INTELON OPTICS

Who Intelon is:
Intelon Optics is developing and commercializing the Brillouin Optical Scanner System (BOSS) – a proprietary medical device for imaging non-contact, high-resolution biomechanical properties of tissues in the eye, or in other words individualized mapping of the currently missing information linking tissue integrity and visual function. The scanner uses a laser at a wavelength that is non-invasive safe, rapid, and invisible to the eye. The BOSS' biomechanical imaging capabilities are based on the principle of Brillouin spectroscopy. To date, diagnostic devices in ophthalmology have been limited to mapping and identifying the morphology of eye structures using various technologies including optical coherence tomography (OCT). Using the BOSS, clinicians and surgeons will have the unprecedented ability to measure intrinsic biomechanics of the eye – point-by-point stiffness and viscoelasticity – to allow greater control and decision-making confidence in a variety of diagnostic and surgical indications in the eye. Combined with morphological information (e.g., OCT), biomechanics connects identified structures of the ocular system to optical function and, ultimately, to targeted visual outcomes through treatment or surgery. To date, Brillouin spectroscopy with BOSS is the only technology allowing non-contact, in-vivo, localized measurement of elasticity modulus directly, a critical measure of the stress-strain relationship of ocular tissues from the anterior to posterior of the eye."

What is the need:
Biomechanical imaging with BOSS addresses a hugely underestimated and under-recognized medical consequence in over 50 million patients, who underwent refractive surgical procedures of the cornea wanting to be spectacle-free and now require cataract surgery. Additionally, it can potentially attract a large pool of candidates, who have previously been excluded from refractive procedures due to current standard-of-care nomograms, to safely undergo treatment even if corneas are thin or irregular. Consequently, screening for corneal disorders will potentially allow earlier assessment of pathological growth, unexpected progression, and will lead to early and preventative surgical or therapeutic interventions starting in young children. Predictive diagnostic indications for surgical and therapeutic methods to treat or prevent progression of presbyopia, cataract, myopia and glaucoma are on our target list.

What is our plan:
Intelon Optics is poised to bring BOSS to eye care to finally enable assessment and measurement of biomechanical properties of physiological ocular tissues on an individual basis, in-vivo, and localized with high-resolution. In the near term, Intelon’s business model is focused on de-risking the product and clinical development and on developing clinical-grade prototypes for screening and diagnostic imaging. The company’s commercial focus begins with indications in refractive surgery, and extends to other diagnostic and surgical areas, targeting enhanced outcomes. BOSS will be offered to a broad range of customers, ranging from eye care providers in numerous international markets, as OEM solutions to the eye care industry at large, and to research institutions. The initially targeted clinical indications have an immediate and
rapid ramp-up potential. Intelon has started to develop of suitable screening and monitoring solutions, and intends to productize and industrialize such devices in short succession, while building partnerships for commercialization. The company’s IP and deep know-how in ocular biomechanics, broad productization and commercialization experience within the eyecare market, and access to a world-class group of medical and business partners, will enable the company to develop a successful line of clinical-grade products within 3-4 years.

**CEO quote:**
President and CEO Dominik Beck believes that eye surgeons do not have a good understanding of biomechanical properties of the tissue they are operating on. BOSS will enable them to assess the biomechanical integrity of the cornea or crystalline lens long before surgical intervention is needed and plan to eliminate surprise outcomes as result of false expectations of the tissues behavior."