STC Grid ID

The solution for identity authentication and verification based on the combination of two biometric technologies used covertly – voice identification and face recognition.

- Implementation, maintenance and automation of the local, regional and national databases
- Instant identification of the suspects and affiliates
- Forensic investigation for the subsequent presentation of the results to the court

Speech
Technology
Center

Unimodal and bimodal biometric technologies

Current situation:
Most of the biometric systems are characterized by unimodality, i.e. only one behavioral or physical characteristic of the individual is used for identification.

Problem:
Insufficient level of the results reliability.

Purpose:
Increased reliability of the results by combining different methods of identification within a single system.

Decision:
Non-intrusive bimodal biometric system STC Grid ID which is based on two biometric technologies - voice identification and face recognition.

System advantages:

- There is no need to contact with the individual to enroll the samples

- More accurate results are received due to the combination of voice identification and face recognition

- Low costs of samples enrollment, system deployment and exploitation

- Both biometric technologies are enabled to work on the databases of large volume.

Low costs for the deployment and technical support of the system.

STC Grid ID system has a number of advantages, particularly, it is low cost of deployment, technical support, easy maintenance, scalability and integration with other biometic and non-biometric systems.

Integration with the other forensic systems

STC Grid ID can be easily integrated with the other biometric and non-biometric systems as well as with the expert forensic systems of Speech Technology Center due to the STC Grid ID client-server architecture and user-friendly software interface.

Work with the speech fragments of any quality

System is capable to deal with the speech patterns even of low-quality, obtained from different sources.

Customer training

The specialists of the Speech Technology Center provide comprehensive training so that the Customer's staff could use the system efficiently.

Technical support

24/7 two-level technical support is provided by the specialists both in the developer's office and at the local service centers.

Data security

Safety of the transmitted and stored data is provided by the use of the https protocol, the rights allocation based on the user groups and roles, registration of all the operators' actions in the database and protection of the operator workplace against the password theft.

Scalability

System has no technical limitations either by the template capacity, or by the number of users, that makes it a universal platform for storing, searching and other operations with the media data within the laboratory, the region and the entire state.
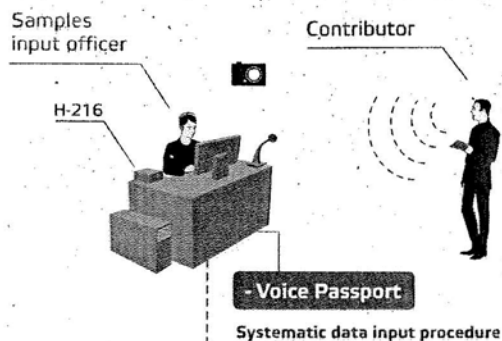
Remote access

Web-based interface, support of the majority of the browsers and the secure data transmission protocols ensure the high level of mobility of the officers in the course of the investigation.
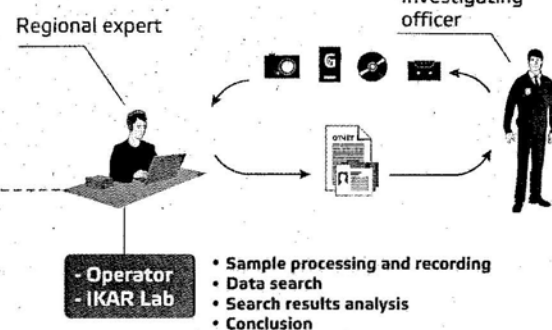
Platform independence

As the system is compatible with all the existing operating systems, it allows to adjust it to the customer's IT infrastructure.
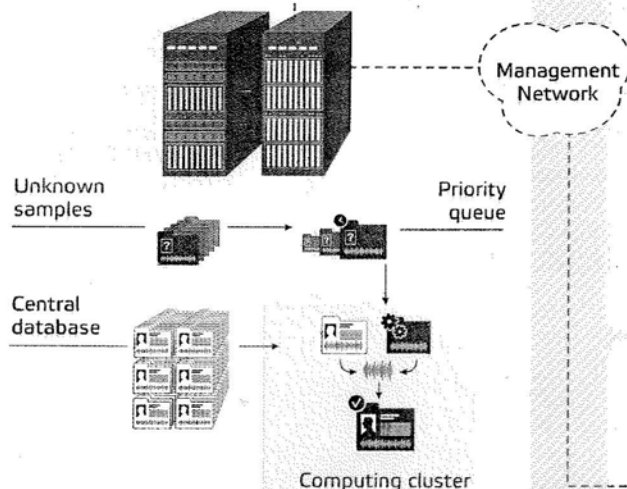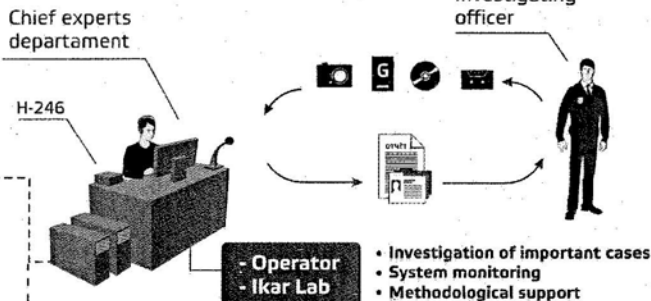
Region

Enrollment

Samples input officer

Contributor

H-216

- Voice Passport

Systematic data input procedure

Investigation office

Regional expert

Investigating officer

- Operator
- IKAR Lab

- Sample processing and recording
- Data search
- Search results analysis
- Conclusion

WAN or Internet

HQ

Central laboratory

Chief experts departament

Investigating officer

H-246

- Operator
- Ikar Lab

- Investigation of important cases
- System monitoring
- Methodological support

User Administrator

- Administrator

- Creates accounts
- Manages the group structure
- Receives notifications in case of password theft suspicion

Database Structure Administrator

- Template Manager

- Creates speaker cards samples
- Creates shortcuts to access the database sections

Data center

Management Network

Unknown samples

Priority queue

Central database

Computing cluster

Security Administration Center

Hardware Administration

- Monitoring tools
- Administrator

Receives notifications of hardware failures

Comparison chart of biometric identification methods

Identification method	Pattern cost	Search speed	Accuracy*		
Voice	↓	↑	~	↑↑	↓
Face	↓	↑	~		↓
Fingerprint	~	↑	~		~
Iris	↑	~	↑		~
3D Face	↑	~	↑		↑
DNA	↑	↓	↑		↑

* Accuracy of a particular method changes significantly depending on the quality of the given pattern.

** ↑ — High, ~ — Medium, ↓ — Low

About Speech Technology Center

Universally acknowledged quality of algorithms

"Speech Technology Center" participated in recent evaluation tests of National Institute of Standards and Technologies (NIST) and its voice biometric technology showed one of the best results to date.

Global projects

In 2010 STC successfully deployed the world's first nationwide voice-based identification system for the government of Mexico. It is the biggest voice biometric project to date that has laid the foundation of the new market segment and pushed biometric market and technology itself forward quick and qualitative evolution.

A unique team

At the heart of STC unique team there are strong management and sales professionals , talented young scientists and software engineers, as well as the world-renowned experts in the field of the speech technology

Turnkey projects

STC business model is built around the concept of a complete business cycle: the company carries out the project from the concept to the final end product. The customer receives the comprehensive support of technical specialists and experts through all the stages of the project implementation.

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