

# Evolution Jacket – Wearable Electronic & Smart Material = Smart Textile mit Marktpotential

22. September 2015

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## Technologies in Motion

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- Teiimo is a technology brand that creates its own innovative and high quality products;
- Teiimo is as well an engineering house. We work with research organizations, manufacturers, and brands from various industries.
  
- We offer a fast route to market for Innovation
- We bridge the gap between research and industry
- We invent and develop missing components
- We consult in industrialization of conformable electronics

„Forget smartwatches,  
**smart clothes are the future.**“

(Gartner)

## Wearable Electronics Market

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- The wearable electronics market to grow from more than **14 billion US dollars in 2014 to more than 70 billion US dollars in 2024** (researchandmarkets.com).
- In the near future the market would reach **1.6 trillion US dollars**. (Morgan Stanley)
- Experts agree, that the **biggest potential** lies in **medicine, healthcare and fitness**.
- Today's devices need to be made **smaller, flexible, more comfortable, often invisibly** hidden in or under clothing or transparent (IDTechex)
- The only way forward is to **abandon the 100 year old "components in a box"** approach of almost all manufacturers of wearable technology today. (IDTechex)

## Today's Key Enablers For Wearables

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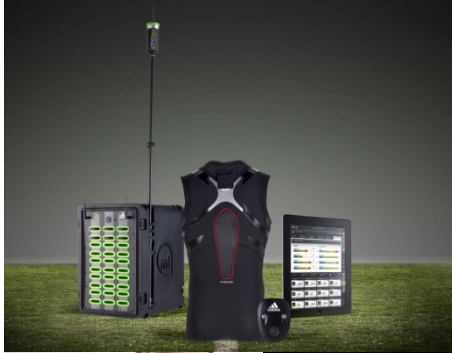
- Micro Electro Mechanic Sensors (MEMS)
  - Accelerometer, Gyroscope, Magnetometer
- Optical Sensors and Actuators
  - SpO2,...
- Radio Frequency Data Transmission
  - WiFi, Bluetooth, BLE, Zigbee
- Touch Screens and ePaper
  - Today the Smart watch is the new phone
- Interconnects and Textile Components
  - Strong research activities – washability still a challenge
- Flexible and Stretchable Circuits
  - R&D shows promising results – at least for industrial applications

## Gap Between Research and Industry to be Bridged

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### R&D 2005 to 2014

- Enormous activities from R&D Institutes
  - Novel and useful Technology blocks
  - Many Demonstrators
  
- Hesitant involvement of “end users“ out of garment industry – now picking up
  
- Big Electronics companies discovered the topic  
Novel Category of wearables: Fitness Trackers and Smart Watches
  
- Recently interesting activities from industrial end users (car industry, medical technology companies, robotic)
  
- Latest Google announcement – keypad in jeans wit Levis



## Key to all Products: Use Case

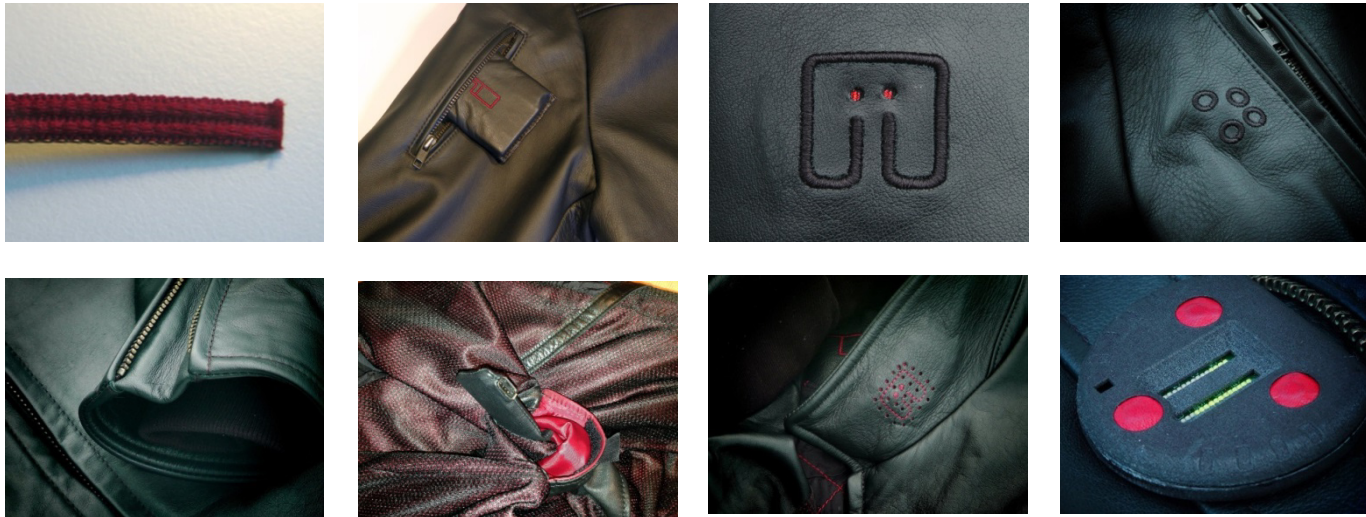
- There is value if the user perceives functions as valuable
- Business is consistent if product is desirable and used on a regular basis
- We need to understand the use case and the user

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## ilation Jacket – a wearable system

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### ilation<sup>®</sup> Jacket



## Evolution Jacket: for Convertible Drivers and Commuters

High inner collar  
soft and heated

High quality  
German cowhide

Phone pocket

Multiple and practical outer pockets

Antismell inner lining



Length tailored for car use  
Dual-way zipper

## Overview

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**Evolution** Jacket



## Heating Zones



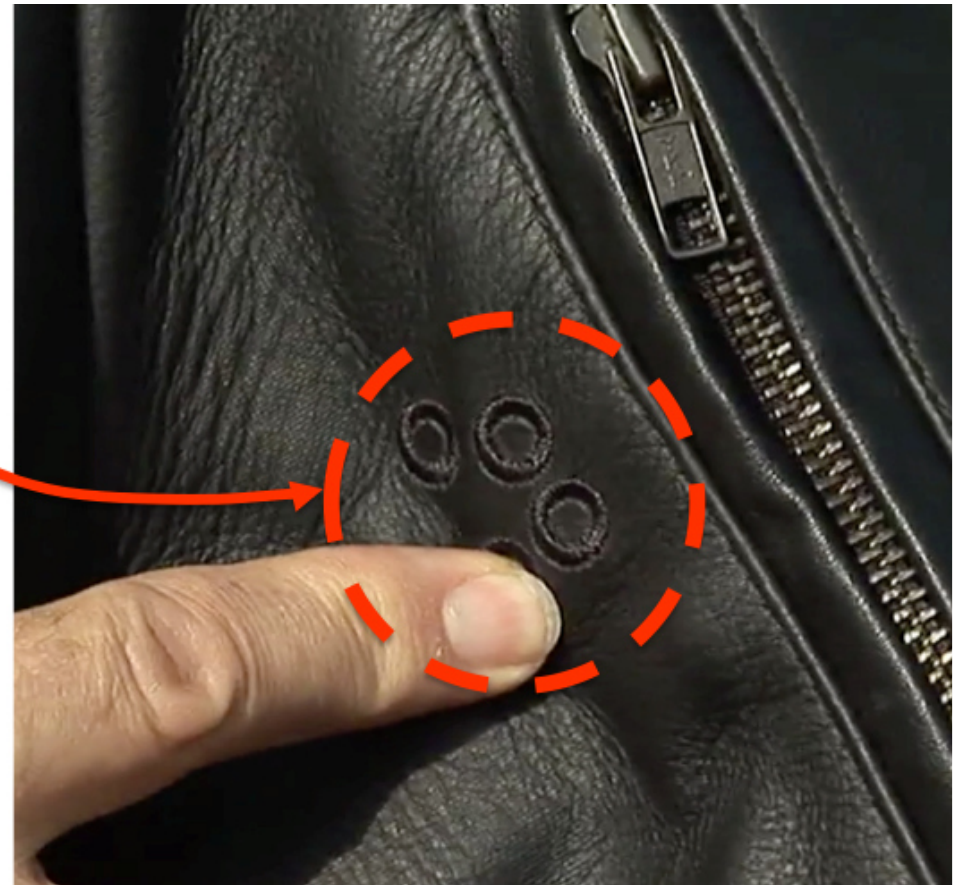
## User Interface for Two-Zone Heating

**iiilation** Jacket



## User Interface Bluetooth and Audio System

**Evolution** Jacket



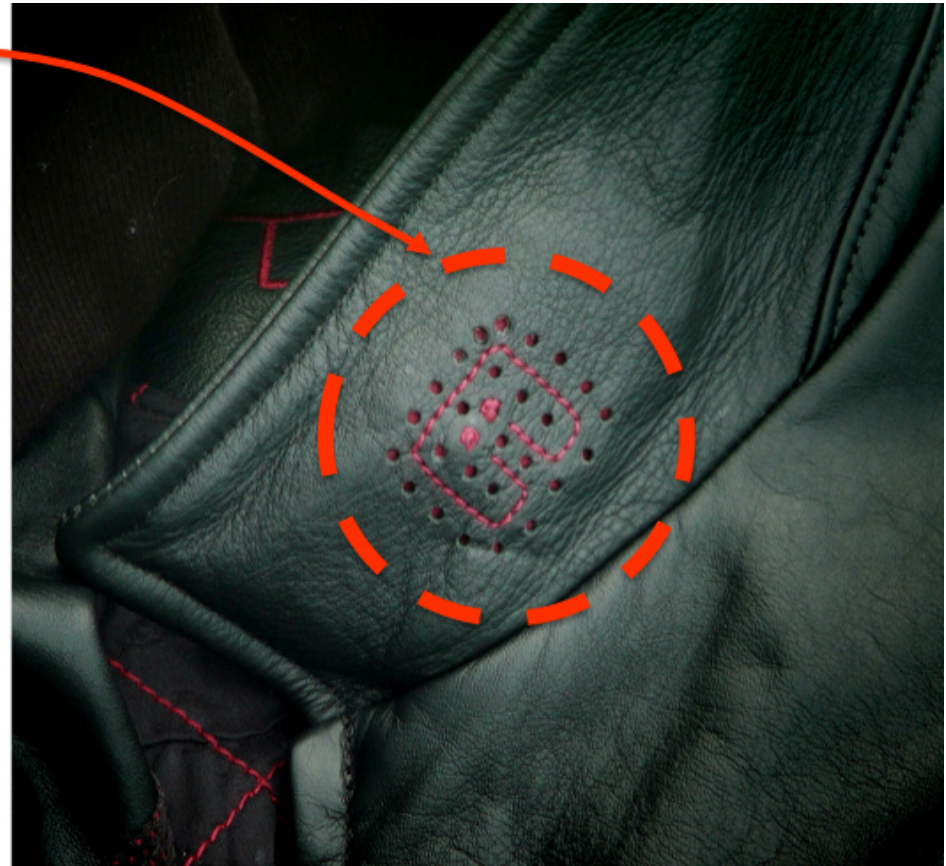
## Cellphone Charger

Evolution Jacket



## Speakers, Microphone and Audio Amplifier

Illation Jacket



## Signature Sign

iilation Jacket



## Conversion Jacket – Market

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Typical customers for our first product are convertible and classic car enthusiasts

In 2009 1.7 million Germans owned a convertible. Sales numbers are stable.

From the percentage of convertibles on European roads Germany is number 2 (ca. 2,7%), the UK number 1.

“Landkreis” Starnberg has the highest percentage of convertibles in Germany with 8%

<http://www.welt.de/motor/article7013211/Zwoelf-Monate-Sommer-fuer-Cabrio-Liebhaber.html>

## Feedback

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“The iilation Jacket **strongly convinced me and especially my wife**. Unfortunately temperatures in Germany dampen the positive feeling of a ride in your convertible. This does not happen with this fine leather jacket. The innovative phone charger comes also handy and is a real safety feature!“

Marc Hessel, former race car driver and classic car expert

“There is no radio in cars from the pre-war era, and to retrofit one would be more than ridiculous. With the iilation jacket you can listen to music. The even almost more important side effect is: the hands free system of your mobile phone works with the jacket and the navigation system also talks to you through the jacket. Another function is the integrated heating that keeps the important parts of the body alive (especially the guys who went up on the Suabian Alp last weekend with their pre-war vehicles can tell a thing or two about it). **The whole thing is so well hidden that you really don't see it.** (I had the opportunity to try the jacket).

Michael Buller, classic car enthusiast and blogger

“The convertible season is now open during fall and even winter. How lovely. But the real killer application is the phone-charger. When you use your smartphone on a trip as often as we do - taking pictures, posting, chatting and so on - you run out of battery pretty fast. But hey, you can charge your smartphone with the iilation Jacket. True. So **forget about fomo** (fear of missing out) in the future. Oh yes and you can still take a phone call or listen to music with this jacket. **The sound comes crystal clear straight from your collar. And on top of all this you look good.** “

Petra and Wolfgang Sammer, avid convertible drivers, the first to test the iilation Jacket

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