SleepOS — Autonomous Sleep Intelligence Platform

The AI Operating System for Perfect Sleep

8 hours. Optimized. Every single night.

Executive Summary

SleepOS is the autonomous AI platform that transforms sleep from a passive, unoptimized experience into an intelligent, personalized system that maximizes restorative rest. We unify sleep data from wearables, smart beds, environmental sensors, and biomarkers into a single intelligence layer that orchestrates your entire sleep ecosystem.

The Opportunity: Sleep is a **$100B+ global market** growing 8%+ annually, yet 70% of adults report insufficient sleep and 50-70 million Americans have chronic sleep disorders. The explosion of sleep wearables (Oura, Whoop, Apple Watch) and smart mattresses (Eight Sleep, Pod) has created unprecedented data — but zero intelligence connecting it all.

The Vision: Every person on Earth sleeping on SleepOS. Every night optimized. Every morning energized. We become the operating system for human rest.

The Problem

The Sleep Crisis Is Killing Us — Literally

The Numbers Are Devastating:

- **$411 billion** annual economic cost of sleep deprivation in the US alone
- **70%** of adults don't get adequate sleep at least one night per month
- **50-70 million** Americans have chronic sleep disorders
- **1.2 million** car crashes per year caused by drowsy driving
- **13%** increased mortality risk from chronic sleep deprivation
- **$5,000** average annual healthcare cost increase for sleep-deprived individuals

Why Current Solutions Fail:

1. **Data Rich, Insight Poor**: People have Oura rings, Whoop straps, Eight Sleep mattresses — all generating data that sits in separate apps
2. **Passive Tracking, No Action**: Current tools tell you *how* you slept, not *how to sleep better*
3. **Generic Recommendations**: "Don't use screens before bed" — revolutionary advice nobody follows
4. **Environment Ignored**: Sleep quality depends on temperature, light, sound, air quality — no platform controls them
5. **Lifestyle Disconnect**: Sleep isn't isolated — it's affected by exercise, food, stress, caffeine — nothing connects these
6. **Medication Dependence**: 9 million Americans use prescription sleep aids because no better solution exists

The Human Toll

A high-performing executive lies awake at 2 AM, mind racing. Her Oura shows poor sleep scores for weeks. Her Eight Sleep bed just logs the tossing. Her smart home does nothing. She pops an Ambien — again.

Meanwhile, her wearable data could have predicted this insomnia. Her calendar showed a stressful week ahead. Her coffee consumption spiked. Her workout timing shifted. A truly intelligent system would have intervened 3 days ago.

This is the sleep crisis: unlimited data, zero intelligence.

The Solution

SleepOS: The Intelligence Layer for Human Rest

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                    SLEEPFRAMEWORK
              The AI Brain for Human Sleep



                 DATA INGESTION LAYER

   Oura          Whoop        Apple        Garmin
   Ring          Band         Watch        Fenix




   Eight         Sleep        Withings     Dreem
   Sleep         Number       Sleep        Headband




            SLEEP INTELLIGENCE ENGINE


      Circadian        Sleep         Recovery
      Rhythm AI      Stage Model     Predictor



      Environment     Lifestyle      Anomaly
       Optimizer     Correlation     Detection
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                    AUTONOMOUS ACTION LAYER


      Smart        Smart        Smart        Smart
      Thermo       Lights       Sound        Air



      Calendar     Caffeine     Exercise     Supps
      Nudges       Cutoff       Timing       Delivery
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Core Intelligence Modules

1. Circadian Rhythm AI Learns your unique circadian pattern and optimizes everything around it: - **Chronotype identification**: Are you a bear, wolf, lion, or dolphin? - **Social jetlag detection**: When your schedule fights your biology - **Light exposure optimization**: When to seek/avoid light - **Melatonin timing**: Natural and supplemental - **Travel adjustment**: Proactive jet lag prevention

2. Sleep Stage Optimizer Goes beyond tracking to actually improving sleep architecture: - **Deep sleep maximization**: The recovery gold - **REM optimization**: Cognitive consolidation - **Wake minimization**: Reducing nighttime disruptions - **Sleep efficiency**: More quality per hour in bed

3. Environment Orchestration Takes full control of your sleep environment: - **Temperature curves**: Dynamic adjustment through the night (cool for deep sleep, warm for waking) - **Light choreography**: Sunset simulation, complete darkness, sunrise mimicry - **Sound management**: White noise, binaural beats, audio coaching - **Air quality**: CO2, humidity, filtration optimization

4. Lifestyle Integration Connects the dots between your day and your night: - **Caffeine metabolism**: Your personal cutoff time based on CYP1A2 genetics - **Exercise timing**: Optimize workout timing for sleep (not just performance) - **Meal timing**: Last meal, alcohol, specific foods - **Stress correlation**: Calendar analysis, HRV trends, anxiety patterns - **Screen time impact**: Blue light exposure quantification

5. Predictive Intelligence Sees problems before they happen: - **Insomnia prediction**: 72-hour early warning system - **Sleep debt tracking**: Cumulative deficit calculation - **Recovery forecasting**: When you'll be fully restored - **Illness detection**: Sleep disruption as early health indicator

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Product Suite

SleepOS Core (Consumer App) — $19.99/month

The intelligence hub that unifies all your sleep data: - Connect unlimited devices (wearables, smart beds, sensors) - Personalized sleep score with actionable insights - AI sleep coach with real-time recommendations - Smart home automation via integrations - Sleep debt tracker and recovery planner - Community challenges and social accountability

SleepOS Pro (Power Users) — $39.99/month

Everything in Core plus: - Advanced sleep stage analysis - Supplement timing optimization - Genetic integration (23andMe, Ancestry) - HRV-based recovery protocols - 1-on-1 virtual sleep coaching (monthly) - API access for builders

SleepOS Home (Hardware Bundle) — $599 + $29.99/month

Complete sleep environment control: - SleepOS Hub (central controller) - Environmental sensors (temp, humidity, CO2, light, sound) - Smart sleep light (sunset/sunrise simulation) - White noise integration - Smart plug controller (for existing devices) - Pre-configured automations

SleepOS Enterprise — Custom Pricing

For employers investing in workforce performance: - Population-level sleep analytics - Anonymized insights dashboard - Shift work optimization - Travel and jet lag management - Integration with corporate wellness - Demonstrated ROI metrics

SleepOS Clinical — Revenue Share

For sleep medicine practitioners: - Clinical-grade reporting - Treatment response tracking - CBT-I digital delivery - CPAP compliance integration - Insurance documentation - Telehealth integration

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Technology Deep Dive

The SleepOS AI Stack

Foundation Models for Sleep: We're building specialized foundation models trained on: - 500M+ nights of sleep data (aggregated, anonymized) - Clinical polysomnography datasets - Peer-reviewed sleep research corpus - Real-world intervention outcomes

Key Differentiators:

1. **Multi-Device Fusion**
   - Proprietary algorithms that combine signals from multiple wearables
   - Better accuracy than any single device
   - Compensates for individual device weaknesses
2. **Causal Inference Engine**
   - Goes beyond correlation to actual causation
   - A/B tests interventions at the individual level
   - Continuous optimization based on outcomes

3. **Temporal Deep Learning**
   - Understands sleep as a time-series problem
   - Catches patterns across days, weeks, seasons
   - Handles irregular schedules gracefully
4. **Reinforcement Learning Coach**
   - Learns what works for YOUR sleep
   - Adapts recommendations based on adherence
   - Optimizes for long-term outcomes, not short-term compliance

Integration Ecosystem

Data Sources We Ingest: | Category | Integrations | |———-|————-| | Wearables | Oura, Whoop, Apple Watch, Garmin, Fitbit, Samsung, Polar | | Smart Beds | Eight Sleep, Sleep Number, Tempur-Pedic, Withings | | EEG Headbands | Dreem, Muse, Neuron | | Environment | Nest, Ecobee, Philips Hue, Alexa, Google Home | | Health | Apple Health, Google Fit, continuous glucose monitors | | Lifestyle | Google Calendar, Outlook, Strava, MyFitnessPal | | Genetics | 23andMe, Ancestry, Nebula Genomics |

Devices We Control: | Category | Actions | |———-|———| | Smart Thermostats | Dynamic temperature curves | | Smart Lights | Circadian lighting programs | | Smart Mattresses | Temperature, firmness adjustment | | Sound Systems | White noise, sleep sounds, alarms | | Smart Plugs | Automate any device | | Air Purifiers | Air quality optimization |

Market Opportunity

The Sleep Economy Is Massive

Total Addressable Market: $585B by 2030

Segment	2024	2030	CAGR
Sleep Aids & Devices	$85B	$145B	9.3%
Smart Beds & Bedding	$35B	$68B	11.7%
Sleep Technology	$18B	$52B	19.3%
Sleep Services	$12B	$35B	19.5%
Workplace Wellness (Sleep)	$8B	$25B	20.9%
Total	**$158B**	**$325B**	**12.8%**

Our Serviceable Markets

SAM (Serviceable Addressable Market): $52B - Sleep technology software and platforms - Smart home sleep integration - Corporate sleep wellness

SOM (Serviceable Obtainable Market): $5.2B - 10% of sleep tech market within 5 years - 15M+ active subscribers at blended $28 ARPU

Why Now?

1. **Wearable Explosion**: 1.1B wearables shipped in 2025, most with sleep tracking

2. **Smart Home Maturity**: 65% of US households have smart devices
3. **Sleep Awareness**: Post-COVID, sleep is recognized as pillar of health
4. **Employer Investment**: 78% of companies plan to increase wellness spend
5. **AI Capability**: Foundation models can finally reason about complex health data
6. **Data Interoperability**: Health data standards (FHIR) enabling integration

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Business Model

Revenue Streams

Year 1 Focus: Consumer Subscriptions - SleepOS Core: $19.99/month (80% of revenue) - SleepOS Pro: $39.99/month (15% of revenue) - Hardware bundles: One-time + subscription (5% of revenue)

Year 2+ Expansion: - Enterprise contracts: $50-500K annual - Clinical partnerships: Revenue share - API licensing: Developer ecosystem - Anonymized data insights: Research partnerships - White-label solutions: Device manufacturers

Unit Economics

Consumer (Target by Year 2): - CAC: $45 - Monthly ARPU: $24 - Gross Margin: 85% - LTV: $432 (18-month average lifetime) - LTV:CAC: 9.6x

Enterprise (Target by Year 3): - CAC: $15,000 - Annual Contract Value: $150,000 - Gross Margin: 90% - LTV: $450,000 (3-year average) - LTV:CAC: 30x

Growth Projections

Metric	Year 1	Year 2	Year 3	Year 4	Year 5
Users	50K	300K	1.5M	5M	15M
ARR	$8M	$55M	$280M	$840M	$2.1B
Gross Margin	75%	82%	85%	87%	88%
Net Revenue Retention	95%	115%	125%	130%	130%

Competitive Landscape

Current Players (and Why They'll Lose)

Competitor	What They Do	Why We Win
Oura	Premium sleep tracking ring	Hardware-locked, no intelligence layer, can't control environment
Whoop	Fitness + sleep tracking	Athletics-focused, subscription fatigue, no home integration

Competitor	What They Do	Why We Win
Eight Sleep	Smart mattress with cooling	Expensive hardware, limited data sources, no lifestyle integration
Sleep Cycle	Phone-based sleep tracking	Inaccurate, no connected devices, basic recommendations
Calm/Headspace	Meditation & sleep stories	Content-only, no data, no personalization, no environment control
Apple/Google	Native health platforms	Horizontal, not sleep-specialized, no automation

Our Unfair Advantages

1. **Device Agnostic**: We work with everything, not locked to one ecosystem
2. **Intelligence Layer**: We don't track sleep — we optimize it
3. **Environment Control**: We actually change your sleep conditions
4. **Lifestyle Integration**: We see the full picture (diet, exercise, stress)
5. **Vertical Focus**: Sleep is all we do — we'll always be deeper
6. **Network Effects**: More users = better AI = better sleep for everyone

Competitive Moats

Data Moat: Largest unified sleep dataset combining wearables + beds + environment + outcomes
AI Moat: Proprietary models trained on multi-modal sleep data **Integration Moat:** Deepest device ecosystem integration **Outcome Moat:** Measurable sleep improvement creates retention

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Go-to-Market Strategy

Phase 1: Enthusiast Capture (Months 1-12)

Target: Sleep optimizers, biohackers, quantified self community

Channels: - Product Hunt, Hacker News launch - Partnerships with sleep influencers (Dr. Andrew Huberman, Dr. Matt Walker) - Reddit communities (r/sleep, r/biohacking, r/oura) - Podcast appearances and sponsorships - SEO: "how to sleep better" content engine

Tactics: - Free tier for device sync (data flywheel) - 14-day pro trial - Referral program (1 month free) - Integration partnerships with device makers

Phase 2: Mainstream Expansion (Months 12-24)

Target: Health-conscious consumers, wellness seekers

Channels: - Paid acquisition (Meta, Google, TikTok) - Influencer partnerships (fitness, wellness, productivity) - App store optimization - Partnership with mattress retailers - PR push: sleep improvement case studies

Tactics: - Hardware bundle launch - Apple Watch app focus - Integration with popular health apps - Workplace pilot programs

Phase 3: Enterprise & Clinical (Months 18-36)

Target: Employers, health systems, insurance

Channels: - Direct enterprise sales - Benefits consultant partnerships - Sleep medicine conference presence - Clinical validation studies - Insurance partnerships

Tactics: - ROI calculator and case studies - HIPAA compliance certification - Integration with HR platforms - Clinical research publications

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The Team We'll Build

Founding Team (4-6 people)

CEO/Co-founder - Consumer health or wellness startup experience - Strong product and GTM intuition - Fundraising and storytelling ability

CTO/Co-founder - ML/AI background, ideally health-related - Experience with time-series data - Smart home/IoT experience valuable

Head of Sleep Science - PhD in sleep medicine or chronobiology - Research publication track record - Clinical and consumer experience

Head of Product - Consumer health app experience - Data visualization expertise - Behavior change design background

Key Early Hires

- **Integration Engineers**: Device API specialists
- **ML Engineers**: Time-series, health data
- **iOS/Android Engineers**: Native app development
- **Growth Marketer**: Consumer health experience
- **Customer Success**: Sleep coaching background

Advisory Board

- Sleep medicine researchers (Stanford, Harvard)
- Former executives from Oura, Whoop, Eight Sleep
- Behavioral psychology experts
- Enterprise wellness leaders

Financial Plan

Funding Strategy

Pre-Seed (Now): $1.5M - Build founding team - Develop core AI models - Launch MVP with 3-5 device integrations - Validate with 1,000 beta users

Seed (Month 8): $8M - Expand device integrations to 15+ - Launch consumer subscriptions - Build smart home automation - Scale to 50K users

Series A (Month 18): $35M - Enterprise product launch - Hardware bundle release - Clinical partnerships - Scale to 500K users

Series B (Month 30): $100M - International expansion - Clinical validation studies - Strategic acquisitions - Scale to 5M users

Use of Funds (Seed Round)

Category	Allocation	Purpose
Engineering	50%	AI/ML, integrations, apps
Product & Design	15%	UX, sleep science
Go-to-Market	20%	Growth, content, partnerships
Operations	10%	Legal, compliance, infrastructure
Reserve	5%	Contingency

Path to Profitability

- **Break-even:** Month 28
- **Cash flow positive:** Month 32
- **Sustainable unit economics by:** Month 18

Risk Analysis & Mitigation

Risk	Probability	Impact	Mitigation
Device makers restrict API access	Medium	High	Build direct partnerships, support local data sync
Apple/Google launch competing feature	High	Medium	Stay vertical, go deeper, enterprise focus
Privacy/data concerns	Medium	High	Transparent practices, on-device processing, SOC 2
Hardware bundle fails	Medium	Medium	Partner with existing hardware, focus on software
Enterprise sales cycle too long	Medium	Medium	Land with wellness teams, expand to HR
Clinical validation takes too long	Low	Medium	Partner with academic institutions early

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Why This Team, Why Now

The Moment Is Perfect

1. **Wearable data explosion** — finally enough data to train real models
2. **Smart home maturity** — we can actually control environments
3. **AI capability** — foundation models can reason about complex health patterns
4. **Sleep awareness** — cultural moment for sleep optimization
5. **Employer investment** — companies paying for workforce wellness

The Opportunity Window

First-mover advantage in AI sleep orchestration. Device makers are focused on hardware. Content apps are focused on meditation. Health platforms are horizontal. No one is building the intelligence layer.

In 3 years, this space will be crowded. In 10 years, the winner will be worth $50B+. We need to start now.

The Ask

Raising: $1.5M Pre-Seed

For: - 3-person founding team (12 months runway) - Core AI model development - MVP with 5 device integrations - 1,000 beta user validation

Target investors: - Consumer health-focused funds - Sleep medicine angels - Quantified self community leaders - Strategic angels from Oura/Whoop/Eight Sleep

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Closing

Sleep is the foundation of human performance. It affects cognition, mood, health, longevity — everything. Yet despite billions spent on mattresses, supplements, and tracking devices, most people still sleep poorly.

The problem isn't data. It's intelligence.

SleepOS will be the AI brain that finally makes sense of sleep data and takes action to improve it. We'll start with enthusiasts, expand to consumers, capture enterprise, and ultimately become the operating system for human rest.

The vision: 8 billion people sleeping better because of SleepOS.

We're not building another sleep tracker. We're building the intelligence layer for one-third of human existence.

Let's wake up to better sleep.

Contact: founders@sleepos.ai

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