

A young child with light hair is shown in profile, smiling and holding a white stuffed animal. A small, black, square EEG device is attached to their forehead. The background is dark and out of focus.

# Epilog<sup>TM</sup>

**MEDICAL-GRADE EEG MONITORING ANYWHERE**

**epitel**

**Mark Lehmkuhle - CEO**  
lehmkuhle@epitel.com

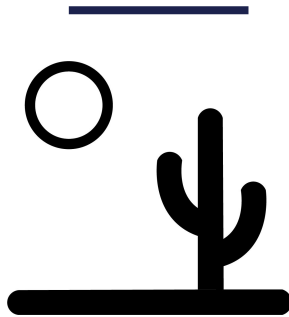
# DIAGNOSING BRAIN INJURY IS TIME-SENSITIVE

## 1 in 1000

NEONATES REQUIRE LIFE-SAVING  
RESUSCITATION<sup>1</sup>

Hypoxic-ischemic encephalopathy  
is #1 killer of neonates worldwide<sup>2</sup>

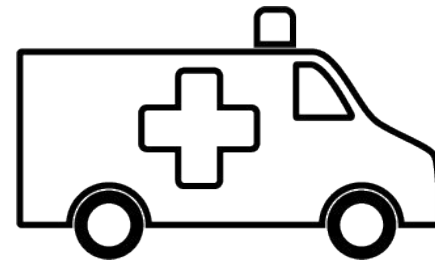
6-hour window of therapeutic  
opportunity<sup>3</sup>



NEUROLOGY DESERTS

85% of births in US are in  
community & rural hospitals<sup>4</sup>

20 states with less than 10  
neurologists per 10,000  
neurology patients<sup>5</sup>



LIFE-THREATENING

>50% neonates suspect of brain injury  
transported to tertiary hospitals<sup>6</sup>

Therapeutic hypothermia carries its  
own risk of mortality<sup>7</sup>

<sup>7</sup> Polderman KH, and Herold I., 2009. Crit Care Med. 37(3):1101-20.

<sup>1</sup> Marcin JP, et. al., 2016. Pediatr Res.79(1-2):169-76.

<sup>2</sup> Lawn JE et. al., 2007. Health Res Policy Syst 5:4.

<sup>3</sup> Kattwinkel J, et. al., 2011. Circulation. 124(15):e406.

<sup>4</sup> <https://www.aha.org/statistics/fast-facts-us-hospitals>

<sup>5</sup> Rao A, Manteau-Rao M., et. al., 2017. Alzheimer's and Dementia. 13(7),Supplement, 509.

<sup>6</sup> Fishe JN, et. al., 2018. Prehosp Emerg Care. 22(1):41-49.

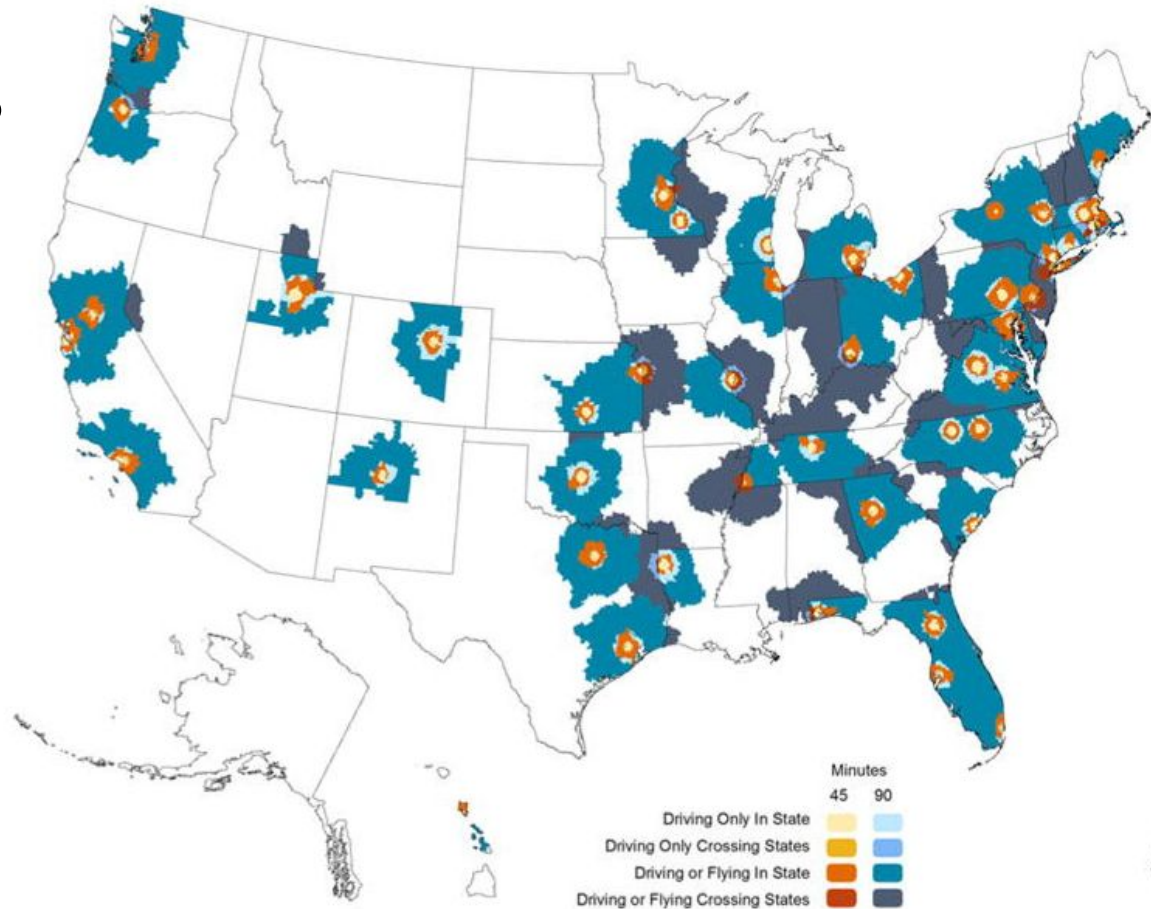
# NEUROLOGY DESERTS



73 NEUROCRITICAL CARE UNITS

1 in 3 people (32.6%) have access within 90 min by transport<sup>1</sup>

2.6M ICU stays<sup>2,3</sup> meet criteria for EEG<sup>4</sup>  
1.6M do not get EEG

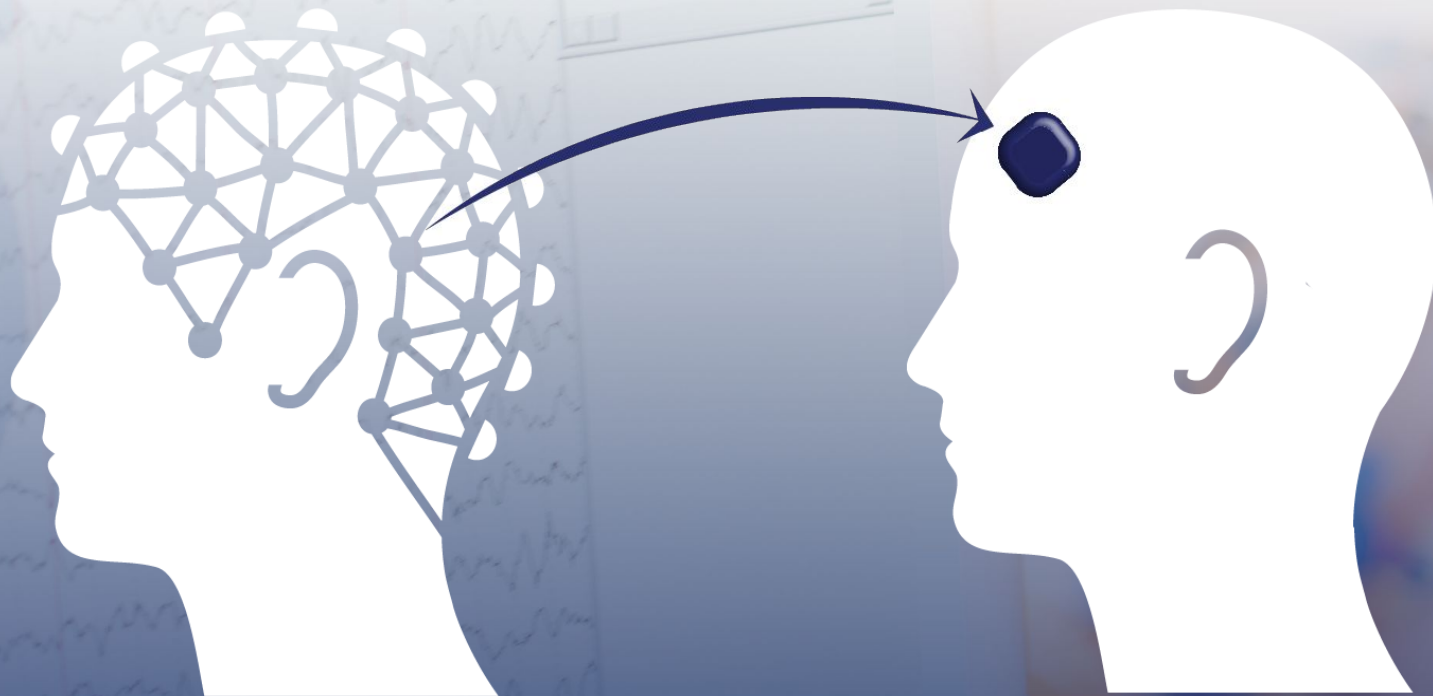


<sup>1</sup>Ward et al., 2012. *Neurocrit Care*. 16(2):232-40.

<sup>2</sup>Barrett et al., 2011. *Healthcare Cost and Utilization Project (HCUP) Statistical Briefs*. Agency for Healthcare Research and Quality (US).

<sup>3</sup>Park et al., 2016. *Seizure*. 43:42-47.

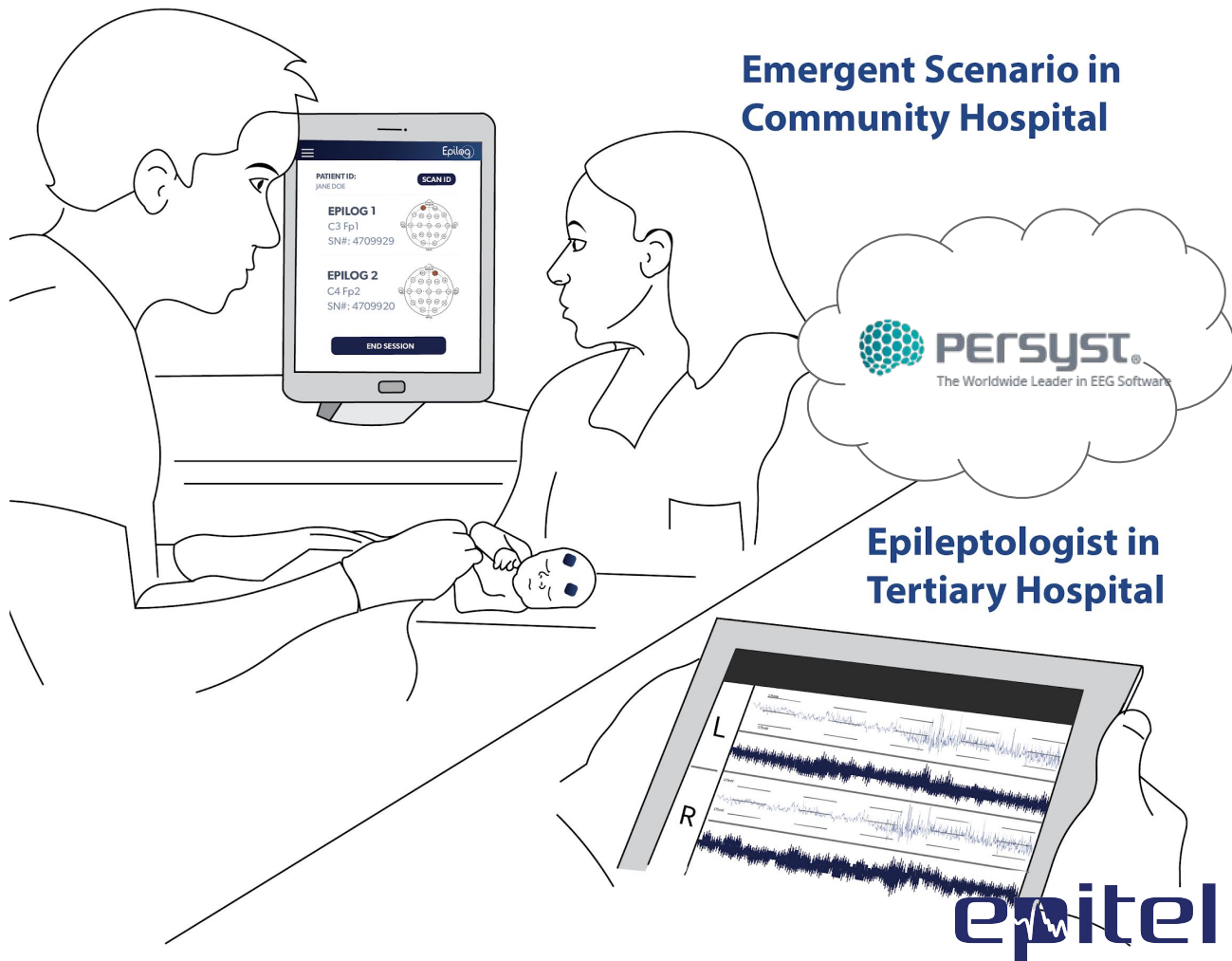
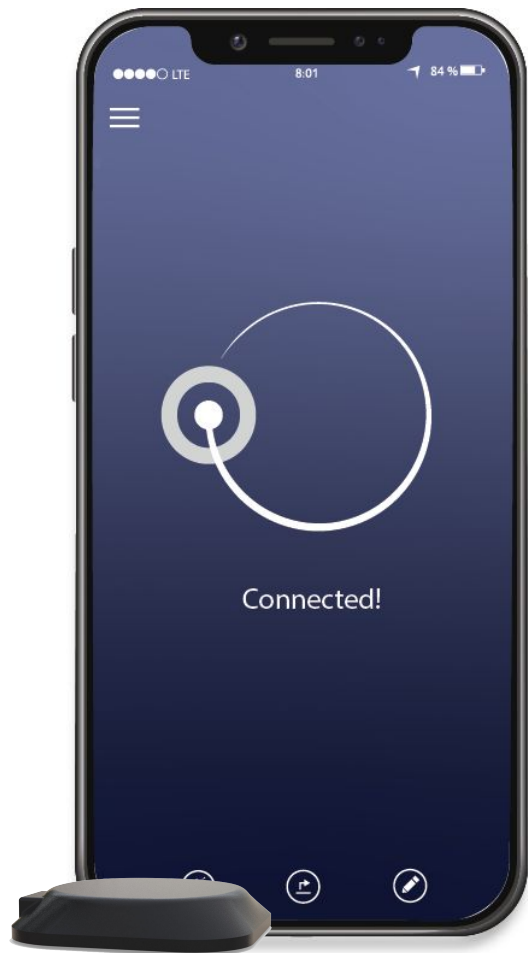
<sup>4</sup>Claassen etl a., 2013. *Intensive Care Med*, 39:1337-1351.



**EEG is the Gold Standard  
but is not available in  
community hospitals**

**Epilog monitors EEG  
anywhere and at any time**

**epitel**



## Emergent Scenario in Community Hospital

**PERSYST**  
The Worldwide Leader in EEG Software

**Epileptologist in  
Tertiary Hospital**

**epitel**





# COMPREHENSIVE VALUE

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## Community Hospitals

Reduced misdiagnosis & delayed diagnosis

Reduce unnecessary transport

Eliminate unnecessary hypothermia



## Neonatologist / Epileptologist

Improved patient care and workflow

Reimbursement

Satisfaction



## Payers

Reduced cost of morbidity & mortality

# Tele-EEG



Community Hospital

← Clinical Symptoms Only

Seizures & Background EEG →

NICU  
NCCU



A woman with goggles on her head is hugging a young child on a beach. The background is a soft-focus view of the ocean and sky.

# 1.7M

**Total Beachhead  
Market**

Neonates  
Neurocritical Care

# \$650M

**Annual  
Market Size**

United States only  
(Based on \$384 price point)

**epitel**



# REVENUE MODEL

## REIMBURSABLE

Neonates - CPT 99184  
Peds & Adults -CPT 95717,  
95719, 95721, 95723



## Device Sales

\$384/USE

## AFFORDABLE

\$384/USE

## AVERAGE MARGIN

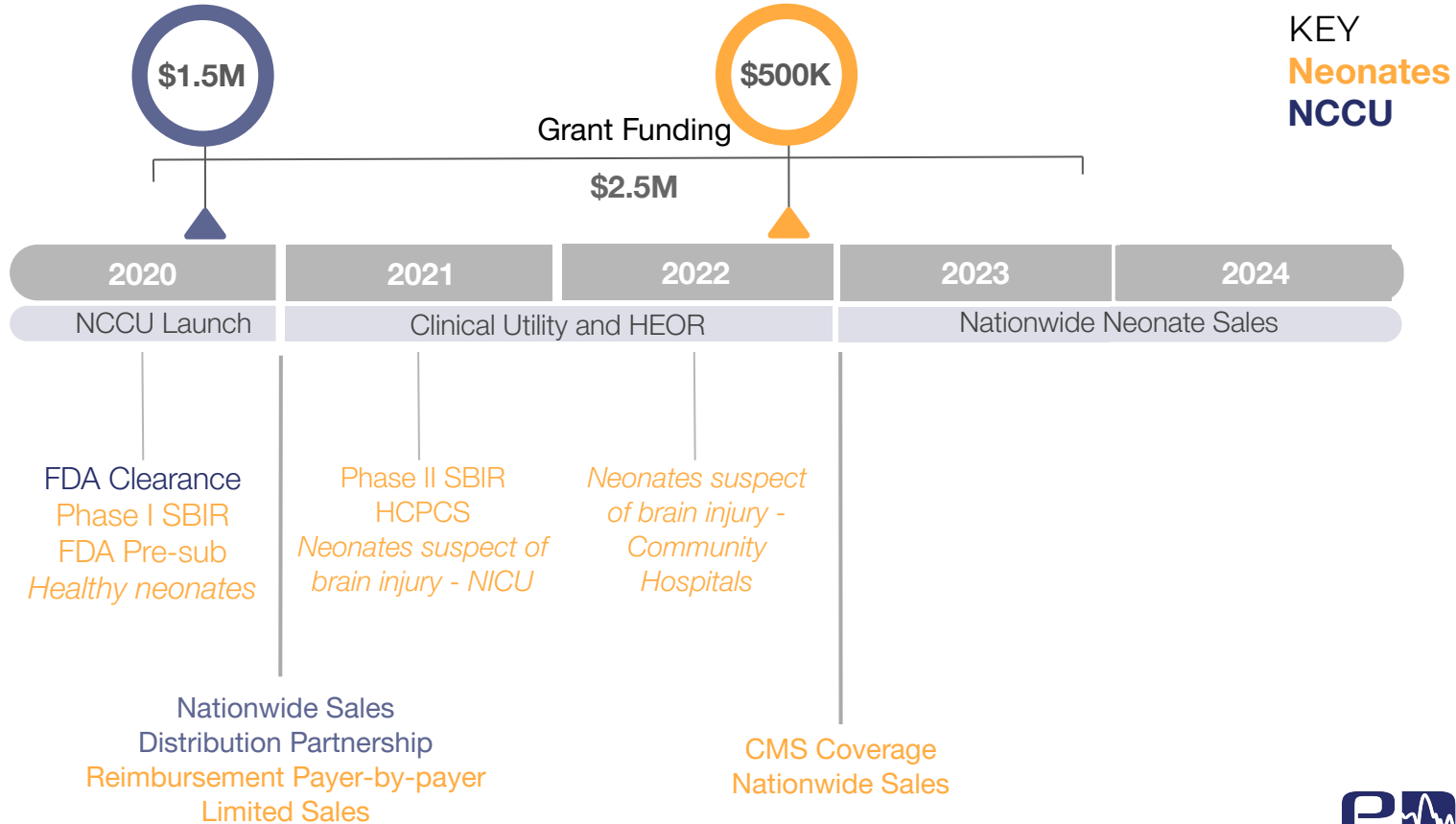
\$193/USE (Epitel) \$31/use (hospital)



## Epilog Tablet

\$2,200/year

# DEVELOPMENT TIMELINE



# SMART HEALTH ECONOMICS

Shift the balance of care to the community hospital

## Neonates

Reduce mortality

Reduce lifetime of morbidity

## Neurocritical Care

Subclinical seizure detection

Remote monitoring - no bedside footprint

Disposable



## Payers

Save \$ on lifetime of morbidity

Save \$ on unnecessary care, misdiagnosis, delayed diagnosis

## Hospital Networks

Reduce unnecessary transport

Improved patient care and workflow

Eliminate risk of unneeded hypothermia

## Neonatologists

CPT 99184

## Epileptologists

CPT 95717,  
95719, 95721, 95723

Improved patient care and workflow

[lehmkuhle@epitel.com](mailto:lehmkuhle@epitel.com)





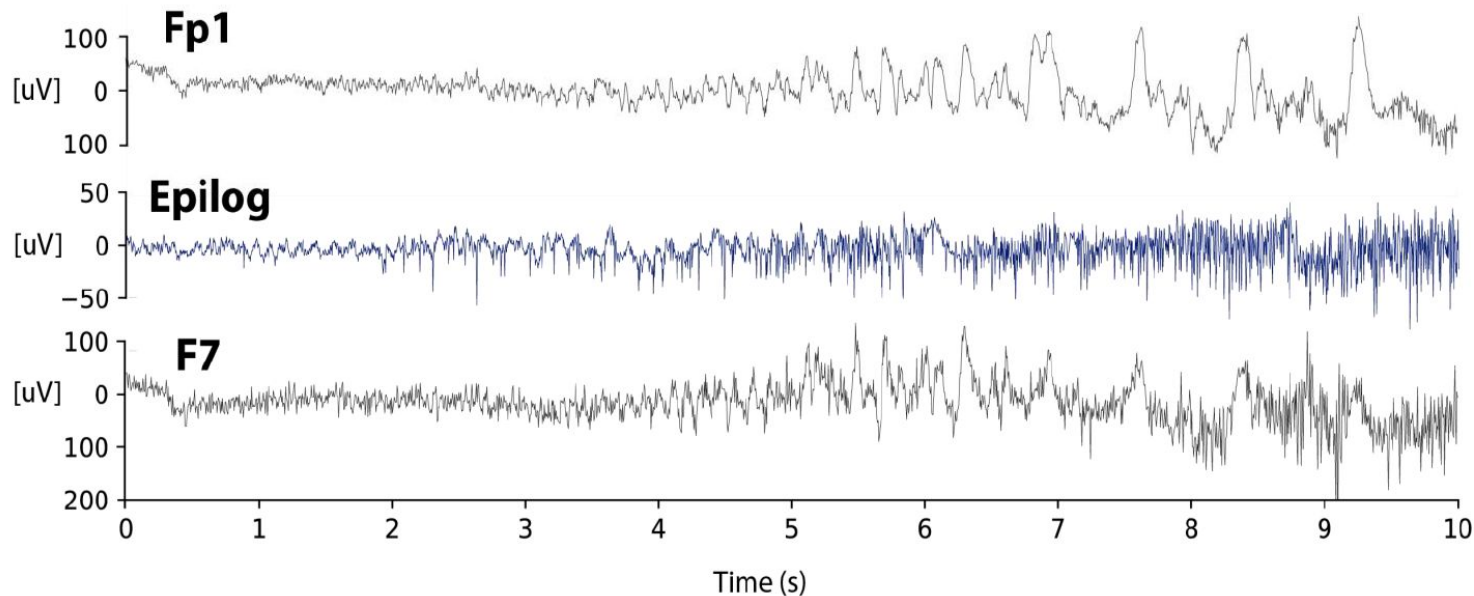


# APPENDIX

A map of Minnesota with a red star at Winona. Dotted blue lines radiate from Winona to various locations: Rochester, St. Paul, Minneapolis, Eau Claire, La Crosse, and several points in the western and northern parts of the state. The map includes major highways and city names.



# EPILOG EEG



Data are 10 s snippet of the beginning of a focal onset seizure with motor impairment and intact awareness (ILAE 1A1) recorded from Epitel's single-channel Epilog in the EMU at the University of Colorado. Traces are EEG from an adult patient admitted for video-EEG monitoring as standard-of-care. Epilog was placed on the left forehead roughly between the Fp1 and F7 electrodes (shown for reference). The seizure was verified by epileptologists with full-montage review. Note the amplitude difference between Epilog and wired EEG as a result of the 18 mm Epilog electrode dipole, filtering, and resolution differences between modalities.

# IP STRATEGY



## Data

- Largest and Fastest Growing EEG Database
- Data provides greatest value  
347 patient days and counting



## Trade Secrets

- Seizure Detection  
Algorithm Trade Secrets
- Epilog awesome sauce
  - AI based



## Patent

- Patent Pending Recording  
Technology
- Protects wearable  
US20170215759A1



ideaship

Actively engaging with Ideaship to refine IP strategy

# IP STRATEGY

Actively engaged with world-leading IP strategy experts to protect Eptel's core innovations



Joint Team of GTT Group and Panasonic IP America

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**GTT** | GROUP *Owner and Manager*

World's Leading Patent Analysis and  
Patent Transaction Firm

**PIPCA** *Strategic Partner*

Subsidiary of Panasonic IP Section,  
World Largest Corporate IP Section

As an equity partner, Ideaship is providing:

- Directed Prosecution – Review current patent application
- Invention Harvesting / Innovation Catalog
- Filing of Foundational Patent
  - External patent counsel funded by Ideaship
- Patent Valuation Deck
- Patent Roadmap / Patent Strategy
- Venture Financing Network
- Global Strategic Corporate Network