



Remote Health Monitoring



Chronic conditions

Post-op recovery

Diagnostics

Remote Health
Monitoring



Chronic conditions

Post-op recovery

Diagnostics



Sleep studies

What's missing:
**wearable, real-time
motion tracking**

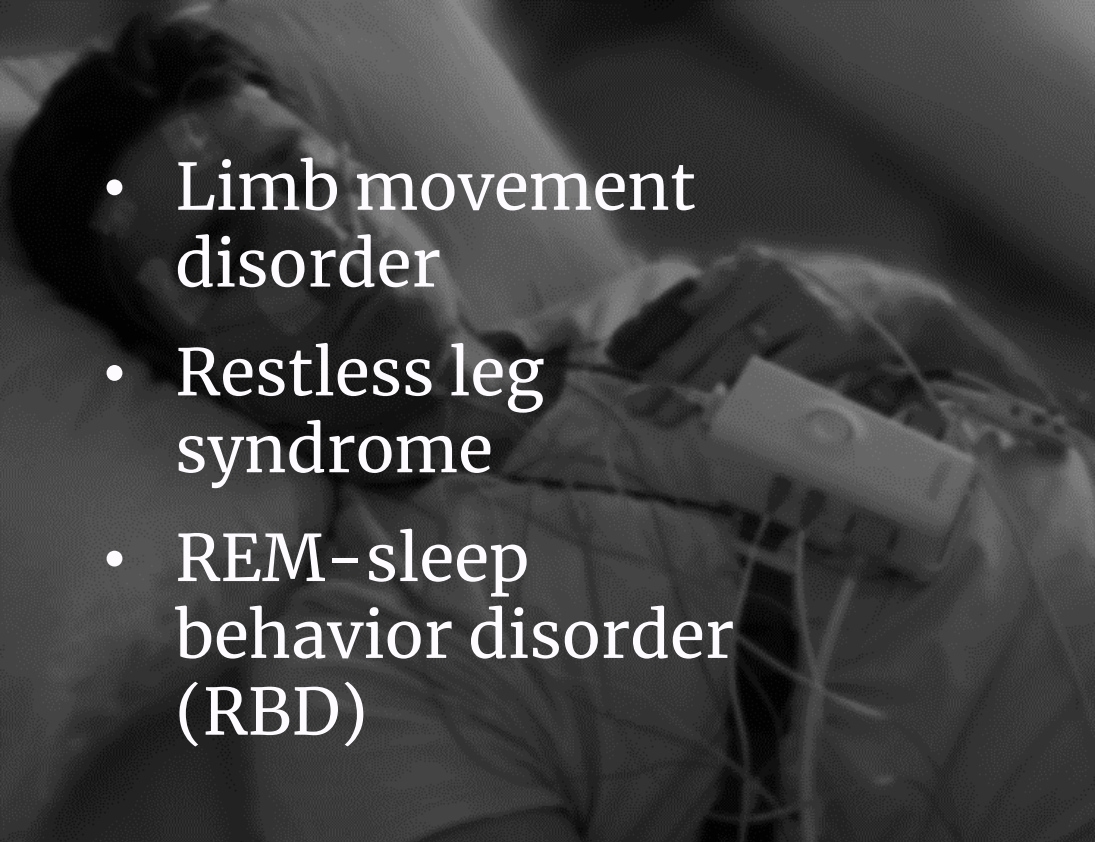


Polysomnography:

- Obtrusive
- First night effect
- Expensive

Over \$9 B spent annually on sleep diagnostics

Key Unmet Need: Unobtrusive Sleep Motion Sensing

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- Limb movement disorder
 - Restless leg syndrome
 - REM-sleep behavior disorder (RBD)

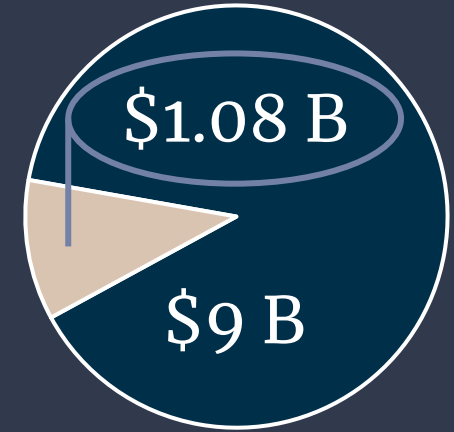


Early diagnosis of RBD will increase patient lifespan

Key Unmet Need: Unobtrusive Sleep Motion Sensing

- Limb movement disorder
- Restless leg syndrome
- REM-sleep behavior disorder (RBD)

Total Addressable Market (Domestic)



■ What we can capture now
+ \$12.1 B potential savings
from early diagnosis

Key Unmet Need: Unobtrusive Sleep Motion Sensing

3 Focus Groups

Doctors



“Biggest predictor [of PD] is REM-sleep behavior disorder...[but] many patients have insomnia in lab”

Researchers



KOL: “We don’t have a great measure of REM atonia. Alternative method to detect that would be great.”

Patients



“I couldn’t sleep more than 45 minutes in the sleep clinic, because of sensor discomfort!”

Clinics need a tool to diagnose sleep-based movement disorders where the patient feels comfortable – at home.

Key Unmet Need: Unobtrusive Sleep Motion Sensing

StretchTex, Inc.

Leveraging wearable, breathable
whole-body motion sensing to
revolutionize sleep disorder
diagnostics.

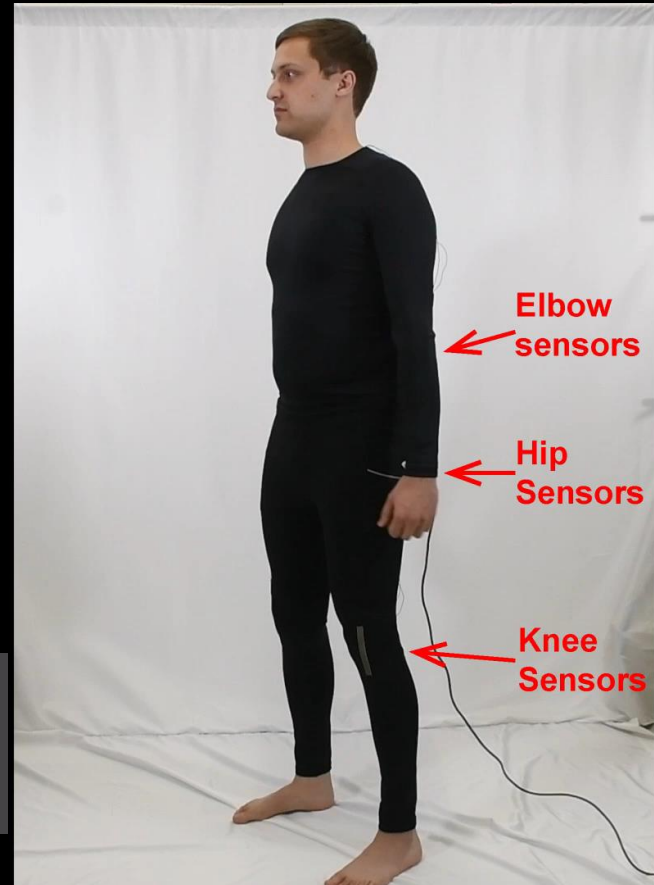


Breathable Fabric Strain Sensors

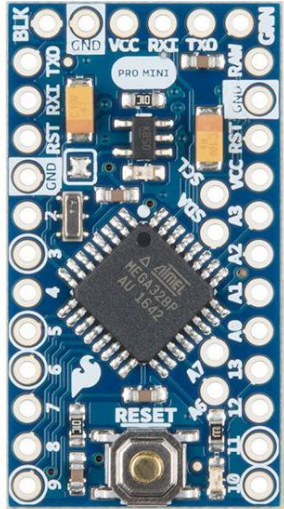
SQUAT MOVEMENT TRACKING FOR 10 CYCLES

“Stretchable, Textile, Wearable Electronic Device Including the Same, and Method of Making the Same”

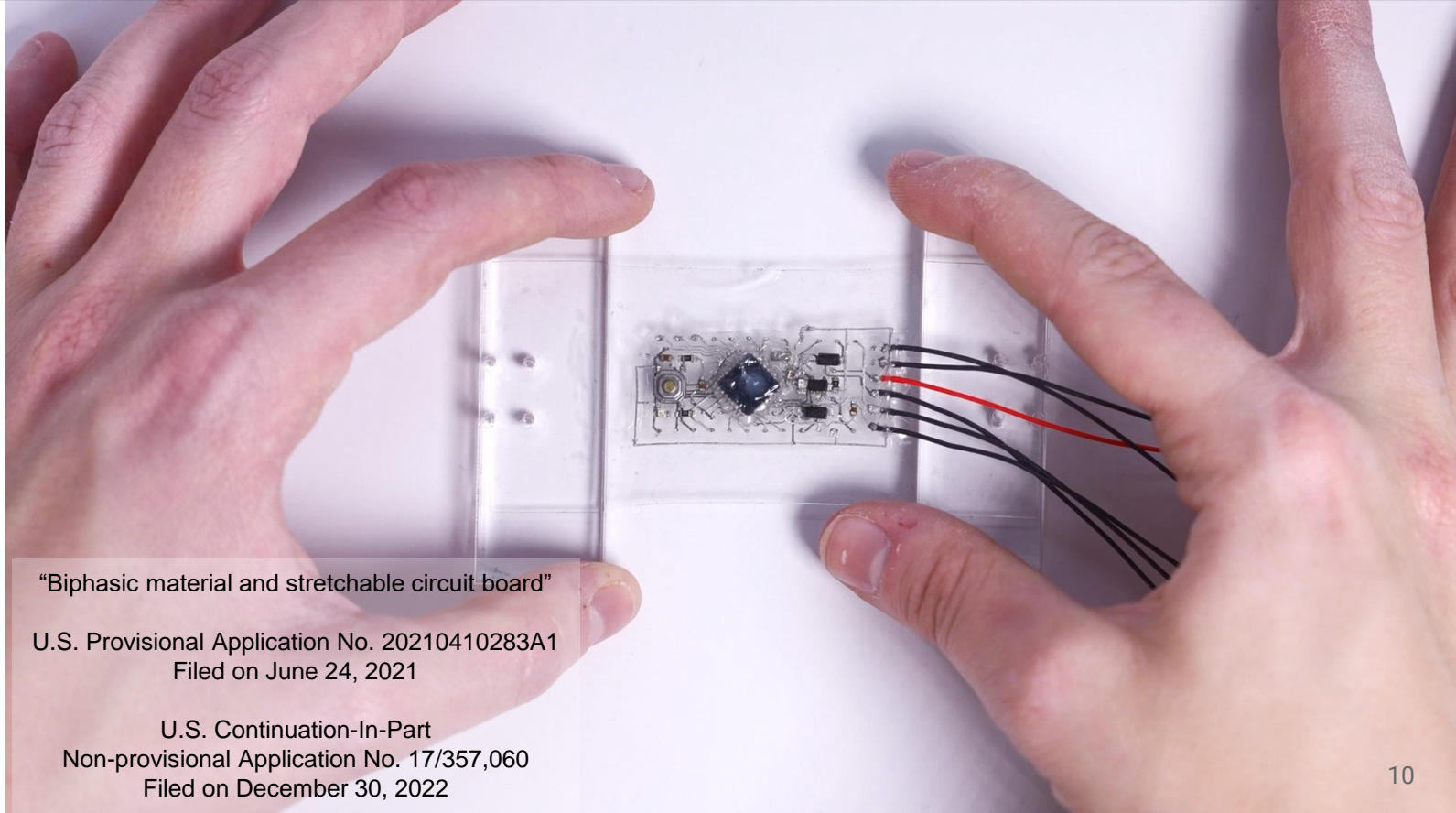
U.S. Provisional Application No. 63/406,925
Filed on September 15, 2022



Stretchable Single-board Computers



Arduino Pro-Mini

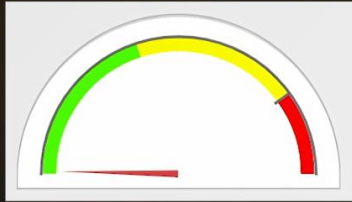


“Biphasic material and stretchable circuit board”

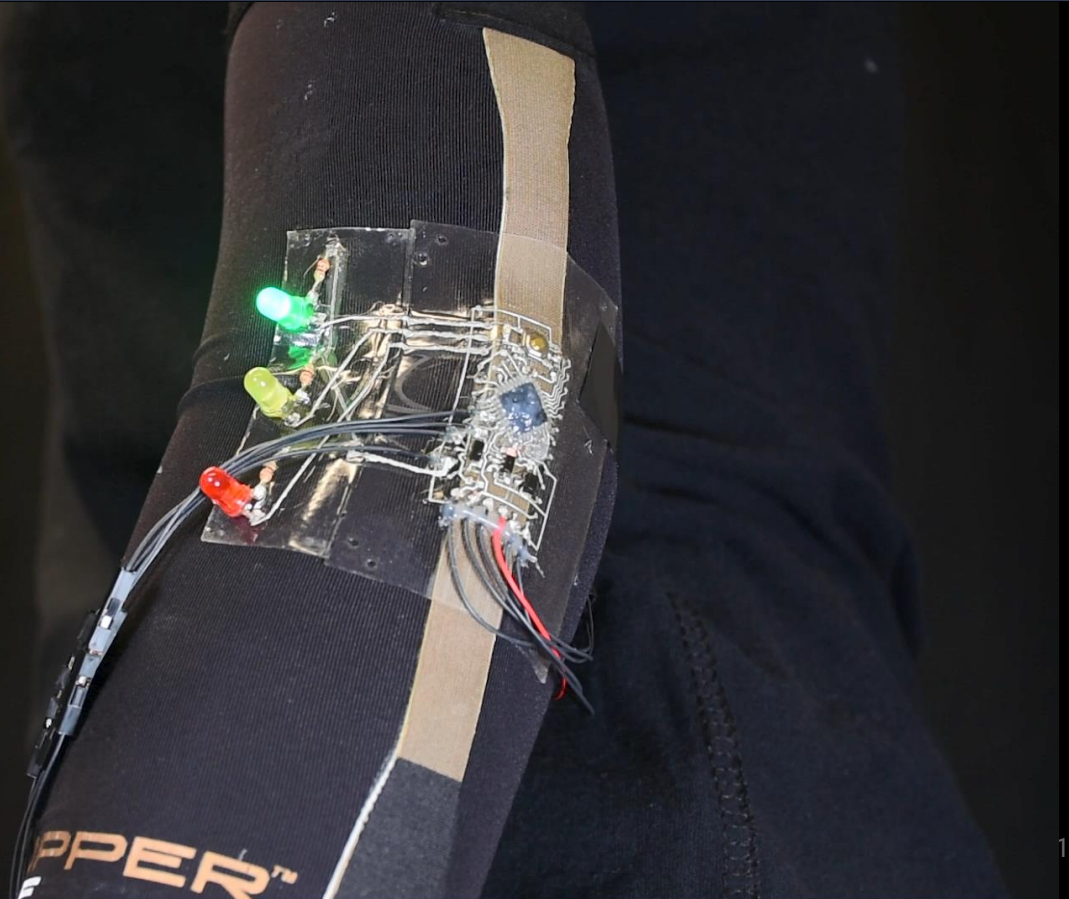
U.S. Provisional Application No. 20210410283A1
Filed on June 24, 2021

U.S. Continuation-In-Part
Non-provisional Application No. 17/357,060
Filed on December 30, 2022

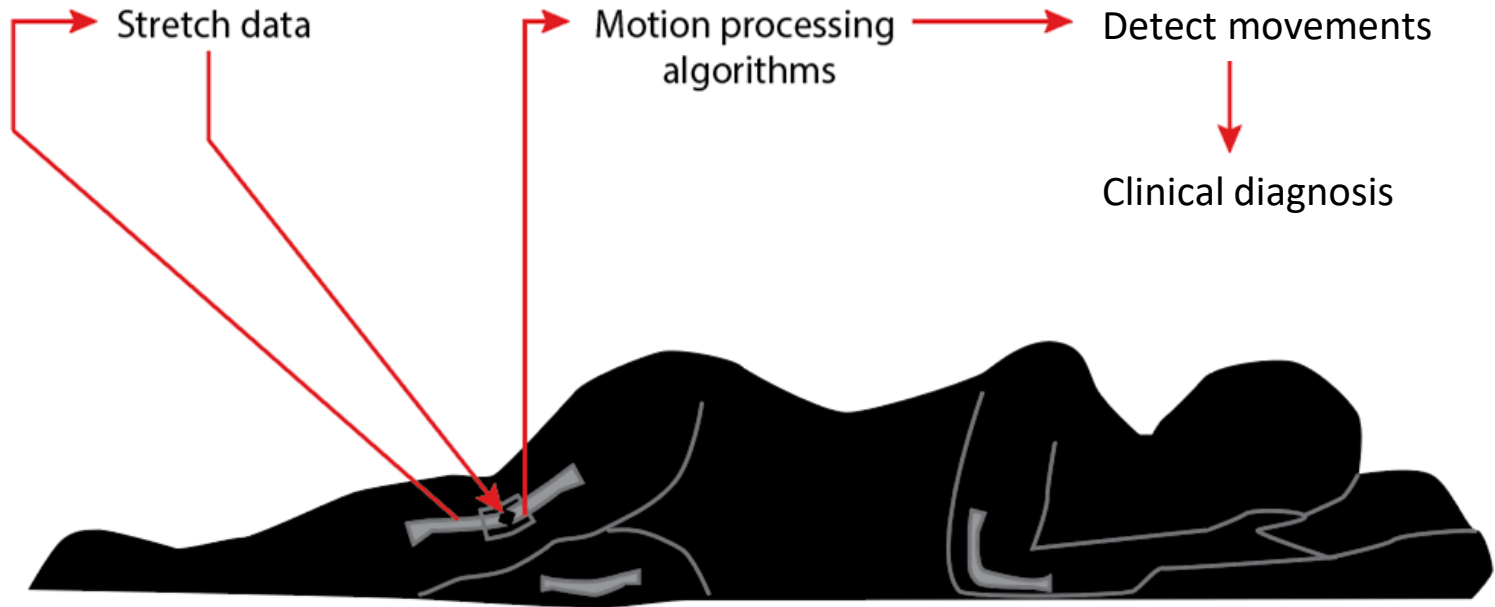
Integrating the Core Technologies



Capacitance from
Arduino serial output



Using Strain Sensors + Circuit for Pose Measurement



Patients



Researchers



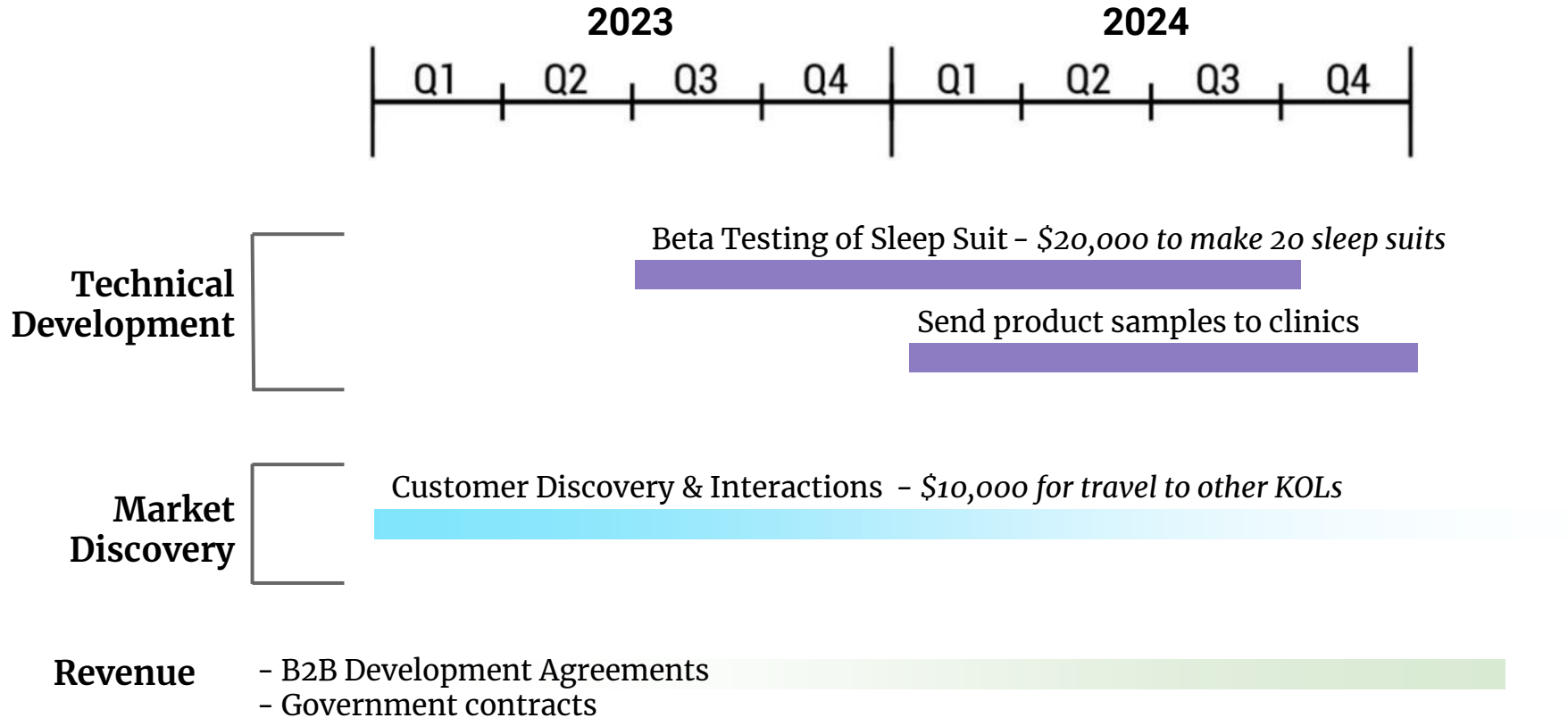
Clinicians



Doctors



The Ask - Prize Money would fund Initial Testing of Sleep Suit (\$30k)



Athlete Performance and Analytics

\$3.8 billion market



Autonomous Fitness Tracking

\$3.8 billion market

StretchTex
Completed 3x10 squats @ 120 lbs. Great form!

Rehabilitation

StretchTex
Hip replacement recovery team: "Walk around more today for optimal recovery."

\$144 billion market

Next markets

StretchTex, Inc.

Team



Stephanie Woodman
PhD Candidate
Inventor and CEO



Yale University



Anjali Agrawala
PhD Candidate
Inventor and CTO



Yale University



Advisor



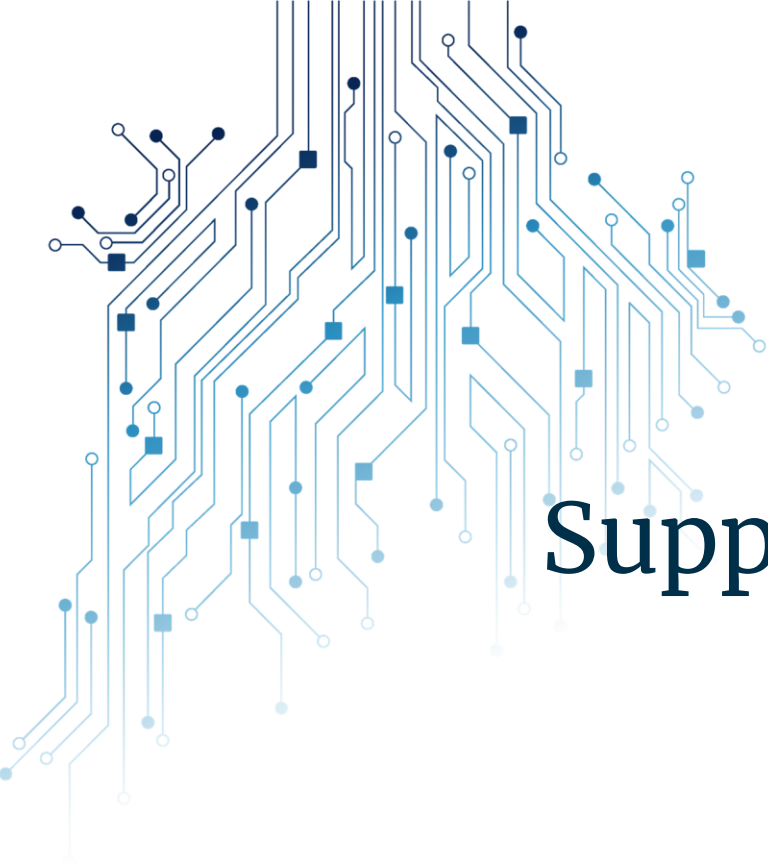
Rebecca Kramer-Bottiglio
Yale SEAS Faculty
Scientific Advisor



Clinical Collaborator



Brian B. Koo, MD
Yale School of Medicine
Clinical Collaborator
Yale University



Supporting Slides

Legend	Input	Calculated Value	Important Calculated Value
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N Suits	20
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External Expenditures						
Description	Cost (\$)	Unit	Units Per Suit	Cost Per Suit (USD)	Note	Purchase link
MakeHaven Membership (for ULS VLS2.30DT laser access)	50	Monthly	1	50		Link
Heat press	100	Ea.	0.05	5	Fixed Cost	Link
Standing mixer and accessories	3100	Ea.	0.05	155	Fixed Cost	Mixer Shaft Blade Stand
Flex PCB	50	Ea.	1	50		FlexPCB Quote
Sensor materials (conductive fabric, adhesive, polyester, wires and misc.)	39.43	Foot	1.5	59.145	Expand	Fabric 2 3 wires
Garment fabric (Nylon)	23.98	Ea.	1	23.98		Pants shirts
Sewing machine	150	Ea.	0.05	7.5	Fixed Cost	Link
Business Development (marketing, website development, etc.)	1000	Ea.	0.05	50	Fixed Cost	
3D printer (2)	1600	Ea.	0.05	80	Fixed Cost	Link
SLA printer for circuit masks	3750	Ea.	0.05	187.5	Fixed Cost	Link
Computer	700	Ea.	0.05	35	Fixed Cost	Example Link
Participant Incentive and Customer Development	5000	Ea.	0.05	250	Fixed Cost	
Per-Unit External Expenditures				953.125		

Total External Cost

19062.5

References Cited

Sports performance and analytics market value: Source [1](#) [2](#) [3](#)

Fitness tracking market value: Source [1](#) [2](#) & Percentage of people who weight train: [1](#)

Injury prevention impact values: Source [1](#) [2](#) [3](#) [4](#)

Remote health monitoring market values: [1](#) [2](#) [3](#)

Sleep study market values: [1](#) [2](#) [3](#)

Bottom-up analysis key sources: [1](#) [2](#) [3](#) [4](#) [5](#)

Parkinson's disease burden: [1](#) [2](#)

Sports performance and analytics photograph: [Source](#)

Fitness tracking photograph: [Source](#)

Rehabilitation photograph: [Source](#)

Sleep study photograph: [Source](#)

Phone photograph image: [Source](#)

Phone screen image: [Source](#)