Voice Analytics to Enable Trust in Airline Industry Security

As a critical sector of the economy with lives and property at stake, airlines need to accurately and cost-effectively screen applicants, staff, crew, partners and suppliers to reduce risk and enable trust.

Problem

Airlines today are operating from a vulnerable position when vetting personnel for a multitude of positions across the company and around the globe. Existing risk management and vetting solutions rely primarily on researching historical data, criminal databases, self-disclosures, and past references.

This reliance on research allows for gaps in data and requires applicants, employees, and personnel to accurately disclose all relevant information. Such disclosures are rarely made where they do not serve the best interests of the individual. Research is also time- and labor-intensive. This presents significant issues related to costs, human bias, resource constraints, and intelligence deficiencies.

Existing vetting solutions also have shortcomings in accuracy, implementation, and scalability. These shortcomings leave airlines vulnerable to insider threats, fraud, and abuse. Even if people are properly vetted at the beginning of their relationship with the airlines, intentions can change over time. Once trustworthy people may become compromised because of personal reasons (financial difficulties, for example) or outside influences (recruitment by a foreign organization).

Without an effective screening solution, airlines continue to face insider threats, fraud, and abuse, including threats to intellectual property and proprietary technology. Because lives and property are at stake, there is a clear need for an affordable, flexible and scalable solution to accurately screen for risk and establish trust across the entire organization and, most importantly, with the flying public.

Airline Industry Applications:

- International pre-employment screening
- Compliance and adherence screening (aviation regulations)
- Intellectual property protection
- Intelligence, security and safety operations
- Third party audit and due diligence
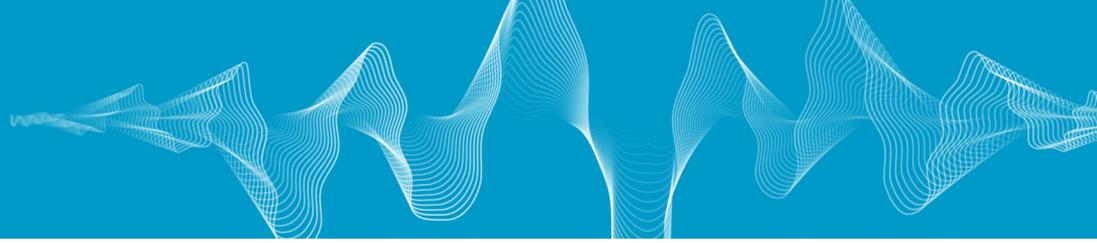
Solution

Clearspeed™ offers a voice analytics screening solution that quickly and accurately assesses individuals for risk and ranks them from low to high. This solution can help global airlines discover on-going risk and new blind spots while ensuring safety and security for all. People who rank low in risk can move quickly through the vetting process. More vetting resources can then be focused on those who are identified as high risk and warrant additional verification.

Clearspeed Verbal™ uses proprietary voice analytics technology to screen individuals based on responses to our brief, automated phone questionnaire. Unlike determinative tools that are used to make credibility decisions, this approach enables airlines to triage, flag, and efficiently clear individuals so that decisions can be made better and faster on the front-end. Clearspeed Verbal focuses on the missing data points to quickly clear the low-risk majority, which then allows an airline's risk team to focus on those individuals who likely warrant additional attention.

The Science

An enormous quantity of information is carried in the human voice. Speech, in particular, is a highly ordered manifestation of the human voice which reveals a great deal about a person's psychological and physiological state. This information is embedded at such fine levels in the voice signal that it is not always discernible by humans.

Clearspeed Verbal detects, measures, and categorizes subtle, but specific, voice characteristics and ranks these responses from low risk to high risk, translating this previously undetectable data into actionable information for vetting.

In Practice

Clearspeed Verbal is a highly precise, efficient solution that is easy to deploy in a controlled environment or in the field to quickly deliver results to our customers. Clearspeed Verbal is unbiased and works regardless of language, dialect, gender, or literacy level because it focuses on the sound of speech rather than the content.

Clearspeed works with customers to implement the solution and craft questions that probe specific areas of risk according to the needs of the organization. Once questions are formulated, they are automated (text-to-voice) and stored in preparation for the individual questionnaire process.

Now airlines can ask questions not possible before in the screening process. Sample questions might include:

- Did you deliberately falsify or omit any information about your background or qualifications during the hiring process?
- Do you intend to do harm to the organization or others?
- Do you work for a foreign government?

Our solution is language, dialect, and culture agnostic — questions can be translated into any language. No additional Personally Identifiable Information (PII) such as race, ethnicity, age, etc. is required, collected, or stored. Once the questions are translated, the automated interview is delivered over a simple telephone call where participants answer 5–7 Yes/No questions in their native language.

Clearspeed Verbal analyzes questionnaire responses and risk results are typically posted in our secure web application within 24-48 hours. These results provide airlines with new, valuable data points to identify the level of risk for each response and for the individuals overall. Based on this data, an airline can proceed with confidence to the next step in their decision-making processes.

Importantly, Clearspeed solutions work alongside existing technology, processes, and data to provide new insights into an individual's undisclosed associations and intent. These insights enable investigative teams to prioritize resources and focus on candidates that may not have been identified otherwise. Based on the interview questions and the risk results, investigators have clear follow-on actions regarding how they engage further with high risk personnel.

Sample results from our custom web application:

Sample risk report:

Case Studies

AFGHANISTAN

Problem: Insider attacks have been a deadly and demoralizing reality for U.S. forces operating in Afghanistan. Afghans who are hostile to the U.S. presence in the country try to gain acceptance to military training and employment as an opportunity to attack U.S. personnel.

The Clearspeed solution supported the Special Operations Joint Task Force in Afghanistan by screening 715 Afghan soldiers in Dari and Pashto questionnaires alongside the existing vetting process. This crucial process sought to identify Green-on-Blue (hostile partner) threats prior to the Afghan soldiers working alongside U.S. forces.

Results: After the results were independently obtained and compared by government personnel, the Clearspeed solution identified 100 percent of the risks flagged by the legacy system, PLUS it identified an additional 11 counterintelligence-confirmed high-risk soldiers not detected by the existing systems, processes, and data.

SOMOLIA

Problem: Reed Inc. won the contract to provide security guards for one of the compounds in Garowe, Somalia, housing personnel from the United Nations Assistance Mission in Somalia (UNSOM). Reed searched for an insider vetting process that:

- Operated reliably and affordably in the field
- Provided insights not available through other vetting methods
- Lowered the risk of hiring or retaining personnel involved in insider threat

Reed selected the Clearspeed solution to screen the guard candidates. Clearspeed was used to screen an existing guard force of 110 local nationals in two days over several shifts using a mobile screening laptop with four telephones.

Results: Analysis of questionnaire responses identified 16 high risk individuals, who were given follow-on interviews. Where risk could not be mitigated, personnel were removed from the re-hiring process.

> "This tech has been proven in identifying risk our current system misses — there's nothing else like it."

COMMANDING OFFICER
U.S. Security Assistance Office, Afghanistan

CLEARSPEED CAN WORK IN TANDEM WITH:

- DNA Swabs
- Facial Recognition / Iris Scans
- Cell Phone Monitoring
- Fingerprints
- Background Checks
- Investigative Interviews

CLEARSPEED FEATURES AND BENEFITS:

- Automated questions and analysis
- Uniform questions for all participants
- Culture and language agnostic
- Unbiased
- No literacy or reading skills required
- Anonymous - no PII required
- Implementation in weeks, not months
- Evaluation results within 24-48 hours
- Advanced security and encryption
- Customized results and delivery

About Clearspeed

Clearspeed™ voice analytics technology provides unique risk alerts based on an individual's vocal responses. It can be quickly and effectively applied for fraud, security, or safety risk screening to clear the low-risk majority while identifying potential high-risk responses that are often missed. Leading global corporations and government organizations use Clearspeed to build trust in their people and vetting processes in hiring, claims, applications, insider threats, compliance, and workplace safety. www.clearspeed.com

Clearspeed was formerly AC Global Risk