This project is co-financed by the European Union
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ICTürkiye2025
10 April, İstanbul

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ORGANIZATION: VSY Biotechnology

WORKSHOP NAME: Digital and Smart Health

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Description of the Organisation

VSY Biotechnology is a leading medical technology company specializing in the development and production of intraocular lenses (IOLs), aesthetics solutions, and orthobiologic products. With a strong focus on innovation, R&D, and global collaborations, we aim to enhance patient outcomes, surgical precision, and overall quality of life.

Our expertise lies in delivering high-quality medical devices that support patient safety, durability, and advanced therapeutic solutions. Backed by state-of-the-art R&D and production facilities in Turkey, along with strategic international partnerships, we continuously drive healthcare innovation and bring cutting-edge biotechnological solutions to the global market.

1997

Founded in Istanbul, Turkey, with the goal of producing intraocular lenses (IOLs) for cataract surgery.

2014

Recognized as the 161st R&D Center by the Ministry of Industry and Technology.

Protectalon viscoelastic production facility was established.

Reviscon, an intra-articular injection containing sodium hyaluronate, was added to the product portfolio

Present

TURQUALITY®

Exporting to approximately 90 countries.

141 patent applications worldwide, with 71 patents granted.

Earned the Turquality Program certification.

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Your Teams' Expertise

- Expertise in intraocular lenses: material design, manufacturing, and biocompatibility
- Development of aesthetic products: dermal fillers, lifting agents, and regenerative injectables
- Orthobiologics: products for joint, cartilage, and soft tissue regeneration
- Strong background in regulatory compliance
- R&D capabilities in biomaterials, drug delivery, and smart health technologies

Clinical Research

- Conducting preclinical and clinical studies for ophthalmic and biomaterial applications
- Collaborating with healthcare institutions for real-world evidence collection

Physicochemical Characterization Laboratories

- Advanced material analysis for IOLs, polymers, and biocompatible materials
- Thermal, mechanical, and chemical property evaluation

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Your Research Fields

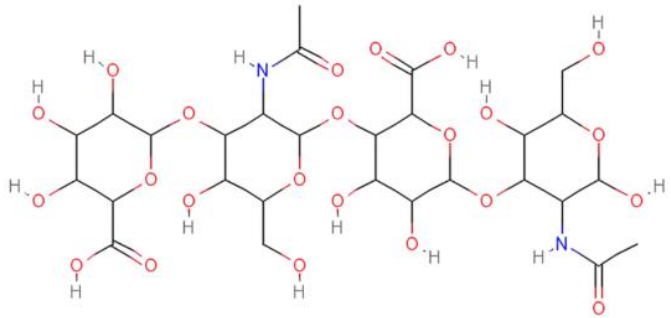
Ophthalmic Biomaterials: Innovative hydrophobic and hydrophilic acrylic polymers

Medical Aesthetics: hyaluronic acid-based formulations, smart delivery systems

Orthobiologics: bioactive injectables for regenerative medicine applications

20 mg 1.0% - 32 mg 1.6% - 48 mg 2.0%
Linear Sodium Hyaluronate

Biotechnological products: High Molecular Weight polymers



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Your On-going Projects

Inhouse Projects:

- Next-generation intraocular lenses with enhanced optical clarity and biocompatibility
- Development of injector systems for ophthalmology and aesthetics
- Advanced dermal fillers and regenerative aesthetics solutions
- Orthobiologic injectable therapies for musculoskeletal conditions
- Participation in collaborative research focused on smart health innovations

Collabration Projects:

- TÜBİTAK 1505 - University – Industry Collaboration Support Program
  - ✓ Biotechnological drug project with Izmir Biomedicine and Genome Center
  - ✓ Biomaterial project with Maramara University Center for Nanotechnology & Biomaterials Applications and Research
- Industry Innovation Network Mechanism (SAYEM) Program
  - ✓ Managing a consortium of 5 universities and 3 SMEs

HORIZON Europe Project

- Membership application of FunBioCare Project
- Participated in the PULSATE 1st TTE (Technology Transfer Experiments) Open Call under the PHOTONICS Public-Private Partnership Platform

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Smart Contact Lens Equipped with Biosensors for Early Diagnosis and Continuous Monitoring of Alzheimer's Disease

Call Topic: ***HORIZON-HLTH-2025-02-DISEASE-01: European Partnership for Brain Health***

Deadline Dates: ***03 June 2025***

❑ Objectives:

- Design a smart contact lens with biosensors to detect Alzheimer's biomarkers in tear fluid.
- Establish a non-invasive, real-time health monitoring system with wireless data transmission.
- Validate the biosensor's sensitivity, specificity, and stability in lab conditions.
- Ensure the lens's safety, comfort, and biocompatibility through in vitro and in vivo testing.
- Evaluate the system's clinical feasibility in a pilot study with early-stage Alzheimer's patients.
- Build a personalized data analysis platform for tracking disease progression remotely.

❑ Expected Results:

- Smart contact lens prototype capable of tear-based detection of Alzheimer's biomarkers.
- Biosensor system validated for clinical relevance and biomarker detection performance.
- Wireless communication system integrated with mobile or cloud platforms.
- Demonstrated lens biocompatibility and user comfort during wearability tests.
- Positive outcomes from a pilot clinical usability study for early diagnosis and monitoring.
- Clear roadmap for regulatory approval (e.g., CE marking) and future clinical translation.

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Consortium - profile of known partners (if any)

No	Partner Name	Type	Country	Role in the Project
01				
02				
03				
04				
05				

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Consortium – required partners

No	Expertise	Type	Country	Role in the project
01	Neuroscience	Academic/Research Institution	-	Conducts research on Alzheimer's symptoms, validation of tear-based biosensing, and contributes to clinical study design.
02	Biomarkers / Biosensing	Academic/Research Institution	-	Conducts research on Alzheimer's biomarkers and supports validation of tear-based biosensing.
03	Digital Health	AI Company/ Research Group	-	Develops data processing algorithms, real-time monitoring systems, and AI-based predictive models for disease progression tracking.
04	Clinical research	Hospital/ Neurology Department	-	Provides access to Alzheimer's patients for sample collection, conducts clinical trials, and ensures ethical compliance.

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COUNTRY: Turkey