

# GLOTTEX. Your voice treats you, your voice identifies you

Innovative biometric application for the early detection of voice pathology and security.



## Contact information

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## Technological Offers type

Technological solutions

## Research and innovation areas

- Digital Technologies, Artificial Intelligence, Cybersecurity, 5G, Robotics
- Health and Wellbeing

ODS



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## Where?

[Center for Biomedical Technology IT applied to Signal and Image Processing](#)

Keywords: | [biometrics](#)

## Brief description of the technology solution and the added value it provides

Glottex Voice Analysis System® is an advanced voice analysis product for the biometrics identification, result of over 15 years of R&D of a team from the School of Computing of the Technical University of Madrid.

In its health version, is currently applied for the early detection of pathologies voice and laryngeal cancer, as well as medical treatment and rehabilitation, in different hospitals in Madrid. Another line of development with high-impact is based on the identification of initial symptoms of neurological diseases such as Alzheimer or Parkinson. Moreover, and as a security application, Glottex is used by one of the Spanish security forces for forensic identification by voice.

## Description of the technological base

Glottex Voice Analysis System®, Glottex onwards, is a software application for advanced analysis of the voice and the determination of the sample closest to the biometric voiceprint.

This new solution identifies, with much more reliability, unique voice characteristics distinguishing those derived from the vocal tract (pharynx, oral cavity, nasal cavity) from those of the excitation source of the voice. Glottex is able to assess and extract unique physiological parameters from the glottal source – part of the larynx that is limited by the vocal cords and whose vibration generates the voice – .

This represents a unique technological solution able to identify early detection for voice pathology, its treatment or even identify a person biometrically

## Market demands

### Health

- Voice disorders affect 5% of the world population, with a higher incidence among young people and professional groups dependent on the use of voice. Early detection is a key factor for treatment.
- Laryngeal cancer affected 150.000 persons in 2008, with a very out-standing degree of mortality and incidence increasing (Spain, at the top European level). The hoarseness of voice is one of the main symptoms of this cancer.
- According to the World Health Organization, an estimated population of 6.8 million people worldwide dies each year as a result of neurological disorders.

### Safety

- A global interest increasing for trustworthy biometric solutions and of difficult impostation (new and sophisticated threats for the safety).
- The safe management of digital identity is critical in numerous niche markets, with sales volumes rising (e.g. mobile banking).
- The security and intelligence departments analyze conversations related to crimes with increasing frequency. Nowadays, it is more difficult to identify suspects with traditional methods

## Competitive advantages

- Support for reliable and early detection of voice pathology through a pioneer analysis based on scientific and technological advances.
- R&D ongoing that could allow identify early symptoms of neurological diseases prematurely.
- Low cost of implementation in health systems: software customizable, no specific hardware requirements. 50% savings cost per

- patient (estimations made by medical professionals that already use Glottex)
- Non-invasive diagnostic technique, fast and without side-effects for the patient. 50% savings in time per patient (estimations made by medical professionals that already use Glottex)
  - Maximum reliability in biometric identification of people
  - Very simple and low cost incorporation to the already existing voice equipment
  - Biometric technology enabling remote authentication.
  - Positive market research regarding the acceptance of biometric technology users.

### **Development stage**

- Concept
- Research
- Lab prototype
- Industrial prototype
- **Production**

### **Contact**

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