

ATV's Technology Day 2017

– How to start-up a medtech company

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Problem - Cumbersome equipment



Cortrium – Our journey



Network

Health 2.0 
CPH chapter manager

QS **Quantified Self**
self knowledge through numbers

< + >
HACKING HEALTH

Accelerators



Pitch
Winner



European
funding

INNOCAN



Pfizer - Cortrium Collaboration

Official from 18. Oct. 2017



Presse

Aktuell

Meldungen

Meldungen für Fachkreise

Pressemappen

Bilder & Grafiken

Pressekontakt

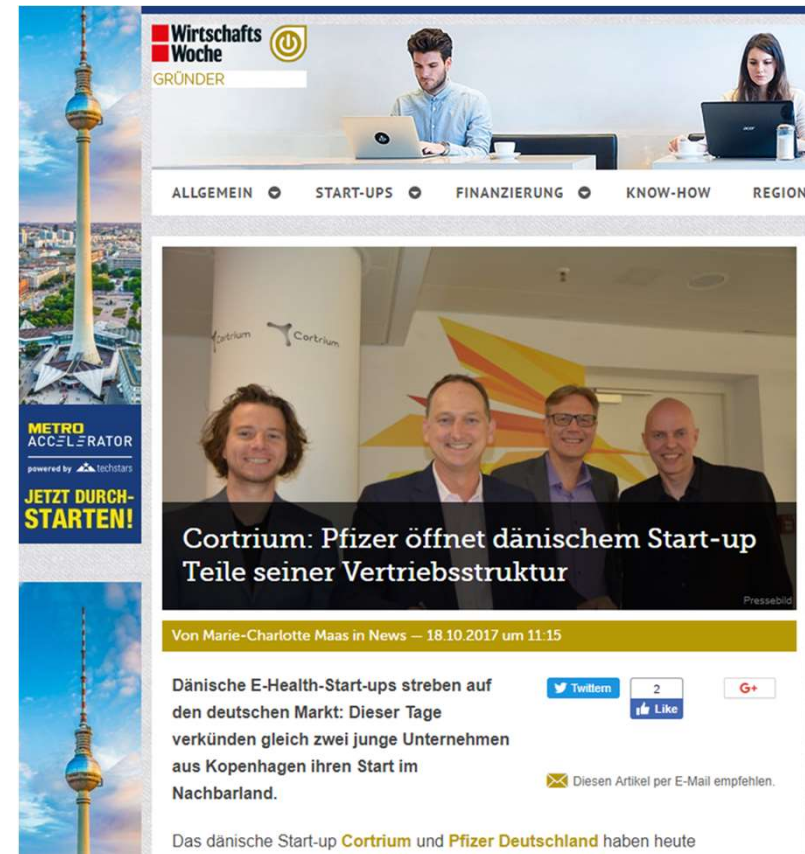
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Meldungen

18.10.2017

Geplanter Markteintritt: Pfizer öffnet Startup Cortrium Teile seiner Vertriebsstruktur

Das dänische Startup-Unternehmen Cortrium und Pfizer Deutschland haben heute angekündigt, ab Frühjahr 2018 gemeinsam einen tragbaren Sensor zur Messung von Vitalwerten im deutschen Markt einführen zu wollen. Der von Cortrium entwickelte Sensor misst zum Beispiel die Herzaktivität und kann so frühzeitig Hinweise auf mögliche Herz-Kreislauf-Erkrankungen geben. Pfizer öffnet Cortrium Zugang zu seiner Vertriebsstruktur. Die



History



Zealand University Hospital



Single unit - The big five plus one



C3 device - Clinical testing



Cortrium C5 device

1. Heart rate (ECG)



2. Respiratory rate



3. Temperature



4. Accelerometer



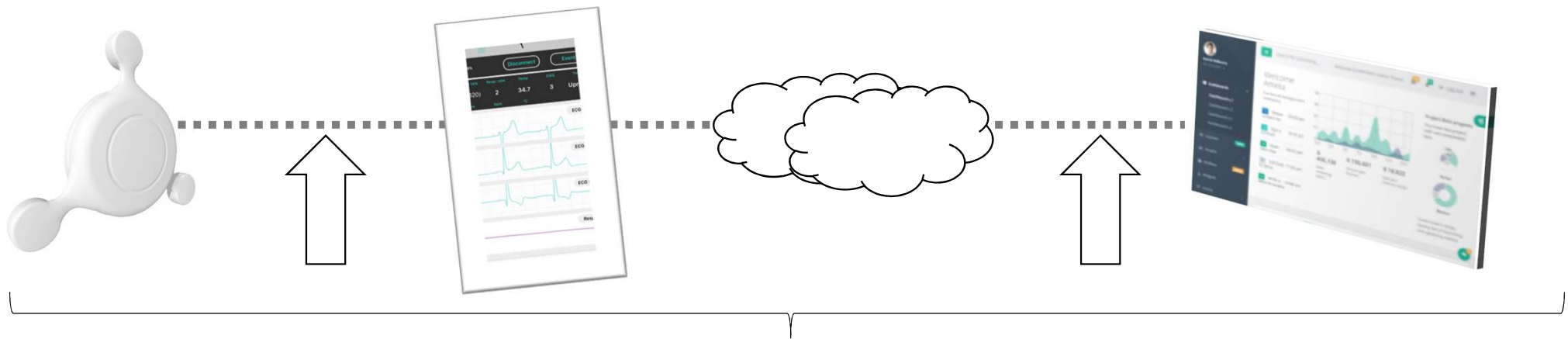
5. Pulse oximetry



6. Blood pressure



Generic end-to-end diagnostic framework



All modules developed in-house

Solid and stable “generic” end-to-end diagnostic framework (device, tablet, cloud, frontend)

Wireless transmission of medical grade vital sign data
(electrocardiogram, respiratory rate, temperature, accelerometer)

Modular and customizable - Multiple options for connecting the system

Cortrium

Introducing the C3 device

The Cortrium C3 device is developed to meet the demand for a modern, reliable, and open medical grade vital sign monitoring system. The device is based on state-of-the-art technologies while remaining inexpensive as it is produced from high quality off-the-shelf components.

Specs:

- Weight: ~24 grams.
- Dimensions (L x H): ~50 mm x ~9 mm.
- Battery: 3.7V rechargeable Li-Ion battery. Minimum 24 hours when recording to device. Recharged using standard micro USB port.
- Internal memory: 4 GB microSD card for > 17 days of continuous recording.
- Connectivity: Bluetooth 4.0 Low Energy (BLE) and live streaming to cloud service. Open RESTful API available. iOS SDK available.
- Placement: Worn on the chest using inexpensive off-the-shelf standard ECG electrodes.

Metrics:

ECG	Respiratory rate	Body surface temperature	Device temperature	Accelerometer
• 3 channels at 24 bit @ Fs=250 Hz	• 24 bit @ Fs=41.67 Hz	• 16 bit @ Fs=0.16 Hz	• 16 bit @ Fs=0.16 Hz	• 3 axis at 12 bit @ Fs=41.67 Hz

Derived metrics:

- Heart rate
- Heart rate variability (HRV)
- Heart rate recovery
- Core temperature estimate
- Body position/posture
- Fall detection
- Sleep analysis
- Calorie count
- Step count

www.cortrium.com

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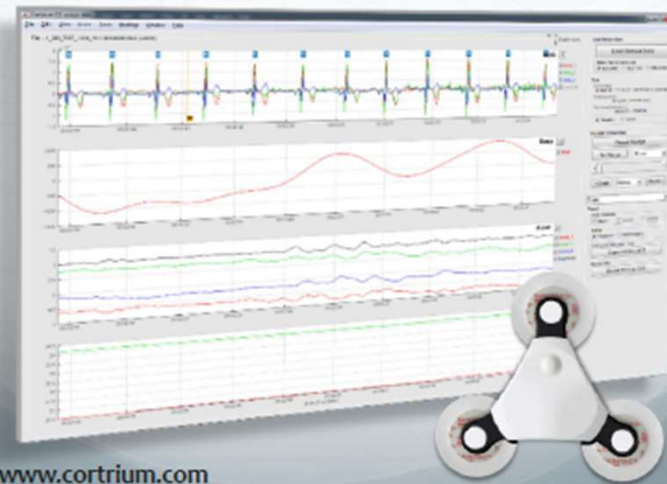
Cortrium

MATLAB® Data Inspection Tool

The Cortrium C3 graphical user interface for MATLAB enables the user to quickly select and load C3 recordings for visual inspection of the data.

Features:

- Displays curves of ECG, respiration, accelerometer, and temperature data.
- Enables display of event markers recorded in Cortrium iOS app.
- Options for FFT plot of ECG, and histograms of accelerometer data.
- Interfaces with ECGkit (<http://marianux.github.io/ecg-kit/>) for QRS-detection and heartbeat classification.
- Export of ECG to MIT and CSV file formats, and export of interbeat intervals (IBI).
- And much more...



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