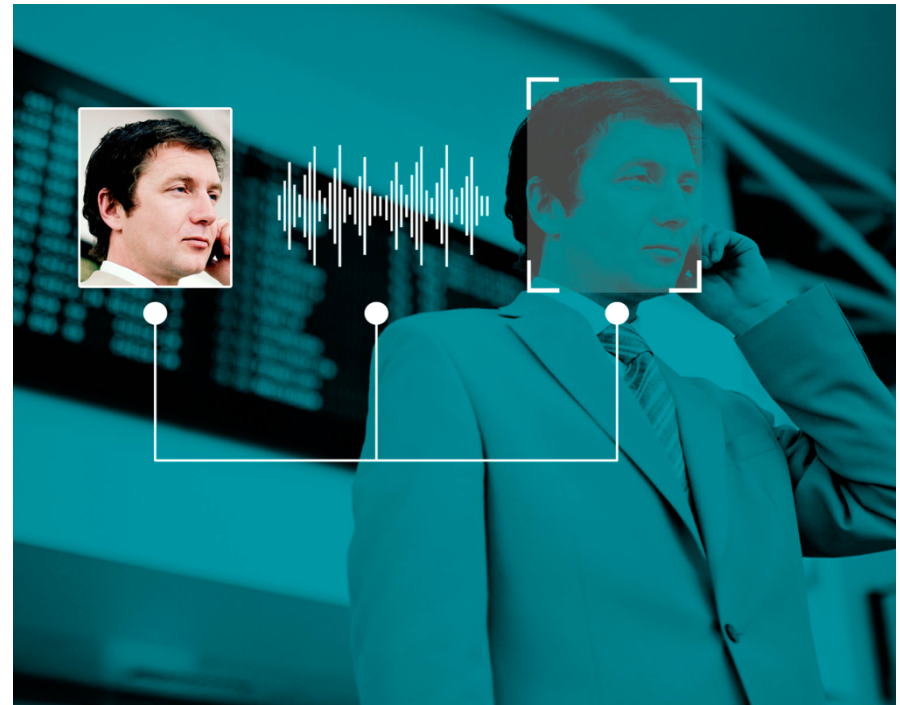

From Jungles of Ecuador to Main street USA

MULTI-MODAL BIOMETRICS



VOICE BIOMETRICS

As always, it's all started with the government

Forensic audio analysis



Automatic Voice ID



Speechpro Experience

22 years on the market

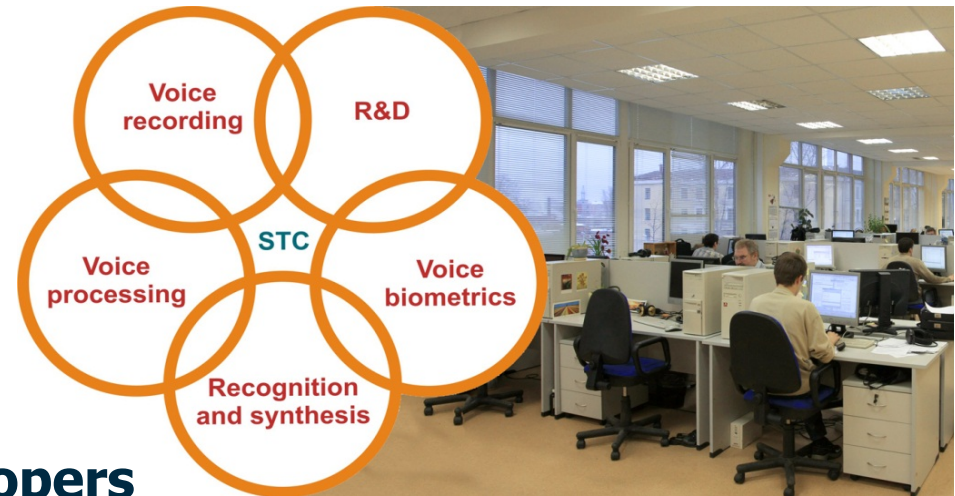
Deployments in 75 countries

Strong R&D team

- **400 staff**
- **150 scientists and developers**
- **30 PhDs**

Working with law enforcement community globally

Wide portfolio of speech related products for Enterprise Clients



MOVING FROM FORENSIC TO AUTOMATIC SYSTEMS

1995–2005

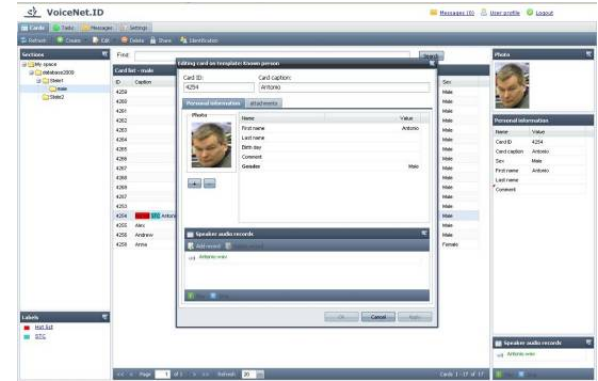
Leading forensic audio analysis provider

2005–2010

1st automatic voice ID products. Evolution of expert identification to automotive systems

2010

Mexico - Country wide voice ID system



Lives saved

Criminals arrested

Cases solved

GROWING INTEREST TO VOICE AS A BIOMETRIC MODALITY IN US AND ABROAD

Government/Law Enforcement

Federal (FBI, DoD)

State and local

Internationally – growing number of countries add voice to biometric capabilities

Enterprise

Banks

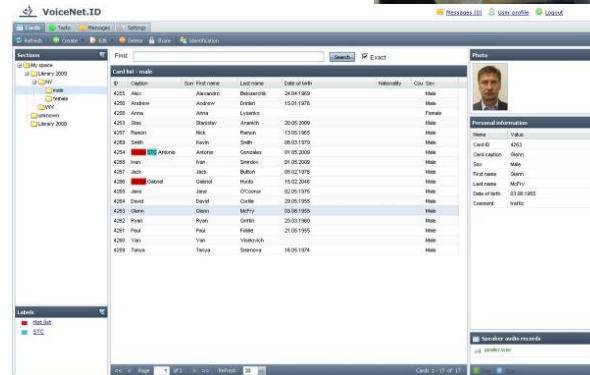
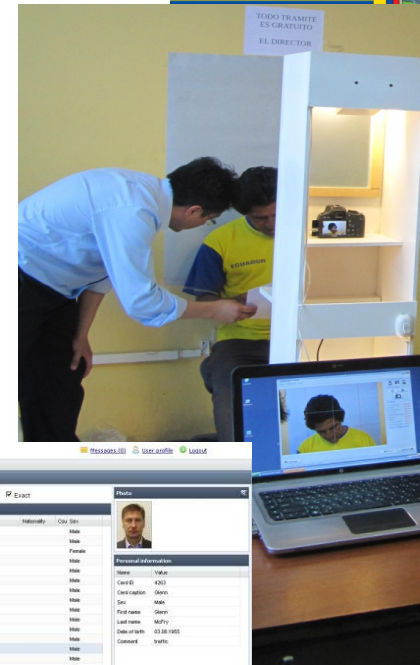
Investment brokerages

Health insurance

Corporate networks

2012 – Country wide biometric system in Ecuador

- ▶ Enrollment of inmate population
- ▶ Country wide
- ▶ Collecting voice and face
 - ▶ Single database – voice and face ID is done separately and then fused for a single score



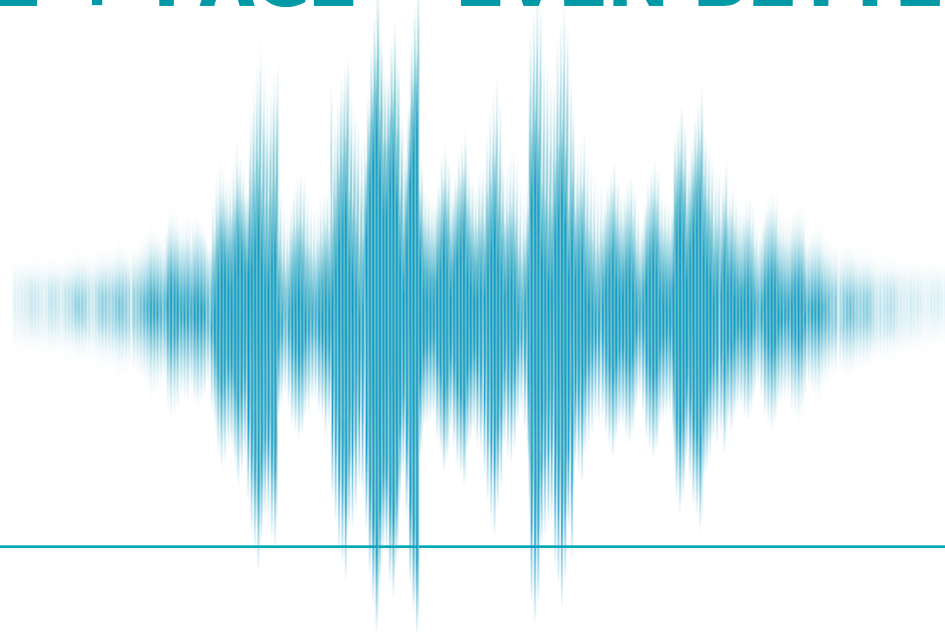
Ecuador deployment – fun & challenges

- ▶ **Bi-modal solution – integration and fusion**
- ▶ **Collection – fewer challenges than expected**
- ▶ **Voice + Face- Two non-intrusive modalities**
 - ▶ Quick process
 - ▶ No need to touch anything
 - ▶ Can be done remotely
 - ▶ Cheap and available hardware
- ▶ **Great results!**



VOICE IS GREAT!

VOICE + FACE – EVEN BETTER!



CAN OUR ENTERPRISE CUSTOMERS BENEFIT FROM THESE FEATURES?



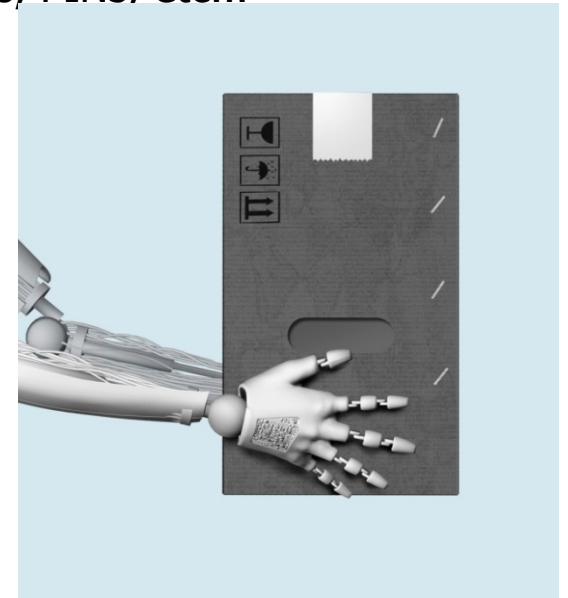
CUSTOMER EXPERIENCE VS SECURITY

Fraudsters keep on coming with new ways to get into Enterprise secure environment

▶ **Security** react with additional layers of passwords, PINs, etc...

▶ The victim – **Customer experience**

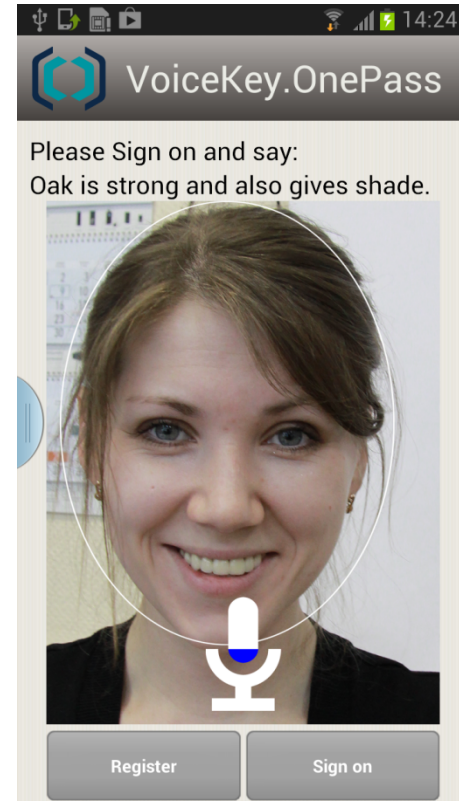
We can help to stop this vicious cycle



INTRODUCING VOICEKEY.ONEPASS

- ▶ **Multimodal (Voice + Face)**
- ▶ **Non-intrusive**
- ▶ **Seamless**
- ▶ **Biometric Authentication**

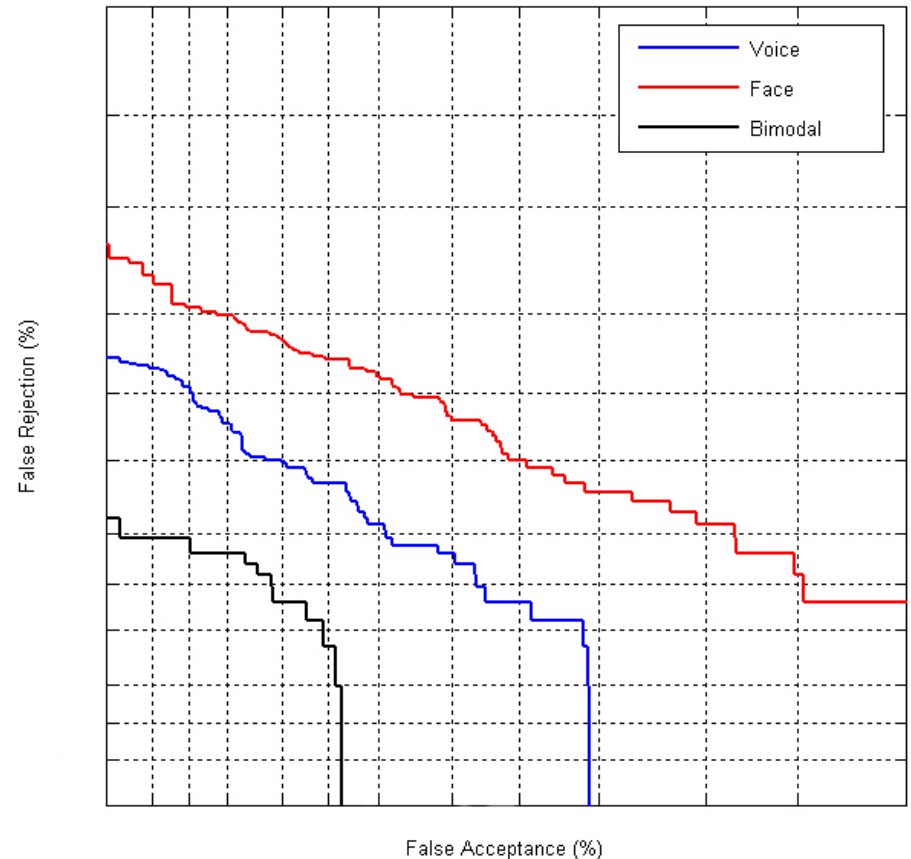
for **web** and **mobile** with
existing hardware



SECURITY

MULTI-MODAL APPROACH DRASTICALLY REDUCES EER

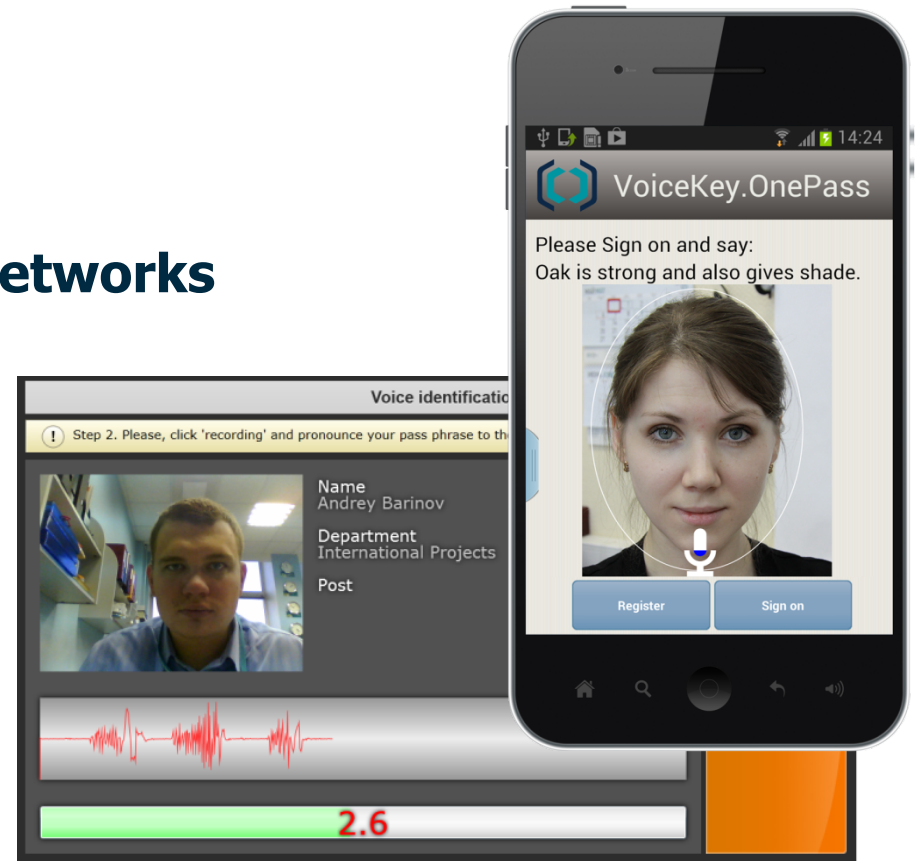
- ▶ **EER 0.1% and lower for multi-modal verification**
- ▶ **In our testing we have yet to have a False Accept**
- ▶ **Patent pending – Liveness detection through linking speech and face movement during the utterance.**



Customer Experience

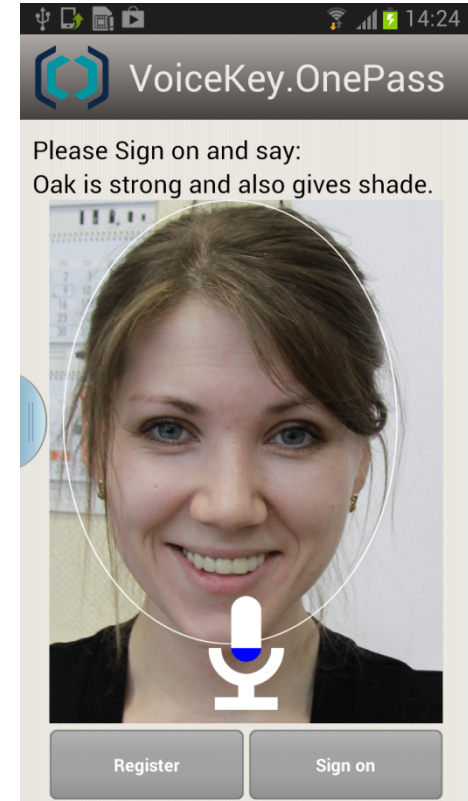
Voice+Face ID can provide seamless and secure biometric access to mobile apps

- ▶ **Financials**
- ▶ **Remote access to corporate networks**
- ▶ **E-Commerce**
- ▶ **Access to purchased content**



Customer Experience: Easy to Enroll

- **Place your face in the oval**
- **Tap “Register”**
- **Pronounce 3 utterances of the password**



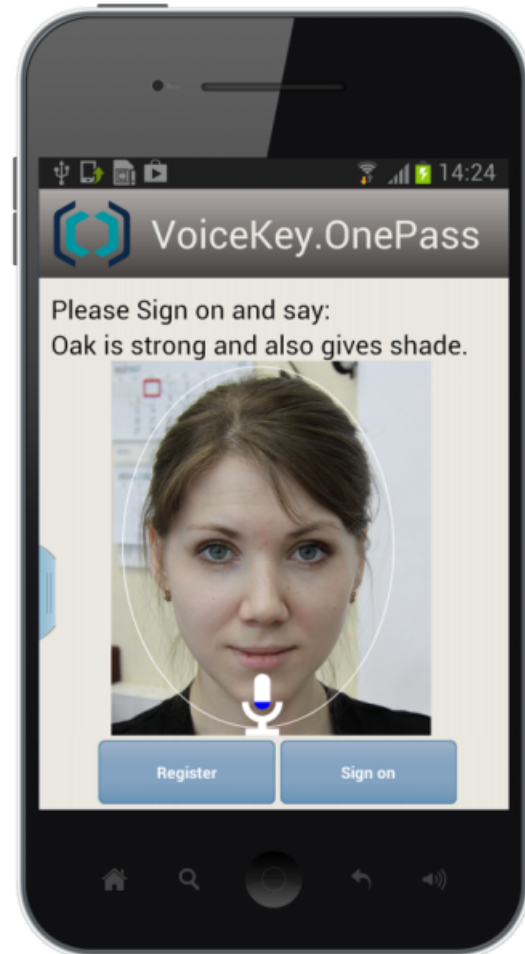
Customer Experience: Single Tap ID

Claim of identity

Mobile device

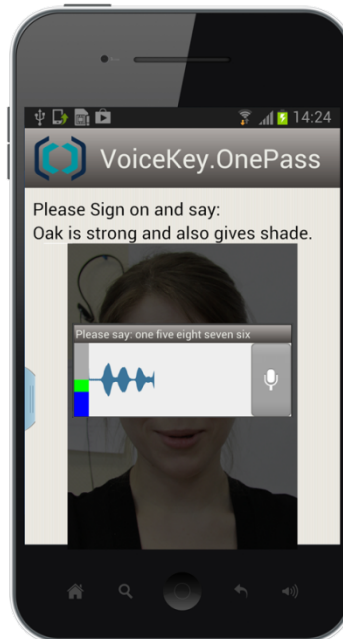
Single Tap verification

One tap launches the mic and takes pictures.

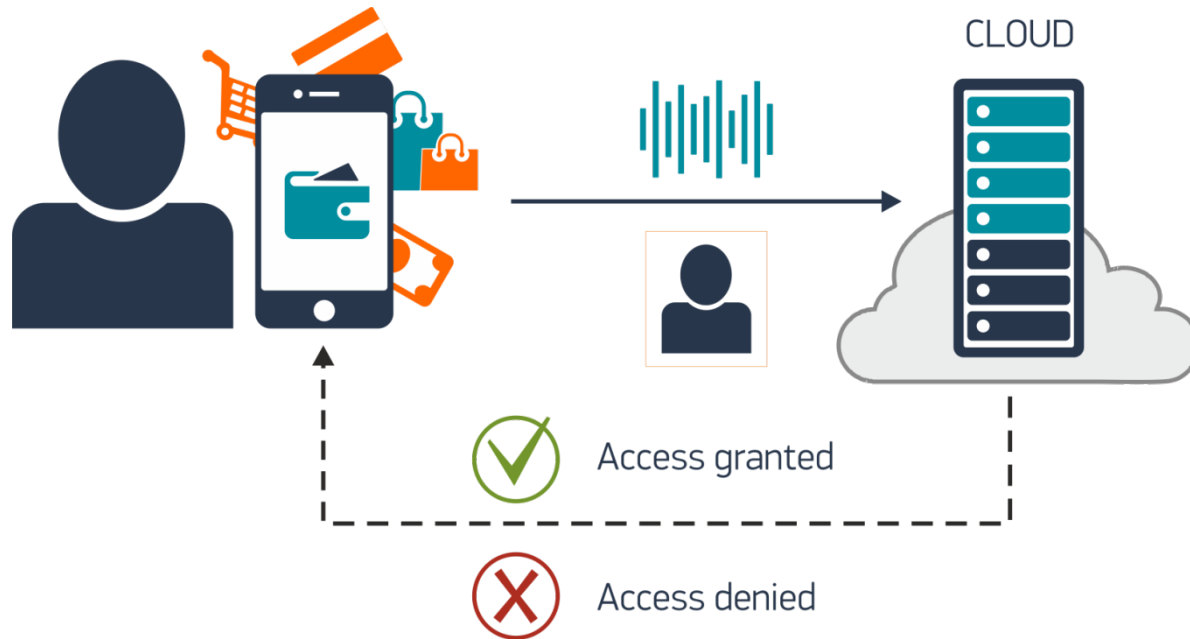


Customer Experience: Liveness detection

- **Level 1** – Tracking facial movements while passphrase being spoken
- **Level 2** - Prompted password – Random combination of numbers (optional)



Customer Experience



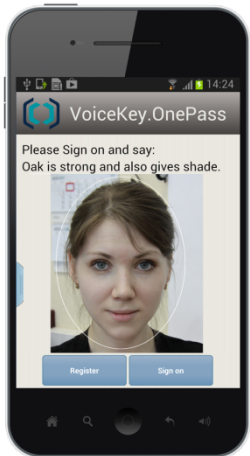
BENEFITS OF MULTI-BIOMETRIC APPROACH

- ▶ **Extremely high accuracy**
- ▶ **Easy to use**
- ▶ **Easy to integrate**
- ▶ **No need for additional hardware**

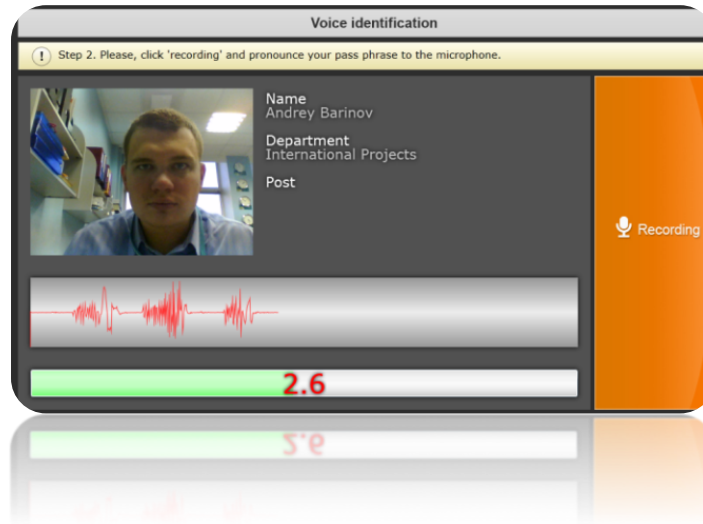


MULTIPLE PLATFORMS

Mobile



Web



Physical access

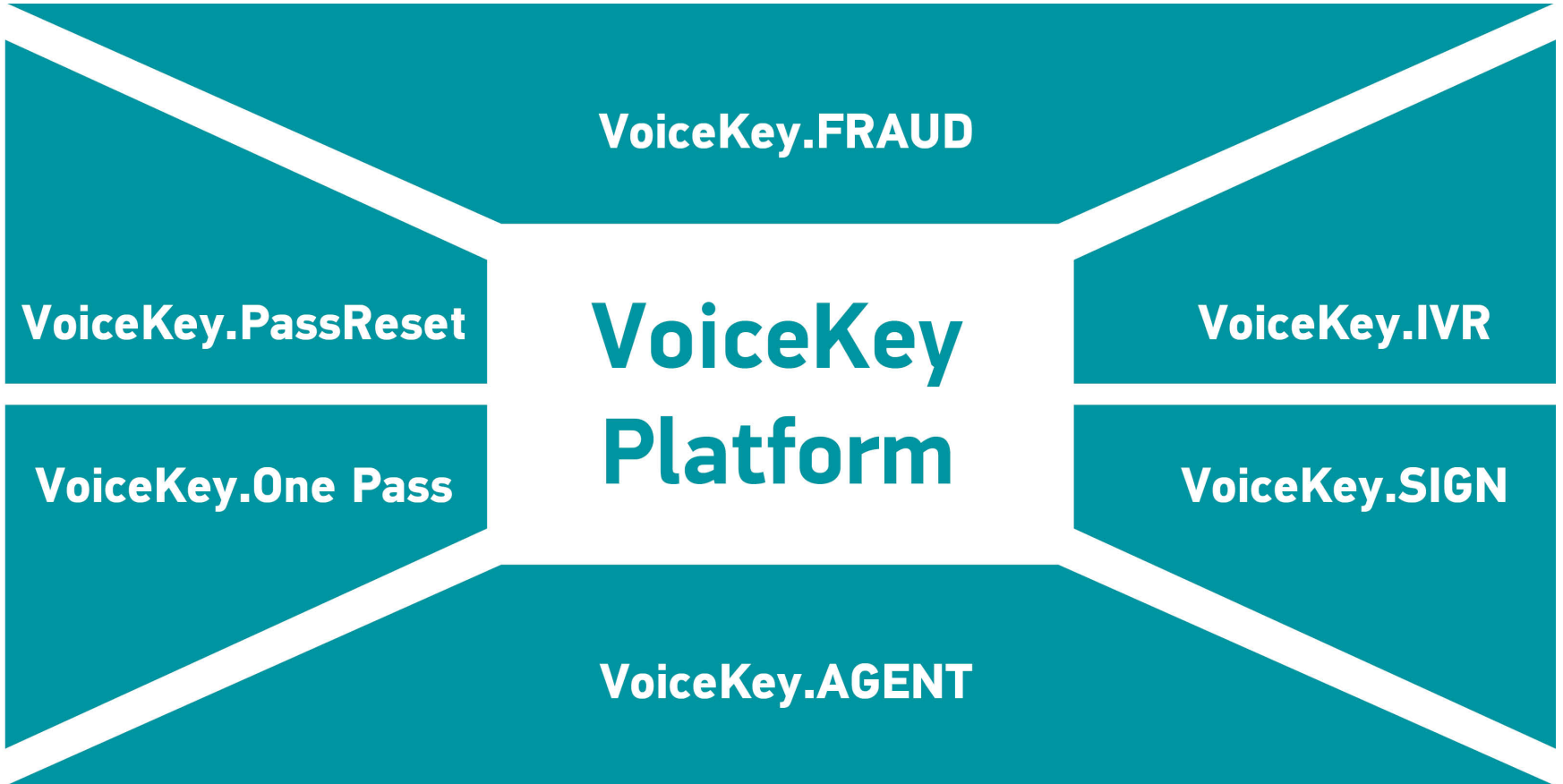


**Are there any other law enforcement voice
biometric features that can benefit
Enterprise customers?**

NOT JUST PASS/FAIL

Passive verification (continuous text independent ID check)	VoiceKey.Agent
Change of speaker detection	VoiceKey.Agent
Watch list search (fraud detection)	VoiceKey.WatchList
Emotion Detection	QM Analyzer
Speech Analytics	SmartTracker

HOLISTIC APPROACH



Enterprise Security

+

Customer Experience

=



THANK YOU

ABOUT COMPANY

SpeechPro is a global technological leader in a number of the fastest growing voice-based technology sectors, including: speaker recognition, biometric voice authentication and identification, noise cancellation, multi-channel and hand-held digital recording.

SpeechPro solutions are widely used to enable efficient forensic examination, criminal investigation and guarantee high-level audio surveillance and confidential data security.

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