



IMaging-based CUSTOMised EYE diagnostics

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Deliverable 8.4 Video clips

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1 Summary

Prior experience by the partners has revealed that short video clips are an extremely powerful tool to communicate projects. These serve to create awareness across the general public of the results of the project, and illustrate concepts and potential impact of the technology and results to clinicians, groups of patients and potential investors; they will also capitalise on the imaging nature of the results, dynamic aspects of the raw data and data analysis. Videos will be an important communicating tool of the public website and used in open-door events and communications to the public.

2 Video Clip

In order to increase the visibility and public acknowledgement of the IMCUSTOMEYE project, a short introductory video, addressed to general audience and end-users, was prepared.

Link: <http://www.imcustomeye.eu/videos.html>

The first step in creating the video was to develop a storyboard outlining a script (Annex 1), and ideas for how to visualise these concepts (elaborating on the original video brief). CSIC elaborated the version of the script that was passed to the video producer. The video producer then sketched a first draft of the video which was reviewed by the coordinator. Comments were provided on two further iterations of the video and then it was passed to the whole consortium for comments.

ANNEX 1: IMCUSTOMEYE Video 1 Script and visual resources

Goal: Presentation of the Project for the general public

2D ANIMATIONS TO BE CREATED

IMAGES AND ANIMATIONS TO BE PROVIDED BY CSIC

PICTURES FROM CLINICS

PICTURES TO BE PURCHASED

LOCUTION	IMAGE RESOURCES
	Opening animation with IMCUSTOMEYE logo, fusing into an eye that blinks
<p>The cornea is the most external lens in the eye. Along with the crystalline lens, it projects the images of the outside world onto the retina.</p> <p>The cornea is a transparent dome and its structural integrity relies on finely interleaved collagen fibers.</p> <p>The regular shape of the cornea is, therefore, the result of its biomechanical rigidity. However, the cornea is not a piece of plastic, and different corneas may respond differently to mechanical stimuli.</p>	<p>Eye transforms into a scheme of the eye (cross section).</p> <p>Animation showing a video of collagen fibers (from VioBio Lab)</p> <p>Animation showing twisting Cindy Robert's paper "The Cornea is Not a Piece of Plastic".</p> <p>A photo of plastic artificial corneas (from VioBio Lab)</p>
<p>In several pathologies, such as keratoconus, the cornea weakens locally, resulting in corneal bulging and vision distortion. Keratoconus affects 1% of the population and treatment may require implanting a supporting structure inside the cornea (intracorneal ring segments) or stiffening the cornea instilling a dye and irradiating with light (a technique called cross linking)</p>	<p>Fused with a patient entering an ophthalmology consultation room.</p> <p>Focus on cornea topographer, and corneal topography of a keratconus eye</p> <p>Fused into the image of a keratocus cornea</p> <p>Then an OCT image of intracorneal ring segments (from VioBio Lab)</p> <p>And then into a short sequence of a cross-linking procedure (Check an open source)</p>
<p>There are other ocular conditions in which the cornea is reshaped with laser, implants or incisions. These conditions are highly prevalent, such as myopia that affects 30% of the population in western countries and 90% in some Asian populations;</p>	<p>Fuse to an eye again, and then into a sequence of people walking in the street, then fuse into an image of a young asian person with</p>

<p>presbyopia, the age-related loss of dynamic focusing capacity, which affects 100% of people older than 45; and cataract, the loss of transparency with affects 50% of the population older than 65.</p>	<p>glasses, middle age people with reading glasses, and then old people, go back to an image of an old person's eye</p>
<p>In corneal refractive surgery, used to correct eye's refractive errors, a laser is used to sculpt the cornea into a different shape. Alternatively, new techniques are being developed where biomaterials or tissue is implanted in the cornea to correct presbyopia. In cataract surgery, an intraocular lens is implanted through an incision that needs to be made in the cornea.</p>	<p>Now some video of an operating room with a surgery going on</p>
<p>While all these treatments rely to a larger or lesser extent on the mechanical response of the cornea, today there is no clinical instrument that either detects corneal mechanical abnormalities, or can help in predicting the mechanical response to surgery</p>	<p>Fuse back to an eye. Again another sequence shot in the clinic, where multiple ophthalmological diagnostic systems (corneal topographer, autorefractor, etc... can be seen)</p>
<p>IMCUSTOMEYE, a Project funded by the European Commission Horizon 2020 program addresses this unmet medical need</p>	<p>A break now, marked for example by a change in the music. European Commission, Horizon 2020 and Photonics 21 logos</p>
<p>IMCUSTOMEYE has gathered a reputed multidisciplinary group of experts in academia, industry and clinic to deliver and demonstrate a new clinical instrument which will put Europe in the forefront of personalized diagnostics in ophthalmology.</p>	<p>Imcustomeye logo appears and is surrounded by the partners logos. All the images combine in the center of a map of Europe with an eye illuminated by light</p>

<p>The partners of this highly international consortium are</p> <p>Project coordinator, VioBio Lab at the National Research Council, a pioneer group in optical imaging eye diagnostics</p> <p>Academic partners, Polish Academy of Sciences and the National University of Ireland Galway, both world leaders in biomedical optics and photonics. And University of Liverpool, experts in corneal biomechanics</p> <p>2EyesVision, Oculus, Optimo Medical and IROC Science, all international companies, selected for their unique technical expertise in the ophthalmic industry and strategic position in the field.</p> <p>And world most prestigious ophthalmology clinics, Moorfields Eye Hospital and Instituto Oftalmológico Fernandez Vega, both with flows of thousands of patients per day.</p>	<p>In the Europe map show the logos in the different countries as we introduce them. One option is also to add symbols to differentiate academic partners, clinics and companies or images of a lab (VioBio lab footage), company, ophthalmic clinic before each block of partners</p> <p>Countries: Poland, Ireland, United Kingdom, Spain, Switzerland, Germany.</p>
<p>The multidisciplinary of the consortium will ensure an efficient translation of the front-end laboratory designs and prototypes into a viable instrument that will be tested in pilot clinical studies with patients</p>	<p>Optical equipment with lasers, etc.. merging into a patient being examined in the clinic</p>
<p>IMCUSTOMEYE, bringing light-based technologies to improved diagnostics and personalized surgery</p>	<p>Image of a crowd walking, merging a person smiling, then zooming in on the eye. End the video with the IMCUSTOMEYE logo</p>