

Company to know



NEW YORK, USA

**How do you know someone understands you
when they cannot tell you?**

Cognitive Signals started with patients whose behaviour could no longer provide a reliable

window into their cognition.

CEO Sudhin Shah, a neuroscientist and faculty member at Weill Cornell Medicine, and CTO Jeremy Hill, a veteran brain-computer interfacing researcher, are part of a founding team that also includes neurologist Nicholas Schiff and neuroscientist Edmund Lalor.

Together, their work addresses an extraordinarily difficult question: when someone cannot respond through movement or speech, are they unable to understand what is happening around them or simply unable to demonstrate that understanding?

Listening for meaning

The company's technology uses EEG to measure how the brain processes natural spoken language. Schiff's earlier work helped establish that EEG responses to speech can reveal cognitive processing in patients whose abilities may not be apparent through bedside assessment. Lalor's research developed methods for tracking how the brain follows continuous speech rather than relying on repeated artificial stimuli.

Cognitive Signals builds on those foundations by measuring responses not only to sound, but to meaning in context. The team calls this approach **meaning-induced neural dynamics, or MIND**, and is developing it into its first clinical product, **MINDstat**.

A 2025 peer-reviewed case series involving two adolescents with severe brain injuries found evidence of acoustic and semantic processing during natural-language listening, despite conventional behavioural assessments being consistent with vegetative state.

The first market

Severe disorders of consciousness are the origin of the company and remain its initial clinical focus. The founders see intensive care as a natural extension. Knowing that an apparently unresponsive patient is processing spoken language could influence how clinicians interact with that patient, when rehabilitation begins and how subsequent care is planned.

The broader thesis is that EEG can become a practical measurement of brain function.

From brain injury to Alzheimer's

Shah's research group has been studying whether language-processing signals can identify changes associated with Alzheimer's disease before conventional neuropsychological testing

detects symptoms. The founders see potential applications in earlier assessment and treatment-response monitoring. Those findings remain research-stage and should be distinguished from the company's published severe-brain-injury work.

The team also sees potential applications in neurodevelopment, including patients whose ability to communicate may significantly underestimate their underlying cognitive ability.

Where could this lead?

Alongside MINDstat, the team is exploring **MINDscore** for brain-health monitoring in broader populations. This broader application illustrates the scale of the platform the founders envisage.

What happens next

Cognitive Signals has received NIH Blueprint MedTech support and an Empire State Development Innovation Matching Grant to support commercialisation and market validation.

Further financing would support proprietary clinical-integration hardware and help the company **prepare for a pivotal multisite trial**. The founders say **eight academic hospitals have already signed on**.

The question is whether Cognitive Signals can turn the brain's response to ordinary speech into a scalable, clinically useful measure of cognition.

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Based on a Carter Sciences interview with Sudhin Shah and Jeremy Hill and subsequent founder review. Research findings and development plans are company-reported. Broader applications remain developmental.