

# DeepMade

## Sound Engineered for Human Performance

Executive Summary April 2026

---

### The Vision

DeepMade is a generative soundscape platform engineered to enhance human performance through biometrically adaptive audio.

**The core idea:** The right sound, generated in real time and calibrated to your physiological state, can help you focus deeper, recover faster, and perform better.

Half a billion people now wear devices that stream continuous biometric data: heart rate, HRV, movement, sleep patterns. This data is abundant. What is missing is software that actually uses it. DeepMade closes that loop: real-time biometric input drives real-time audio output, creating a continuous feedback system between body and sound.

---

### How It Works

DeepMade generates audio in real time from a parametric synthesis engine, not pre-recorded tracks. Six layers work simultaneously:

Layer	Function
<b>Foundation</b>	Low-frequency tonal base that anchors attention
<b>Rhythm</b>	Tempo locked to movement cadence in real time
<b>Entrainment</b>	Binaural beats targeting specific brainwave states
<b>Harmonics</b>	Phase-based tension and release (warmup to push to recovery)
<b>Texture</b>	Evolving ambient elements that maintain engagement
<b>Respiratory</b>	Breath-paced modulation for recovery sessions

The system adapts continuously. When your heart rate climbs, intensity increases. When you enter recovery, the soundscape shifts to promote parasympathetic activation. The audio is not playing *at* you - it is responding *to* you.

---

### The Product

DeepMade serves six core states:

- **Moving** - Running, rowing, cycling, walking. Audio locks to cadence and adapts to effort.
- **Recovering** - Post-workout or standalone. Respiratory entrainment, HRV-responsive.
- **Sleeping** - Full sleep cycle support from onset through wake (see below).
- **Focusing** - Beta-range entrainment for sustained concentration.
- **Working** - Adaptive background audio for general productivity.

**Sleep Mode** is a first-class feature, not an afterthought. Sessions range from 15-minute sleep onset to full 7.5-hour overnight cycles:

Session Type	Duration	What It Does
Quick Drift	15 min	Rapid descent from alpha to delta for fast sleep onset

Gentle Descent	30 min	Gradual transition with extended theta phase
Deep Preparation	45 min	Full relaxation sequence for anxious sleepers
6 Hour Sleep	6 hr	Complete night with 4 sleep cycles and gentle wake
7.5 Hour Sleep	7.5 hr	5 cycles following natural ultradian rhythm

Audio adapts across sleep stages: delta frequencies (1-2 Hz) during deep sleep, theta (4-5 Hz) during REM, with graduated alpha/beta for natural awakening.

Current development: Functional web prototype with six modes (rowing, running, walking, cycling, recovery, sleep). Native iOS/Android application in development with Apple Watch and wearable integration planned.

## Why Now

The infrastructure exists. Apple HealthKit and Google Health Connect provide real-time biometric access to 95%+ of the global smartwatch install base. Web Audio API and native audio frameworks enable sophisticated real-time synthesis on every smartphone. The pieces are in place. The product that connects them does not yet exist at the quality level the market deserves.

Existing players (Endel, Brain.fm) have validated consumer willingness to pay for functional audio. But they remain small and are designed for passive contexts - sitting at a desk, lying in bed. Nobody has built for the performance-oriented consumer who wears a Whoop, trains with a Garmin, and demands precision from their tools.

**DeepMade is that product.**

## Competitive Landscape

Company	Focus	Limitation
<b>Endel</b>	Adaptive ambient soundscapes	Passive contexts only (desk, bed). No athletic performance focus.
<b>Brain.fm</b>	Neural phase-locking for focus	Static audio. No biometric input. Desk-bound.
<b>LUCID</b> (Toronto)	Clinical music therapy for dementia/anxiety. FDA pathway.	Clinical populations only. Not consumer performance.

LUCID validates the underlying neuroscience in clinical settings. DeepMade applies similar principles to healthy, performance-oriented consumers - a larger market with fewer regulatory constraints.

## Data Collection for Efficacy

The prototype displays real-time audio parameters and tracks data requirements for measuring efficacy:

**Sleep Mode Data:** | Category | Metrics | |-----|-----| | Biometric Inputs | HR, HRV, Movement, Breathing Rate, SpO2, Skin Temp, Sleep Stage | | Outcome Metrics | Time to onset, Wake episodes, Deep/REM time, Sleep efficiency, Morning HRV | | Learning Signals | Optimal onset Hz curve, Personal cycle length, Wake window sensitivity |

**Activity Mode Data:** | Category | Metrics | |-----|-----| | Biometric Inputs | HR, HRV, Cadence, Movement, Power, GPS | | Outcome Metrics | Avg HR, Cadence lock %, Perceived effort, Post-session

Data availability: Heart rate, HRV, cadence, and movement available now via HealthKit/Health Connect. Sleep stage, breathing rate, and advanced metrics planned for native app integration.

---

## Current Status

DeepMade is in early development:

- Brand and domains established (deepmade.ai, deepmade.com)
- Functional audio proof of concept deployed with six modes
- Core synthesis architecture validated
- Real-time sound profile and data collection panels implemented
- Native mobile application in development

We are actively seeking feedback and direction from prospective advisors as we refine the product and go-to-market approach.

---

## The Research

The science is established. Decades of research demonstrate measurable effects from individual audio mechanisms:

Finding	Effect Size	Source
Generic music improves performance vs. silence	3-4%	Terry et al. 2020 meta-analysis
Tempo-synchronized audio improves running economy	+7% efficiency	Bood et al. 2013
Motivational music extends time to exhaustion	+15-20%	PLOS One
Post-exercise audio shifts autonomic balance toward recovery	Significant HRV change	Frontiers in Psychology 2014

**The opportunity:** These studies test single mechanisms in isolation. DeepMade stacks six mechanisms simultaneously - auditory-motor sync, arousal modulation, brainwave entrainment, respiratory pacing, attentional capture, and harmonic tension/release. No existing product combines all of these with real-time biometric feedback.

If tempo sync delivers 5%, arousal modulation another 5%, and reduced perceived exertion another 5%, the compound effect could exceed what any single-mechanism study has measured. This is the hypothesis we are building toward.

---

**Contact:** deepmade.ai

*Sound that knows your mind and body.*

---

## References

1. Terry, P.C., Karageorghis, C.I., et al. (2020). "Effects of music in exercise and sport: A meta-analytic review." *Psychological Bulletin*, 146(2), 91-117. <https://doi.org/10.1037/bul0000216>
2. Bood, R.J., Nijssen, M., et al. (2013). "The power of auditory-motor synchronization in sports: Enhancing running performance by coupling cadence with the right beats." *PLOS One*, 8(8). <https://doi.org/10.1371/journal.pone.0070758>

3. *Frontiers in Psychology*. (2014). "Auditory driving of the autonomic nervous system: Listening to theta-frequency binaural beats post-exercise increases parasympathetic activation."  
<https://doi.org/10.3389/fpsyg.2014.01248>
4. Karageorghis, C.I. & Priest, D.L. (2012). "Music in the exercise domain: A review and synthesis."  
*International Review of Sport and Exercise Psychology*, 5(1), 44-66.  
<https://doi.org/10.1080/1750984X.2011.631027>