Hungarian title: Szívteljesítmény nyomon követése, kiértékelése, személyi tréninghez/edzéshez, bármilyen korosztály számára

English title: Cardiac Power monitoring - follow up, evaluation for personal training and fitness exercises for the citizen of any age

Healthcare prevention pilot project in City of Körmend and City of Aigle under Swiss Partnership Block Grant Program (2012)
Cardiac Power Monitoring for citizen at any age
# Agenda
## 18th of October 2012

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Participants</th>
<th>Organizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 10:30</td>
<td>1. Welcome and introduction of the partners <em>(City of Aigle and City of Körmend)</em>&lt;br&gt;Short film in 3.50 min from Körmend&lt;br&gt;2. Presentation of the Cyber Power Monitoring project and the Swiss Contribution Program with their objectives and rules <em>(City of Aigle)</em>&lt;br&gt;Short animation film from the main CPM concept in French</td>
<td>Representatives of City Council of Aigle, and the local experts&lt;br&gt;City of Körmend&lt;br&gt;Mayor of Körmend and CPM Project Manager</td>
<td>Mayor of Körmend and CPM Project Manager</td>
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<tr>
<td>10:30 - 11:00</td>
<td>Coffee Break</td>
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<tr>
<td>11:00 - 12:30</td>
<td>Presentation of the main Activities, transferable results, outcomes of CPM project <em>(City of Körmend)</em></td>
<td>Representatives of City Council of Aigle, and the local experts&lt;br&gt;City of Körmend&lt;br&gt;Mayor of Körmend and CPM Project Manager</td>
<td></td>
</tr>
<tr>
<td>12:30 - 13:30</td>
<td>Lunch</td>
<td></td>
<td>Local Restaurant</td>
</tr>
<tr>
<td>13:00 - 15:30</td>
<td>What is the Action Plan?&lt;br&gt;Activity chart and discussion with the local experts <em>(City of Körmend)</em></td>
<td>Representatives of City Council of Aigle, and the local experts&lt;br&gt;City of Körmend&lt;br&gt;Mayor of Körmend and CPM Project Manager</td>
<td></td>
</tr>
<tr>
<td>15:30 - 16:00</td>
<td>Coffee Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00 - 17:30</td>
<td>Setting-up a Project Consortium – international team with local project managers/staff and PM tool presentation Project Management role/ Next TO DO..&lt;br&gt;Consortium agreement, official documents, project committees, reporting, financial issues, bank accounts, cost statements, etc. <em>(City of Körmend)</em></td>
<td>Representatives of City Council of Aigle, and the local experts&lt;br&gt;City of Körmend&lt;br&gt;Mayor of Körmend and CPM Project Manager</td>
<td></td>
</tr>
<tr>
<td>17.30 – 19.00</td>
<td>Trip around the city and castle of Aigle and the Center of Cyclism</td>
<td>Representatives of City Council of Aigle, and the local experts&lt;br&gt;City of Körmend&lt;br&gt;Mayor of Körmend and CPM Project Manager</td>
<td></td>
</tr>
<tr>
<td>20:00-22.00</td>
<td>Dinner</td>
<td></td>
<td>Local restaurant</td>
</tr>
</tbody>
</table>
Partners

Project overview

Key objectives
Partnership Block Program
City of Körmend (HU) – City of Aigle (CH)
Körmend presentation
Aigle presentation /WCC

- https://www.youtube.com/watch?v=m6Kr5GFjmfc
Cyber Power Monitoring project
City of Körmend (HU)
City of Aigle (CH)

- CPM History: Background and Motivation: idea, benefit, solution for reality check
- CPM Körmend- Aigle Project Overview

Mrs Tunde Kallai
Project Manager
CPM - Cardiac Power Monitoring  
1st Living Lab Prize in Health category 

Dr. Volker Tank, Johannes Tank  
Kreative Technologies, Germany 

ESNC 2010  
GNSS Living Lab Prize  
Open Call for Living Labs
Supported by the FP7 project GAINS (Galileo Advanced INnovation Services), the first GNSS Living Lab Prize has been established as part of the European Satellite Navigation Competition 2010, aiming at connecting GNSS related ideas and business opportunities to the real life validation settings offered by Living Labs. In this context, Living Labs can provide GNSS Industry with use testing and validation services for new products/services/applications, while, at the same time, paving the way for the potential adoption of the experienced services.

From 57 ideas that have been submitted from May to July 2010, three ideas have been selected as winners in the categories energy, health and media and have been awarded on 18 October 2010.

The 2nd stage of the GNSS Living Lab Prize now calls for interested Living Labs to submit proposals for launching pilots for the three winning ideas, whose public description is enclosed to this Open Call. The proposing Living Labs shall demonstrate that they can offer the best validation environment for a specific idea, including the most promising prospect for its potential adoption and commercial exploitation.
CPM = Personal GPS Trainer Watch w Heart Monitor

dr Volker és Johannes Tank (Kreative Technologie LWU UG, Germany)

• http://www.kennisalliantie.nl/upload/files/results102010_web.pdf
Background

1. Cardio Vascular Diseases CVD cause
   • 2 million deaths per year (40 % of all in the EU)
   • 110 000 000 € health care costs (10 % of total in the EU)

2. Medical treatment does not prolong life expectation

3. Preventive action reduces risk of CVD, prolongs life
   • periodic physical activity at elevated heart rate
   • use of heart rate monitor for control

4. So far no control of training success
Self-determined physical activity at every age is one of the primary keys to achieving and maintaining overall physical and mental health. It minimises cardiovascular risk, which in spite of the highest standards of medicine is the main cause of mortality in industrial societies. Exercise also reduces the need for medical intervention and treatment, which has been a constantly increasing financial burden on industrial societies. Endurance training increases cardiac power, a lack of it causes the heart to decline. Cardiac power can thus serve as a measure of health. Cardiac Power Monitoring (CPM) enables users to determine their cardiac power development during any kind of endurance training that involves travelling some distance, such as walking, biking, skating, or cross-country skiing. Based on high-accuracy position measurement during motion, CPM derives cardiac power by combining the physical exertion the user performs with his or her interrelated heart rate. High position accuracy is achieved through utilisation of EGNOS, while SISNeT can provide reliability in urban environments.
Cardiac Power Monitoring CPM

Calculate specific cardiac power from:
- heart rate
- position (distance)
- time
- weight
during any exercise travelling a distance

Cardiac Power Index CPI

Calculate true cardiac power from:
- ergometric exercise
CPI provides:
- target to plan training
- quantitative status measurement

CPM provides:
- specific cardiac power measurement
- quantitative control of training success

CPI/CPM provide:
- control of heart power status
- history of heart power development
- motivation and fun

Fig 1. Percentual cardiac power change related to mean value for three training periods of different training intensity. Training type: walking on six independent training courses
Equipment

• **Off the shelf:**
  – scales
  – notebook/netbook
  – heart rate monitor
  – GNSS receiver (EGNOS, SISNeT)
  – synchroneous data acquisition (heart rate, position, time)

• **Software**
  – provided by Kreative Technologie
Experiments Primary/Secondary Prevention

• Probands
  – different age, different gender, no CVD, manifested CVD
• Access CPI
• Training under CPM (cardiologist control with CVD)
  – 30 minutes (structured), five times per week (or more)
  – begin close to 50% of max. heart rate for 2 weeks
  – steadily increase to 75% of max. heart rate within 4 weeks
  – keep 75% of max heart rate for three months
• Validation on ergometer
• Augment with ergometer mass data from sport institutions
CPM Experiments: Primary/Secondary Prevention

<table>
<thead>
<tr>
<th>Process</th>
<th>Output</th>
<th>Outcome</th>
</tr>
</thead>
</table>
| 1. Training under CPM  
2. GNSS-based management system  
3. High-precision position measurement, | Ergometer  
Supportive environment  
GNSS receiver | Social  
Health  
Economic |

Monitoring, evaluation, surveillance

Behaviour change
CPM: Protecter votre santé avec cardiofréquencemètre

- https://www.youtube.com/watch?NR=1&v=q3W0crbJXx4&feature=endscreen
Coffee break
The project aims at three key phases in the development of CPM as a general service in the local environment of the users and the main target of the innovation:

- Generating insights in the existing situation in the field (with real users/customers in their homes).
- Prototyping, co-creation and validation of sustainable innovations (in dedicated modular test environment).

This is a unique capability.

- Longitudinal testing in the field by installing suitcase solutions in homes incorporating sustainable innovations of CPM.

CPM is a novel technique to determine and monitor the specific physical heart power of any person performing physical endurance exercise. CPM accompanies preventive and rehabilitative physical training with a GNSS-based management system that provides high-precision position measurement, mapping, and tracking of a plurality of training courses and types over training periods.
Proposed actions
## CPM project
### Activities/Outputs/Indicators

<table>
<thead>
<tr>
<th>Description of the activity</th>
<th>Outputs / Results</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| Project Management and Coordination | First year scientific project report  
Second year scientific project report  
First year financial project report  
Second year financial project report  
Database on case studies on CPM/CPI practices | Number of Scientific reports,  
Number of financial reports |
| 1. Elaboration of Market Demand Studies in both countries | Evaluation matrix to assess the demand in the area of CVD  
Draft questionnaire ready | Number of collected case studies  
Number of involved actors |
| 2. Preparing CPM experiments in both cities | Results of literature and case study survey analysed  
Buying the mobile medical devices | Number of analysed medical practices  
20 medical devices ready to use |
| 3. Device Management – Technical aspects | Draft synthesis reports before first workshop | Number of draft reports |
| 4. Workshops and study tours | Report on the application of CPM/CPI Trials in the partner countries | Number of attendants in the workshops  
Number of visited sites  
Number of medical records per patients |
| 5. Input Work Package + Medical aspects | Report on Medical aspects | Number of involved personal users  
Number of printed materials  
Number of e-materials |
| 6. Training and Output Work package  
7 Preparation of Dissemination and Awareness Plan and Materials | Trainings and recommendations  
Flyers, CDs in HU, EN, DE | Number of tools of dissemination activities |
<p>| 8. Knowledge Dissemination and Open days | Project website, First/second electronic news alert, Article in scientific journals | |</p>
<table>
<thead>
<tr>
<th>Description of the activity</th>
<th>Please tick with „X“ the month(s) relevant for the activity</th>
<th>The upright lines indicate the interim reporting periods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Management and Coordination</td>
<td></td>
<td>1  2.  3  4  5  6  7  8.  9  10  11  12.</td>
</tr>
<tr>
<td>2. Elaboration of Market Demand Studies in both countries</td>
<td>x.  x.  x.  . x.  x.  x.  x.  . x.  x.  . x.  x</td>
<td></td>
</tr>
<tr>
<td>3. Preparing CPM experiments in both cities</td>
<td>x  x  x  x</td>
<td></td>
</tr>
<tr>
<td>4. Device Management – Technical aspects</td>
<td></td>
<td>x  x  x  x</td>
</tr>
<tr>
<td>5. Workshops and study tours</td>
<td></td>
<td>x  x  x  x</td>
</tr>
<tr>
<td>6. Input Work Package + Medical aspects</td>
<td></td>
<td>x  x  x  x</td>
</tr>
<tr>
<td>7. Training and Output Work package</td>
<td></td>
<td>x  x  x  x</td>
</tr>
<tr>
<td>8. Preparation of Dissemination and Awareness Plan and Materials</td>
<td></td>
<td>x  x  x  x</td>
</tr>
<tr>
<td>9. Knowledge Dissemination and Open days</td>
<td></td>
<td>x  x  x  x  x  x  x  x  x  x  x  x  x  x  x  x  x</td>
</tr>
</tbody>
</table>
## Grant & financial contribution

<table>
<thead>
<tr>
<th>Starting date</th>
<th>Completion date</th>
<th>1.August 2013</th>
<th>Number of months</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6. Costs of the Small Project</td>
<td>HUF</td>
<td>CHF*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total costs</td>
<td>20.000.000</td>
<td>93.323</td>
<td>100 %</td>
<td></td>
</tr>
<tr>
<td>Grant requested, of which:</td>
<td></td>
<td></td>
<td>up to 90% of the total budget</td>
<td></td>
</tr>
<tr>
<td>Applicant - costs budgeted for the HU</td>
<td>12.000.000</td>
<td>55.994</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner - costs budgeted for the CH</td>
<td>8.000.000</td>
<td>37.329</td>
<td>up to 40% of the grant requested</td>
<td></td>
</tr>
<tr>
<td>Total amount of co-financing, of which:</td>
<td></td>
<td></td>
<td>minimum 10%</td>
<td></td>
</tr>
<tr>
<td>- provided by HU Applicant</td>
<td>1.200.000</td>
<td>5.599</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- provided by CH Partner</td>
<td>800.000</td>
<td>3.732</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**CPM project**

**Work flow**

- **WP 1** – Elaboration of market demand studies in both countries
- **WP 2** – Preparing CPM experiments in both cities
- **WP 4** – Workshops and study tours
- **WP 5** – Input Work Package + Medical aspects
- **WP 3** – Device Management – Technical aspects
- **WP 6** – Training and Output Work package
- **WP 7** – Preparation of Dissemination, Awareness Plan and Materials
Our Target Audience
Media Plan
The following communications measures are realized from the project implementation plan:

• **Printed Media**: Brochures*, Leaflets*, Flyer, Annual Reports, Data Check Book*

• **Interactive Media**: Websites, CD-ROM’s, privacy information magazine*

• **Public Relations**: Press Releases, Press Conferences

• **Publicity Events**: Data Protection Conference (twice a year), Seminars and Workshops*, “Learn CPM” - Summer School*, Symposium

• **Incentives**: Postcards*, Sticker*, Card Game*

• **Special Activities**: Seal of Privacy for IT Products, Privacy Protection Audit for public authorities
Campaign Overview
The Campaign
Hit the Bullseye with Swiss-Hungarian CPM Project team
Established clientele in both public and private sectors
Reputation for creative and servicing
Digital and Printed Marketing.
We think. We love what we do.
Campaign Strategy to be discussed with Meine Klima Tag

- Microsite
  - microsite
  - user blogger

- Mobile Marketing
  - Creating an online presence and community on mobile

- Marketing
  - Keyword heart monitor on Facebook / Twitter

- Event
  - by the Action Plan

- Display Advertising
  - Online Banners
Putting it Together
CPM project

What to do next?

**Time planning and Action Plan (Month 0-4)**

- **Project management** – communication between the partners, document exchange and archives, progress reports
- List of partners and experts with contact details → in progress
- **Activity 1.** Elaboration of Market Demand Studies in both countries **URGENT**
- **Survey distribution and creation of local expert teams (1 medical (sport) doctor, 1 fitness trainer, 1 IT and 1 marketing expert)**
- **Activity 2.** Preparing CPM experiments in both cities
- **Activity 7.** Preparation of Dissemination and Awareness Plan and Materials
- Project leaflet
- **Activity 8.** Knowledge Dissemination and Open days
- Project Links on the city council/sport, leisure and fitness clubs’s websites
- Press releases
- **Procurement process for** 1. purchasing the heart rate watches, 2. service contracts, 3. the German software team
Survey to CPM twinning project in Hungary and Switzerland

To initiate a CPM reality check and coaching program, or just send some supportive info, please take some time to complete and submit this form (feel free to choose ‘not sure’ at the bottom of the page if you’re not ready to commit). Answer the questions as accurately as possible. We’ll get back to you ASAP and ask for additional details during a phone consultation. If you have questions and don’t want to fill out all the info below, contact us through this email.

Name: ________________________________
Address: ________________________________
City: __________________ State/Province: __________ Zip: ___________
Country: ________________________________
Birthday: ________________________________
Home phone: ____________________________
Work phone: ____________________________
Mobile phone: ____________________________
Email address: __________________________

Preferred contact time: ____________________
How did you find out about CPM program? ________________________________
I’d like you to brainstorm me in the following sport(s): ____________________
I train with a heart rate monitor: Yes: [ ] No: [ ]
What is the highest heart rate you’ve seen recently? ____________________

What is your lowest resting heart rate? ____________________
My dietary habits are: Excellent: [ ] Adequate: [ ] Need work: [ ]
My knowledge of nutrition is: Excellent: [ ] Average: [ ] Basic: [ ]
What was your longest training week ever (hours)? ____________________
Approximate training week currently (hours): ____________________
Approximate training time available per day with a typical work/workout schedule:

Monday ____________________
Tuesday ____________________
Wednesday ____________________
Thursday ____________________
Friday ____________________
Saturday ____________________
Sunday ____________________

Group workouts that you regularly participate in (if any): ____________________
Your athletic background: ____________________
Brief multisport competition history (if any): ____________________
Data privacy

Number of years training in each sport:  
Swim: __  Bike: __  Run: __

Number of years competing in each sport:  
Swim: __  Bike: __  Run: __

Outstanding performances:
- [ ]
- [ ]

Strengths:
- [ ]
- [ ]

Weaknesses:
- [ ]
- [ ]

Recurring sports injuries:
- [ ]
- [ ]

Health issues that restrict your training:
- [ ]
- [ ]

Competitive goals for this season:
- [ ]
- [ ]

This season’s target races with dates and distances:
- [ ]
- [ ]

Other comments:
- [ ]
- [ ]

---

I am fully aware that participating in any exercise program can be potentially dangerous, hazardous activity. I am specifically aware of the potential dangers of participating in the CPM training program.

In consideration of my acceptance into the CPM training program, I, the undersigned (parent or guardian if participant is under 18 years of age) intending to be legally bound, do hereby for myself, my heirs, executors, administrators, and assigns, assume any and all risks of participating

I hereby assume full responsibility for any injury, including my death occurring while participating in, or as a result of, my participating in the CPM training programs.

You agree that this Agreement constitutes "a writing signed by You" under any applicable law or regulation.

Yes, I agree to the above. 
Yes, I agree. I’d like to get more information ASAP.

I’m ready to try out the CPM training program!
Signed: ________________________  Initiated: __________  Dated: __________

(signature of parent or guardian for minor)
Youtube:
https://www.youtube.com/watch?v=1GdOugaN3p0&feature=related
https://www.youtube.com/watch?v=fCl3VrlM7c4&feature=related
https://www.youtube.com/watch?v=OGqI1akGzjA
https://www.youtube.com/watch?v=oTZSVas07Jw&feature=related
( FR – 5 watches)
https://www.youtube.com/watch?v=_w1__fokMCs&feature=endscreen&NR=1 (FR)
Thank you!