

BioPSI BIOMETRIC PERSONALIZATION & SPEAKER IDENTIFICATION





www.yobeinc.com

Product overview

WHAT IS BIOPSI

BioPSI (Biometric Personalization and Speaker Identification) is a cutting-edge voice intelligence platform developed by Yobe Inc. that extracts and analyzes metadata from voice signals for speaker identification and personalization. The technology uses advanced bio-marker extraction technology to isolate and target audio signals from multiple audio sources, including background noise and cross-talk, enabling it to capture and transcribe targeted speech in everyday noisy environments with exceptional accuracy. By overcoming the challenge of extracting clean identified speech, BioPSI unlocks limitless possibilities for various voice applications through Yobe's unique blend of voice biometrics, intelligent voice activity detection, and large language models (LLMs), ensuring accurate voice analytics for customers. BioPSI offers unique technical advantages including rapid training (just seconds to onboard), complete speech-text and language independence (works across any language without scripted phrases), and micro-utterance verification capability that can authenticate users from extremely brief inputs like single words ("yes," "no") or individual digits (1, 2, 3). Voice-captured data allows for the extraction of valuable insights from natural, unstructured conversations, providing a richer context compared to text data alone. This integration enhances decision-making processes, improves customer experiences, and drives innovation by uncovering deeper insights from voice interactions. Furthermore, the automation of voice data analysis can lead to significant time and cost savings for organizations, allowing them to allocate resources more efficiently.

HOW WE USE THE SOLUTION

BioPSI transforms machine attention capabilities by integrating multiple technologies into a cohesive system that mirrors human attentional processes. Our solution begins with continuous speaker verification that maintains identity awareness throughout interactions, creating a persistent foundation for all subsequent functionality. This authenticated identity enables precise speaker-tagged transcription that preserves conversational context and accurate attribution even in complex multi-speaker environments. The system then leverages this verified identity to retrieve personalized user profiles, preferences, and access permissions, ensuring appropriate and customized responses. Most impressively, BioPSI enables simultaneous tracking of multiple conversation threads occurring in the same space, allowing machines to direct attention appropriately and respond to the correct person or conversation. This integrated approach enables AI systems to move beyond basic command processing to true social intelligence that functions naturally in the complex, overlapping speech patterns of real-world environments.





CORE CAPABILITIES

Superior Accuracy in Challenging Environments-

BioPSI excels where traditional voice systems fail by delivering reliable recognition in noisy, multi-speaker environments. This directly enhances AI applications through:

- Improved transcription reliability in diverse business settings (call centers, factories)
- · Significantly reduced manual correction costs and intervention requirements
- · Expanded deployment possibilities across previously challenging acoustic environments
- · Higher-quality input data for all AI applications, improving downstream results

Enhanced Security Through Continuous Authentication-

BioPSI's frame-by-frame speaker verification creates robust security for voice-based AI by:

- Establishing continuous identity verification that prevents unauthorized system access
- · Minimizing fraud risk across high-security sectors
- · Eliminating authentication friction while maintaining strong security protocols
- Enabling confidently personalized AI responses based on verified identity

Advanced Metadata Extraction-

BioPSI extracts rich contextual data to enhance AI interactions by:

- · Incorporating paralinguistic information traditional systems miss
- · Enabling emotional intelligence capabilities without additional processing
- · Creating more comprehensive user profiles for improved intent recognition
- · Supporting genuinely contextual AI responses for more natural interactions

Flexible Deployment Architecture-

BioPSI's deployment flexibility supports diverse enterprise requirements through:

- Edge options for reduced latency and cloud costs
- On-premise solutions for compliance and data sovereignty
- Streamlined API integration with existing AI ecosystems

IP PORTFOLIO

Yobe has five (5) issued patents to date. Building on a promising biometrics-focused portfolio, our recent publication US 2024/0203425 A1 provides protection for the development of future biometrics solutions.



Patent Quality score of 900/1000 indicates excellent correspondence between claimed invention and full specificationue applications across diverse industries.



New Technology Value score of 600/1000 suggests good positioning for emerging technology applicationsificationue applications across diverse industries.



Patent Uniqueness score of 975/1000 reflects highly distinctive technology compared to existing solutionsificationue applications across diverse industries.



Product overview

The BioPSI platform's ability to extract clean metadata from voice signals enables numerous high-value applications across diverse industries:

Health Care

- Market Size: voice biomarkers market is projected to reach \$4.3 billion by 2027
- Applications include early detection of cognitive conditions, respiratory illnesses, and mental health disorders
- Voice patterns can identify subtle changes indicating Parkinson's disease, dementia, or depression before other symptoms appear
- Remote monitoring capabilities allow for continuous patient assessment without clinical visits
- Alert State Monitoring: Similar to transportation safety applications, monitors alertness levels in healthcare workers during critical procedures
- Total estimated annual savings: \$135-210 million. ROI of 10-15x while simultaneously improving patient outcomes

Financial Services

- Market Size: The voice biometrics market in banking is expected to reach \$3.9 billion by 2026
- Frictionless customer authentication for transactions and account access
- Fraud prevention through continuous voice verification during calls
- Cognitive State Assessment: Measures customer mental workload and stress levels during financial interactions, similar to applications in air traffic control and emergency response
- Reduced operational costs by eliminating password reset requests and security questions
- Total estimated annual savings: \$500-748 million. ROI of 30-50x while dramatically improving customer experience and security posture.

Conversational AI

- Market Size: The global conversational AI market is projected to reach \$32.6 billion by 2030, growing at a CAGR of 20.5%
- User Personalization: Voice biomarkers provide objective identity verification for personalized Al experiences without requiring explicit authentication steps
- Emotional Intelligence Detection: Voice pattern changes can detect user sentiment and emotional states, enabling more appropriate and empathetic Al responses
- Interaction Efficiency: Handsfree voice transcription with enhanced accuracy dramatically improves user satisfaction and reduces friction points
- Total estimated annual savings: \$115-180 million ROI of 25-40x while simultaneously improving user satisfaction, enhancing security, and enabling truly personalized AI interactions that adapt to users' emotional states in real-time.

BioPSI delivers exceptional value across industries by extracting critical voice metadata—including biological markers, acoustic properties, and emotional indicators. From healthcare savings of \$135-210 million through early disease detection, to financial services fraud prevention worth \$500-748 million annually, BioPSI consistently delivers 10-50x ROI. Its uniqueness lies in rapid training, language independence, and micro-utterance verification capabilities. As voice becomes our primary interface for human-machine interaction, BioPSI's ability to extract actionable intelligence from every utterance positions it as essential infrastructure for organizations seeking competitive advantage in an increasingly voice-driven world.

Next Steps

BioPSI sets a new standard in voice intelligence by combining advanced speaker identification, continuous biometric authentication, and powerful metadata analytics. It is an essential solution for organizations looking to enhance security, enable accurate speaker-tagged transcription, and gain valuable insights from voice data in challenging environments.

Discover how Yobe can revolutionize your voice interaction experience. Integrate BioPSI today and unlock the potential of reliable speaker identification in any environment. Visit <u>www.yobeinc.com</u> or contact us at contact.us@yobeinc.com

