

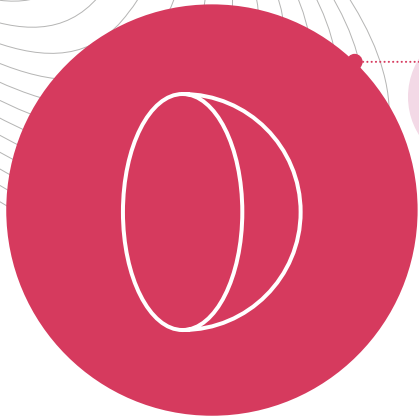


## Emerging vision assistive technology

# 3,036

patent families for emerging vision assistive technology filed across **44 patent offices**

### What technologies are involved?



**Intraocular lenses (IOL)**  
1,323 (44%)



**Artificial silicon retina (ASR)/retinal prostheses**  
654 (22%)



**Smart eyewear**  
340 (11%)



**Cortical implants**  
293 (10%)



**Augmented reality (AR) devices**  
236 (8%)

**Telescopic lenses**  
114 (4%)

**Artificial eye**  
100 (3%)

**Hand wearables**  
51 (2%)

**Virtual reality (VR) devices**  
49 (2%)

**Artificial iris**  
20 (1%)

### Which are the fastest growing technologies?

Filings related to **intraocular lenses (IOL) with sensors** increased by an average of **48%** between 2013 and 2017

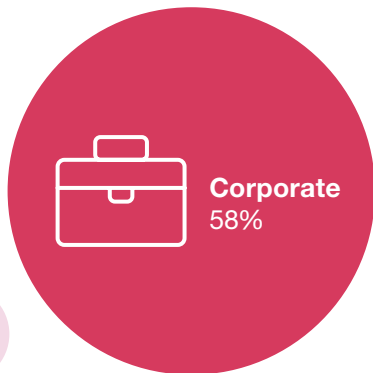
In 2013–2017, the average annual growth rate was **38%** for filings related to **augmented reality (AR) devices**, and **35%** both for **artificial silicon retina (ASR)/retinal prostheses** and **smart eyewear**

### Who is filing?

#### Applicant sector



**Academia**  
24%



**Corporate**  
58%



**Individuals**  
16%

#### Top patent applicants

<b>Second Sight Medical (U.S.)</b>	223
<b>S. Fyodorov Eye Microsurgery Federal State Institution (Russian Federation)</b>	159
<b>Johnson &amp; Johnson (U.S.)</b>	130
<b>Allergan (Ireland)</b>	101
<b>Alcon (Switzerland)</b>	80

The top 10 applicants account for **27%** of the domain's patent families, indicating a market concentration to these players.