





### GenSight Biologics, Pixium Vision and Fondation Voir et Entendre join forces and benefit from a total € 18.5 million funding for SIGHT AGAIN as part of the Investment for the Future

This public - private project with an overall budget of € 47 million aims to restore vision to legally blind patients with retinitis pigmentosa at different stages of the disease

Paris, France, January 7<sup>th</sup>, 2015 - GenSight Biologics, a clinical stage biopharmaceutical company pioneering the development of gene therapy based treatments for retinal degenerative diseases, Pixium Vision (FR0011950641 - PIX), a company developing innovative Vision Restoration Systems (VRS) to allow patients who have lost their sight to lead more independent lives, and Fondation Voir et Entendre, a foundation for scientific cooperation aiming to boost the scientific and medical potential of the Institut de la Vision to meet the sensory challenges of hearing and vision impairments, join forces and announce that the SIGHT AGAIN project will receive a total of € 18.5 million funding over five years as part of the Investment for the Future.

**SIGHT AGAIN**, a collaborative research and development project, aims to restore vision to legally blind patients with retinitis pigmentosa at different stages. Retinitis pigmentosa is a rare and inherited disease, a group of genetic disorders that affect the retina and is characterized by progressive bilateral photoreceptor degeneration leading to blindness. Globally, more than 1.5 million people are affected by this irreversible disease, for which there is no cure to stabilize or restore vision.

Coordinated by GenSight Biologics, SIGHT AGAIN aims to develop two complementary therapeutic products to restore vision: an optogenetic gene therapy product and a Vision Restoration System with a retinal implant, PRIMA. Although different in their technology and targeting distinct stages of the disease, both approaches use a common visual interface. This unique visual stimulation device is in the form of goggles and enables the image capture, their processing and projection on the retina. With dedicated specifications for each developed product, the device will help restore visual function in the retina of patients to transmit visual information to the brain. Rehabilitation protocols will be developed specifically to allow patients to learn how to use and interpret this new form of vision.

"This project is based on a unique public - private partnership. The synergy of skills and expertise with the commitment, passion of all partners should enable technological advances to validate the first treatment of blindness by Optogenetics. This treatment would provide direct clinical benefit for legally blind patients." said Jean Philippe Combal, Chief Operating Officer of GenSight Biologics.

"After the success of our recent IPO, we are delighted to have the support of Bpifrance under this new public-private collaboration. This project should encourage the development of unique and innovative solutions and bring real benefits to patients. It is also a further recognition of the relevance of the technology in the PRIMA system, developed by Pixium Vision." said Bernard Gilly, Executive Chairman and founder of Pixium Vision.

"Fondation Voir et Entendre, which unites the scientific and clinical research teams from Institut de la Vision involved in SIGHT AGAIN, opens a new way for active collaboration between research, clinical and industrial development, in order to accelerate therapeutic innovation and rapid translation of treatments to answer patients' need " explains Professor José-Alain Sahel, Director of Fondation Voir et Entendre. "The Institut de la Vision, one of the first centers in the world of integrated research on eye diseases, created in 2008 and part of the national eye hospital XV-XX, will be one of the major academic players."







"SIGHT AGAIN is a project that Bpifrance is proud to have managed on behalf of the State, as part of the Investment for the Future" adds Paul-François Fournier, Executive Director in charge of Innovation at Bpifrance. "Supporting technological and clinical excellence and development of young innovative start-up companies, specifically here in ophthalmology in France, will ensure the growth and sustainability of the sector while creating economic and scientific value in the area."

SIGHT AGAIN has been selected to the call for projects "Projects Structuring Competitiveness" as part of the Investment for the Future and will receive a total of € 18.5 million funding. These grants and refundable advances will be distributed specifically between the three partners of the project. The estimated overall budget of SIGHT AGAIN, also including private investment, is € 47 million.

SIGHT AGAIN could revolutionize the treatment of blindness due to retinal degeneration and bring unique and innovative solutions to patients who have a very high unmet medical need. The project will contribute to create in France a sector of excellence in ophthalmology and will generate synergies and technological advances in other industries, in health (neuroscience) and non-health related sectors (robotics, automotive etc.).

On behalf of the State, Bpifrance manages a € 280 million public fund dedicated to co-finance "Projects Structuring Competitiveness" (PSPC) as part of the action called "Financing of innovative firms, strengthening competitiveness clusters". This public fund aims to support R & D projects that will generate direct economic and technological benefits in the form of new products, services and technologies, and indirect benefits in terms of sustainability of industrial sectors.

In the second part of the Investment for the Future, the French government decided to pursue its support to co-finance R&D projects with a second € 270 million public fund.

### More information

### **About GenSight Biologics**

GenSight Biologics is an early clinical-stage biopharmaceutical company pioneering the development of gene therapy based treatments for retinal degenerative diseases. Its lead product, GS010, is currently in a Phase 1b clinical study as the first gene replacement therapy for vision loss in Leber Hereditary Optic Neuropathy (LHON), a rare mitochondrial disease that leads to irreversible and often brutal sight loss in teens and young adults and for which there is no treatment available.

Another innovative approach is based on Optogenetics technology, to make cells sensitive to light by introducing, using viral vectors, photosensitive proteins, in order to restore vision in patients with very low vision or total blindness due to retinitis pigmentosa (RP), with the objective to provide a quality of life and sight associated to a level of vision consistent with a significant improvement of independence.

The company raised a total € 35 M Series A financing from European blue-chip capital firms and the French Rare Diseases seed Fund. GenSight Biologics operates within the pharmaceutical market and the field of orphan diseases treatments in order to build a world leader in gene therapy in ophthalmology to provide unique solutions to patients with high unmet medical needs.

More information: www.gensight-biologics.com

### **About Pixium Vision**

Pixium Vision is developing innovative Vision Restoration Systems (VRS) that aim to significantly improve the independence, mobility and quality of life of patients who have lost their sight. The Company intends to harness the rapid advances being made in visual processing, microelectronics, optoelectronics, and intelligent software algorithms to develop systems that for blind people could ultimately provide vision approaching that of a normal healthy eye.

Pixium Vision is developing two VRS platforms:

- IRIS®: Clinical trials are currently underway with IRIS® in several centers in Europe with the goal of applying for CE Mark. Commercialization of IRIS® is expected to begin in 2015, subject to the obtaining of the CE Mark. Pixium Vision will continue to improve the performance of the IRIS® VRS notably through the development of new algorithms and software.
- PRIMA: Currently in preclinical development. The Company plans to begin clinical trials of PRIMA in Europe in 2016.

Pixium Vision was created in 2011 in Paris as a result of combined research, by the Vision Institute, the Pierre et Marie Curie University (UPMC), as well as the collaborative work of several European and American teams from prestigious academic and technological institutions, including Stanford University (USA).

Pixium Vision is an ISO 13485 certified company.

PIX LISTED EURONEXT

Pixium Vision is listed on Euronext (Compartment C) in Paris.

ISIN: FR0011950641; ticker: PIX

IRIS® is a trademark of Pixium-Vision SA is a trademark of Pixium-Vision SA

More information: www.pixium-vision.com

### **About Fondation Voir et Entendre**

Fondation Voir et Entendre aims to support pre-clinical and clinical research in vision and hearing. It was created in 2007 as part of the program law for research in 2006 by the following partners: INSERM, UPMC CHNO XV-XX, Pasteur Institute and the Federation of the Blind and visually handicapped in France (FAF). The Foundation brings together various hospital services, clinical investigation centers / centers for rare diseases and research laboratories such as the Centre for Research Institut de la Vision (Inserm / UPMC / CNRS) and its clinical branch, the Center for clinical Investigation at CHNO XV-XX and the reference Center for Rare Diseases "retinal dystrophies of genetic origin".

More information: www.fondave.org/

### **About Bpifrance**

Bpifrance, a subsidiary of Caisse des Dépôts and French State, trusted partner of entrepreneurs, supports companies, from seed capital to the stock exchange, in credit, guarantees and equity. Bpifrance provides further services and support for innovation, acquisitions and export, in partnership with UBIFRANCE and Coface.

Bpifrance offers companies a continuum of financing for each key stage of their development and specific support in regards to regional specificities.

With 42 regional offices (90% of decisions taken in region), Bpifrance is a tool for economic competitiveness for entrepreneurs. Bpifrance acts in support of public policies pursued by the State and by the Regions to meet three objectives:

- support the growth of SMEs
- prepare future competitiveness
- contribute to the development of a favorable ecosystem for entrepreneurship.

With Bpifrance, companies benefit from a powerful contact point, close and efficient to meet all of their financial needs, innovation and investment.

More information: www.bpifrance.fr - Follow us on Twitter: @bpifrance

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#### ANNEX

### SIGHT AGAIN:

# Restore vision to legally blind patients with retinitis pigmentosa at different stages of the disease

SIGHT AGAIN, a collaborative project of research and development with an overall budget of € 47 million, aims to restore vision to legally blind patients with retinitis pigmentosa at different stages. Three French partners join forces: two start-up companies **GenSight Biologics** and **Pixium Vision**; and a public research organization, **Fondation Voir et Entendre**.

Coordinated by GenSight Biologics, SIGHT AGAIN will receive a total funding of € 18.5 million over five years as part of the Investment for the Future.

### Blindness: a global health issue

The World Health Organization (WHO) estimates that 285 million worldwide is the number of visually impaired individuals among whom 40 million are totally blind. If, despite available treatments, glaucoma and cataracts are the main diseases leading to blindness in the world, retinal degenerations, whether related to aging (such as macular degeneration related to age or AMD) or to genetic origin (such as retinitis pigmentosa or RP), are the major cause of vision loss in developed countries.

## Figure 1: Evolution of vision in patients with retinitis pigmentosa

### **About Retinitis Pigmentosa**

The term retinitis pigmentosa (RP) comprises a heterogeneous group of inherited retinal disorders characterized by a progressive bilateral degeneration of rod and cone photoreceptors that causes night blindness and eventually progressive visual field impairment leading to blindness.

RP is a rare inherited disease that is part of retinal dystrophies. With a prevalence of 1 / 4,000 in Western countries (Europe, North America), this represents 25,000 people in France and over 1.5 million worldwide.

This degenerative retinal disease is irreversible and there is no treatment to date to stabilize or restore vision, retinal prostheses currently available allowing functional improvement of vision.



## Innovative approaches and technological breakthroughs leading to therapeutic and scientific advances

The partners will work together with the aim to develop two complementary therapeutic products to restore vision: an optogenetic gene therapy product and a Vision Restoration System with a retinal implant, PRIMA.

The optogenetic product consists of a gene therapy product, in the form of an AAV (Adeno-Associated Virus) viral vector encoding a photosensitive protein that will allow reintroducing photosensitivity to the retina.

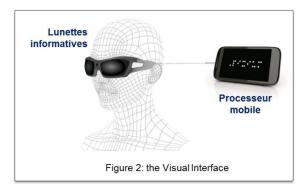
The technology used for PRIMA is a sub-retinal stimulation, which targets the inner retina directly replacing the function of the photoreceptor layer by a miniature wireless electrode holder, thus stimulating the inner retina.

### **About Optogenetics**

The optogenetic therapeutic approach, applied to retinal degeneration (such as retinitis pigmentosa), aims to make photosensitive cells of the retinal circuitry that treat visual information, by transferring a gene encoding for a light-sensitive molecule that will produce an electrical current in response to light.

Thus, the light is converted into electric current in the target cell that can communicate this information to retinal cells and transmit visual information to the brain via the optic nerve.

Although different in their technology and targeting distinct stages of the disease, both approaches use a common visual interface. This unique visual stimulation device is in the form of goggles and enables image capture, their processing and projection on the retina. With specifications for each of the products developed in Sight Again, the device will help restore visual function in the retina of patients to transmit visual information to the brain. Rehabilitation protocols will be developed specifically to allow patients to learn how to use and interpret this new form of vision.



### Industrial and academic partners with a high level and complementary expertise

The project brings together two start-up companies, GenSight Biologics and Pixium Vision and an academic partner, Fondation Voir et Entendre, with recognized expertise and know how in ophthalmology, gene therapy, Optogenetics, neurostimulation and retinal implants / medical devices as well as industrial and pharmaceutical development.

GenSight Biologics develops the optogenetic gene therapy product, from the proof of concept up to the regulatory steps for market authorization. Pixium Vision covers the full cycle of development and industrialization of PRIMA. The two companies will work together on the development of the common parts of the visual interface with Fondation Voir et Entendre.

Fondation Voir et Entendre will realize at the Institut de la Vision the preclinical validation of both therapeutic products developed by GenSight Biologics and Pixium Vision. The multidisciplinary teams will be composed of ophthalmologist clinicians, viral vectors specialists, specialists in the physiology of the retina and visual system, electronic specialists developing cameras called "asynchronous", physicists for integration of optical systems and finally mathematicians for development of embedded software. Fondation Voir et Entendre will also involve the company Streetlab for the development of rehabilitation protocols. Clinical trials will benefit from the expertise of the Ophthalmology Center for Clinical Investigation (CIC) at the national eye hospital CHNO XV-XX.

### A project with significant benefits and multiple synergies

The products developed within SIGH AGAIN will be of high level of innovation and could revolutionize the treatment of blindness due to retinal degeneration. The products will provide unique and innovative solutions to patients who have a very high unmet medical need.

SIGHT AGAIN is a unique public - private partnership that will enable the technological and clinical advances to validate the first treatments for blindness. The project will contribute to enhance the attractiveness of France in creating a French excellence in ophthalmology and generate technological synergies in other industrial sectors such as health (neuroscience for example) and non-health sectors (robotics, automotive etc.).