenses, subjects aged 30 - 40 years (n=12) showed an improved accommodative response with a significant difference for accommodative demands over 3 D, that is applicable to tasks performed closer than 33 cm. External performance test on ocular accommodation and blink rate comparing ZEISS single vision lenses to ZEISS SmartLife Digital lenses, n=39 study participants. Aston Optometry School, Aston University, UK, 2019.

#### ZEISS SmartLife Digital Lens Portfolio

The ZEISS SmartLife Digital Lenses are integrated into the ZEISS Smartlife Lens portfolio, consisting of Single Vision Lenses, Digital Lenses and Progressive Lenses. ZEISS SmartLife Lenses deliver effortless and comfortable vision in all distances and directions so your patients can take on everything their eyes face today, no matter their age.

	ZEISS SmartLife Digital Lenses	ZEISS SmartLife Digital Lenses Individual
Optimisation to the individual main daily activities IndividualFit <sup>™</sup> Technology*		
Optimisation to the individual position of wear parameter for full potential of lens zones FaceFit <sup>™</sup> Technology		٠
FrameFit Calculator for fast adaption from old to new lenses Adaption Control™ Technology		٠
<b>Optimisation of the corridor for free frame choice</b> FrameFit®+ Technology	•**	•
Optimisation of the near zone for better reading on digital devices Digital Inside® Technology	٠	٠
Optimisation based on average light conditions & age-related pupil diameter Luminance Design™ Technology 2	٠	٠
Optimisation based on today's connected & on the move lifestyle SmartView™ Technology	٠	٠
* not applicable for Digital Lenses ** automatic adaption	of the corridor base	d on fitting height

#### Stamp and Engravings



#### Nasal Engraving

#### ZEISS SmartLife Digital

DSLxx



#### Nasal Engraving

ZEISS SmartLife Digital Individual

DLIxx

42

#### Availability Range

0
○●☑▼☆
○●☑▼☆
○●☑▼☆
○● ▼☆

For further information on detailed power ranges please check your price list.

#### Order parameters

ZEISS Smart	Life	ZEISS SmartLife	ZEISS SmartLife
Digital Lense	25	Digital Digital Indivi	
Prescription		•	•
Date of birth		•	•
Physiological	Fitting height	•	•
position of	FrameFit+® value		•
wear data	Monocular PD	•	•
	Back vertex distance		٠
	Pantoscopic tilt		•
Individual preferences	Wrap angle		٠
Frame data	Frame box height	• (Optima only)	•
	Frame box length	• (Optima only)	•
	Distance between lenses	● (Optima only)	•
	Frame shape	● (Optima only)	•
Corridor lengh	t (FrameFit+® value)	Variable corridor length (Based on fitting height)	Variable corridor length (FrameFit+® -1 to 6)
Fitting heights	;	Variable	Variable
Minimum fittir	ng heights	14 mm	14 mm

#### **ZEISS SmartLife Progressive Lenses**

ZEISS SmartLife Progressive Lenses are designed to meet the vision needs of people with presbyopia with a connected and on-the-move lifestyle. The optical performance in the lens periphery is designed for frequent changes of head and eye position driven by how people interact with their handheld devices. This new design fingerprint provides a smoother transition into the lens periphery with less perceived blur to enable peripheral vision in natural dynamic interaction.



Stardard Progressive Lens

ZEISS SmartLife Progressive Lens

#### ZEISS SmartLife Progressive Lens Portfolio

The ZEISS SmartLife Progressive Lenses are integrated into the ZEISS Smartlife Lens portfolio, consisting of Single Vision Lenses, Digital Lenses and Progressive Lenses. ZEISS SmartLife Lenses deliver effortless and comfortable vision in all distances and directions so your patients can take on everything their eyes face today, no matter their age.

	ZEISS SmartLife Progressive Plus	ZEISS SmartLife Progressive Superb	ZEISS SmartLife Progressive Individual
Optimisation to the individual main daily activities IndividualFit <sup>™</sup> Technology			•
Optimisation to the individual position of wear parameter for full potential of lens zones FaceFit <sup>™</sup> Technology		٠	•
FrameFit Calculator for fast adaption from old to new lenses Adaption Control <sup>™</sup> Technology	•	•	•
Optimisation of the corridor for free frame choice FrameFit®+ Technology	•	٠	•
Optimisation of the near zone for better reading on digital devices Digital Inside <sup>™</sup> Technology	•	٠	•
Optimisation based on average light conditions & age-related pupil diameter Luminance Design™ Technology 2	•	•	•
Optimisation based on today's connected & on the move lifestyle SmartView <sup>™</sup> Technology	•	•	•

Referer Individ (5 digit Additi (3 digit FrameF (2 digit Base cu

> \_\_\_\_ ZEIS ZEIS

(5 digits)

(2 digits) (1 digit) (1 digit)

#### Stamp and Engravings

			Location of distance
Fitting cross			reference point (DRP)
Reference mark			Location of prism
Individual engraving		0 1	reference point (PRP)
(5 digits)		(+) <u>-</u>	Reference mark
Addition power			Material index
(3 digits)	404		(2 digits)
FrameFit <sup>®</sup> value		3	Product type
(2 digits)		6-	(3 digits)
Base curve		$\times$	Location of near
(1 digit)			reference point (NRP)

#### Nasal Engraving

SS SmartLife Progressive Plus	SPLxx
5S SmartLife Progressive Superb	SSBxx



#### Nasal Engraving

ZEISS SmartLife SINxx Progressive Individual

#### Availability range

Organic 1.74	0
Organic 1.67	○●☑▼☆
Organic 1.60	○●☑▼☆
Organic 1.50	$\bigcirc \bullet \blacksquare \blacksquare \spadesuit$
Trivex 1.53	0● ▼☆

For further information on detailed power ranges please check your price list.

▼ Transitions 🕁 Polarised

#### Order parameters

ZEISS SmartLife Progressive Lenses		ZEISS SmartLife	ZEISS SmartLife	ZEISS SmartLife Progressive
		Progressive Plus	Progressive Superb	Individual
Prescription		•	•	•
Date of birth		٠	٠	٠
Physiological position of wear data	Fitting height	•	٠	•
	FrameFit+ <sup>®</sup> value	•	٠	•
	Monocular PD	•	٠	•
	Back vertex distance		•	•
	Pantoscopic tilt		•	•
Induvidual Prefere	encesWrap angle			•
	Frame box height	• (Optima only)	•	٠
Frame data	Frame box length	• (Optima only)	•	•
	Distance between lenses	(Optima only)	٠	٠
	Frame shape	(Optima only)	٠	٠
Corridor lenght (FrameFit+® value)		Variable corridor length (FrameFit® value -1-6)	Variable corridor length (FrameFit <sup>®</sup> value -1−6)	Variable corridor length (FrameFit® value -1-6)
Fitting heights		Variable	Variable	Variable
Minimum fitting heights		14 mm	14 mm	Near: 16 mm Intermediate: 18 mm Balanced: 14 mm



#### Source

<sup>1</sup> Deloitte LLP. (2017). State of the smart - Consumer and business usage patterns. Global Mobile Consumer Survey 2017: UK Cut.

<sup>2</sup> We Are Social & Hootsuite. (2019). Digital 2019 Essential insights into how people around the world use the internet, mobile devices, social media and e-commerce.

<sup>3</sup> Bababekova Y., Rosenfield M., Hue J.E., Huang R. R. (2011). Font Size and Viewing Distance of Handheld Smart Phones. Optometry and Vision Science, 88:795–97.)

<sup>4</sup> Dynamic gaze study - Changes in gaze behavior through digital devices. ZEISS Vision Science Lab, Institute for Ophthalmic Research, University of Tuebingen, 2019. Data on file.

<sup>5</sup> Ioannidou F., Hermens F., Hodgson, T.L. (2017). Mind your step: the effects of mobile phone use on gaze behaviour in stair climbing. Journal of Technical and Behavioural Science, 2: 109-120.

<sup>6</sup> Gustafsson E., Thomé S., Grimby-Ekman A., Hagberg M. (2017). Texting on mobile phones and musculoskeletal disorders in young adults: A five-year cohort study. Applied Ergonomics, 58:208-214.

<sup>7</sup> 81% of consumers adapted very fast to their new lenses, just within 1 day (percentage of participants who adapted 'immediately', 'within hours' or 'within 1 day'). External consumer acceptance test on the ZEISS SmartLife Lens portfolio, n=182 study participants. Aston Optometry School, Aston University, UK, 2019.

<sup>8</sup> ZEISS SmartLife Single Vision Lenses with improved optical performance of up to 67% for high hyperopes, up to 88% for high myopes, and on average 28% larger clear fields of view compared to standard sph/asph SV lenses based on calculation for binocular vision considering object field areas below a threshold of 0,25D RMSPE for range -10,0D up to +8,0D. Analyses by Technology & Innovation, ZEISS Vision Care, DE, 2019.

<sup>9</sup> After performing a concentrated near task at 20 cm for 30 min with ZEISS SmartLife Digital Lenses compared to ZEISS Single Vision Lenses, subjects aged 30 - 40 years (n=12) showed an improved accommodative response with a significant difference for accommodative demands over 3D, that is applicable to tasks performed closer than 33 cm. External performance test on ocular accommodation and blink rate comparing ZEISS Single Vision Lenses to ZEISS SmartLife Digital Lenses, n=39 study participants. Aston Optometry School, Aston University, UK, 2019.

<sup>10</sup> 76% would recommend ZEISS SmartLife Lenses to family and friends (percentage of participants who have chosen 'yes'). External consumer acceptance test on the ZEISS SmartLife lens portfolio, n=182 study participants. Aston Optometry School, Aston University, UK, 2019.

<sup>11</sup> 80% of consumers adapted very fast to their new lenses within 1 day (percentage of participants who adapted 'immediately', 'within hours' or 'within 1 day'). External consumer acceptance test on the ZEISS SmartLife Lens Portfolio, n=82 study participants. Aston Optometry School, Aston University, UK, 2019.

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