

# Speech & Audio Intelligence for Operational AI Systems

Delivering real-time **transcription, translation, and knowledge extraction** for mission-critical environments across languages and domains

# Research & Innovation

## Who we are

VoiceInteraction is a technology company specialising in speech and audio intelligence for operational AI systems, supported by our experience with broadcast-grade, real-time captioning and monitoring systems where latency, reliability, and accuracy are critical.

## Our research and innovation trajectory

Since 2008, we have advanced applied research in real-time transcription, translation, and speech-driven knowledge extraction. Our work has evolved from closed captioning and live production workflows into AI systems designed for deployment under operational constraints, including real-time processing, robustness, and scalability.

## What differentiates us

- Proven operation in real-time, high-reliability environments
- Support for 50+ languages and accent variations at scale
- Strong focus on processing efficiency, hardware sustainability, and TRL progression, not only on model accuracy
- A product-driven approach that translates research outputs into deployable and reusable AI components

## Our role in Horizon Europe projects

VoiceInteraction contributes applied research and innovation on state-of-the-art speech and audio AI, with a strong emphasis on pilot validation, TRL advancement, and operational uptake, delivering mature, reliable tools suitable for real-world deployment.

# Research Topics

- Real-time audio intelligence under operational constraints
- Multimodal situational awareness with audio as a primary input layer
- Speech-based interaction for human-AI systems
- Operational validation methodologies and TRL progression
- Assessment methodologies for trustworthy and robust speech/audio AI
- Integration of AI components into operational toolchains and repositories



# Project Experience

Evidence of applied research, pilot validation, and operational deployment

**18** Research Projects

**15+** Years of participation in EU programmes

**7-8** TRL contribution range

## LINGUARISE-DC ID 101168201 | EDF | 2024-2029

Language Innovations: Nimble, Guided, User-friendly, Agile and Robust Solutions Eliminating Defence Challenges

**Multilingual AI speech intelligence integrated into a complex multimodal defence pipeline.**

Integration · Defence · HLT Challenge

## STARLIGHT ID 101021797 | H2020 | 2021-2026

Sustainable Autonomy and Resilience for LEAs using AI against high priority threats

**Speaker ID and privacy-preserving transcription integrated into LEA operational workflows.**

Law Enforcement · Pilots · Trustworthy AI

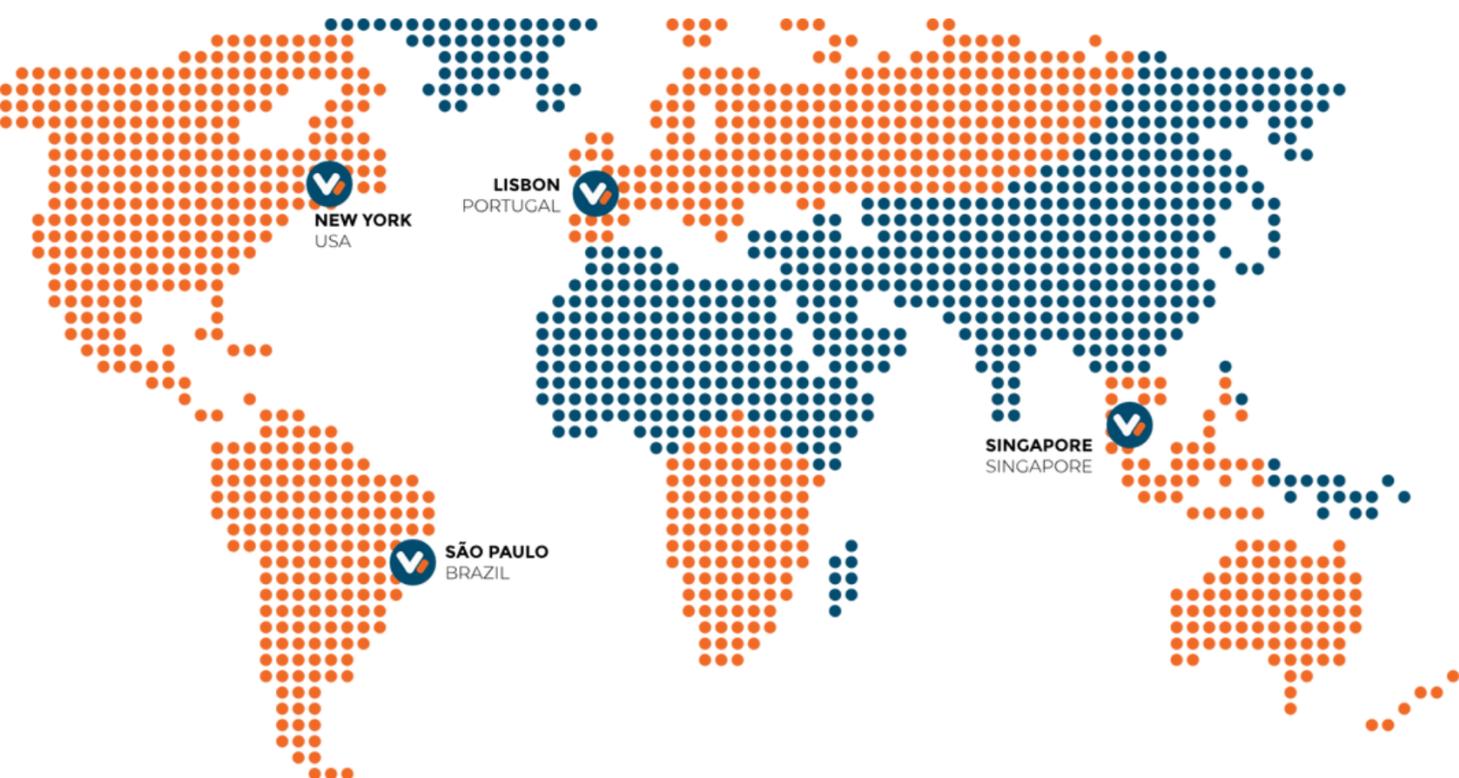
## EMPOWER ID 101102724 | DIGITAL | 2023-2025

Uptake of new generation AI powered Investigative tools for LEAs

**Transcription tools validated through LEA pilots to support TRL advancement and operational uptake.**

TRL Advancement · Validation · Uptake

# From Research to Global Operations



VoiceInteraction operates speech intelligence systems at an international scale, supporting mission-critical services across global markets.

## Global market footprint

- Market leader in closed captioning in the **United States** and **Brazil**
- Long-term operation of broadcast-grade, real-time systems
- Support for large-scale, multilingual deployments

## Proven impact with global partners

- Enabled **MediaCorp** to deliver AI-driven news production, contributing to multiple international awards
- Deployment of AI systems where latency, reliability, and accuracy are non-negotiable

**This operational maturity directly supports sustainable uptake in Horizon Europe projects.**

# Core R&D Capabilities

## Powered by AUDIMUS – Proprietary, operational-grade engine

- End-to-end acoustic speech processing
- Real-time, low-latency operation
- Fully deployable on-premises / sovereign infrastructures
- Multilingual support: all EU official languages, plus additional languages for global operations

## Continuous research in:

- ASR, TTS, and Dialogue Systems
- Language Identification (LID)
- Speaker detection, diarisation & clustering
- Acoustic Event Detection (AED)
- NLP / NLU & semantic enrichment

## In-house Model Development

- Proprietary algorithms and architectures
- Deep learning & neural networks
- Curated, annotated speech/audio datasets
- Continuous training & evaluation pipelines
- Multimodal knowledge integration (OCR, Face ID)

## Deployment & Operational guarantees:

- Fully on-premises (no external dependencies)
- Privacy-by-design & data minimisation
- Robustness under noise, stress, degraded conditions
- Adversarial and security evaluation
- KPI-driven validation and TRL progression (6 → 8)

**These capabilities are already deployed in mission-critical media, civil security, and defence-adjacent environments worldwide.**

# Ready to build strong Horizon Europe proposals

We collaborate with coordinators and consortia that aim to move beyond experimentation and deliver solutions that withstand operational, regulatory, and deployment realities.

VoiceInteraction brings execution capacity and technologies already proven in real-world environments—supporting strong impact, credible TRL progression, and sustainable uptake.

**Let's align early and design proposals that deliver real impact.**

EU Head of Programmes

**Teresa Neto**

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