the optical revolution in hypertension monitoring
Did you know...?
The National Institute of Medicine found that anesthesiologists are the ONLY physician specialty to significantly reduce patient mortality.

There were 50 times fewer deaths due to physician anesthesiologist efforts. 1 in 5,000 to 1 in approximately 250,000.¹

¹ Kohn, Corrigan and Donaldson. To Err is Human. Institute of Medicine, 1999.
The Cuff is a 100-Year-Old Solution, Little Progress

1905
Cuffs are hard to get, hard to maintain, expensive and inconvenient.

2018
Our Mission

Attack the global hypertension epidemic by providing anytime/anywhere, inexpensive access to medical grade blood pressure measurement and management
We use breakthrough optical sensing technology to enable ubiquitous, accurate and simple measurement and data collection through smart device applications and other distributed technologies.
Hypertension: The Silent Killing Disease

1.56B
Adults living with high blood pressure

>30%
Adult population affected

2x
Risk of Premature Death

3x
Risk of Stroke and Cardiovascular Disease

Hypertension is a global threat. It is both overlooked and under managed.
Introducing OptiBP

Our OptiBP smartphone application revolutionizes hypertension management by giving anybody the power to measure and monitor blood pressure with their smartphone.

Anytime, anywhere.
OptiBP™ is the product of 10 years of research and development at the Swiss Center for Electronics and Microtechnology (CSEM) and 5 years of clinical validation at the CHUV hospital in Lausanne, Switzerland.
Extensive Development & Clinical Testing

CSEM has invested 10 years in platform R&D and Refinement

Prototype optical sensors used to test algorithms.

CHUV: Clinical studies since 2013

Biospectral’s Dr. Schoettker testing in the operating room against the arterial line BP standard.
How It Works: The Velocity Form Model (VFM)

Pulse Wave Velocity

First, we capture periodic measurement of pulse wave velocity.

Pulse Wave Analysis

Second, we analyze the shape of the pressure wave to arrive at BP value output.

OptiBP’s clinical grade, physiologically grounded computational model overcomes limitations in previous optical signal methods.
OptiBP has been clinically validated in first round validation comparing the smartphone against the blood pressure cuff and is already ISO 81060-2 compliant.
Where are We Now?

We are Partnering with World Health Organization to validate & deploy OptiBP in multiple countries.

- Real world “stress testing” – large, diverse data set to tune our algorithm
- WHO backing and reputation
- Access to global financial resources
# Validation Roadmap: Refinement & FDA

<table>
<thead>
<tr>
<th>Q1 ’18</th>
<th>Q2 ‘18</th>
<th>Q3’18</th>
<th>Q4’ 18</th>
<th>Q1’ 19</th>
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<tbody>
<tr>
<td>100 patients inv. art. (Switzerland)</td>
<td>1000 patients (Switzerland)</td>
<td>1200 patients (Tanzania, RSA, Bangladesh)</td>
<td>FDA ISO 81060-2</td>
<td>FDA ISO 81060-3</td>
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We are conducting rigorous validation and data collection.
Where are We Going?

- **Global Health**
  - WHO, OR studies, Riva Digital Switzerland
  - Large scale data to refine algorithm, build reputation

- **Care Delivery System**
  - Provider Networks, Insurance, Pharma
  - FDA certification
  - High income revenue streams, professional endorsement, consumer trust

- **Direct to Consumer**
  - Hypertensive/Health Forward Consumers
  - Clinical validation and professional reputation drive broad consumer adoption

**PHASE**

- **1** VALIDATION
- **2** MARKET ON RAMP
- **3** SCALE

**TIMELINE**

- **2018**
- **2019**
- **2020**
The Benefits of BP Monitor as Software

- Instant global access
- No extra hardware
- Any time, anywhere availability
- Connected, actionable data
- Dramatically improved user experience

OptiBP is convenient, comfortable, and portable – with data that can be analyzed and shared easily with medical professionals.
Competitive Environment

Competitors are either a hardware based variation on the cuff or not clinically accurate
Business Model

1. App sales: monthly subscription, tiered model
2. Upsell premium features & services: In product + web
3. 3rd party licensing (IoT, White Label, Phone Mfgr)
4. Data monetization
5. Analytics services
Revenue Estimates

$48M/yr.

U.S. Annualized Subscription Revenue in 12 months (EU= 30% of total)

- Free basic app (80%)
- $9.99/mo premium subscription (20%)

- TAM: 20%
- SAM: 50% of TAM

- Penetration: 1.4% = 0.14% of total HTA market

Annualized Subscribers and Revenue (U.S. Market @150M)
Investment

Angel
$1.2M

A ROUND

$4.0M /12mo

Milestones:
Complete clinical trials
Complete FDA/CE approval
Deliver shipping product (Android/iOS)
Develop tech/data platform
Secure U.S. + EU partners
Build baseline team

Values in Thousands

Clinical Trials $(2000)
Tech Dev/Infrastructure $1 400
Ops & Staffing $1 400
Clinical Trial Support $300
BizDev/Mktg/PR $200
Legal, Compliance, Certifications $700

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Our Team

**Eliott Jones**  
CEO  
Digital health entrepreneur  
Product innovator  
Yahoo, Logitech, Landor,  
Rambus, Harvard  
eliott@biospectral.com

**Prof. Patrick Schoettker**  
CMO  
Prof. Anesthesia & ER, CHUV  
Serial medtech inventor  
patrick@biospectral.com

**Peter Dolch**  
CTO  
25 year tech CEO  
Startup veteran  
Enterprise software, app & data systems  
MIT  
peter@biospectral.com

**Thierry Kunz**  
CFO  
Banking & Finance Executive  
Serial entrepreneur  
thierry@biospectral.com