



PodiTrodi

Point-of-care diagnostics for tropical diseases

The 6th Annual Concertation and Consultation Workshop of EC funded projects on Micro-Nano-Bio Systems

3rd/4th May 2012

1. The PodiTrodi project
2. Chagas disease and technical approach
3. Value chain and sustainability
4. Conclusion

1. The PodiTrodi project



Call/Objective: FP7, ICT-2011.10.1

EU-Brazil Research and Development cooperation

Project Objective: Heterogeneous Microsystems integration.
Sensor technology, integrated solutions encompassing all aspects for technological uptake

Funding Scheme: STREP

Starting Date: 1st Sept 2011

Duration: 30 month

Partners: 8 European (5 Countries) | 5 Brasilian

European Coordination: Prof. Thomas Gessner (Fraunhofer ENAS)

Deputy: Prof. Thomas Otto (Fraunhofer ENAS)

Brazilian coordination: Prof. Jacobus Swart (CTI)

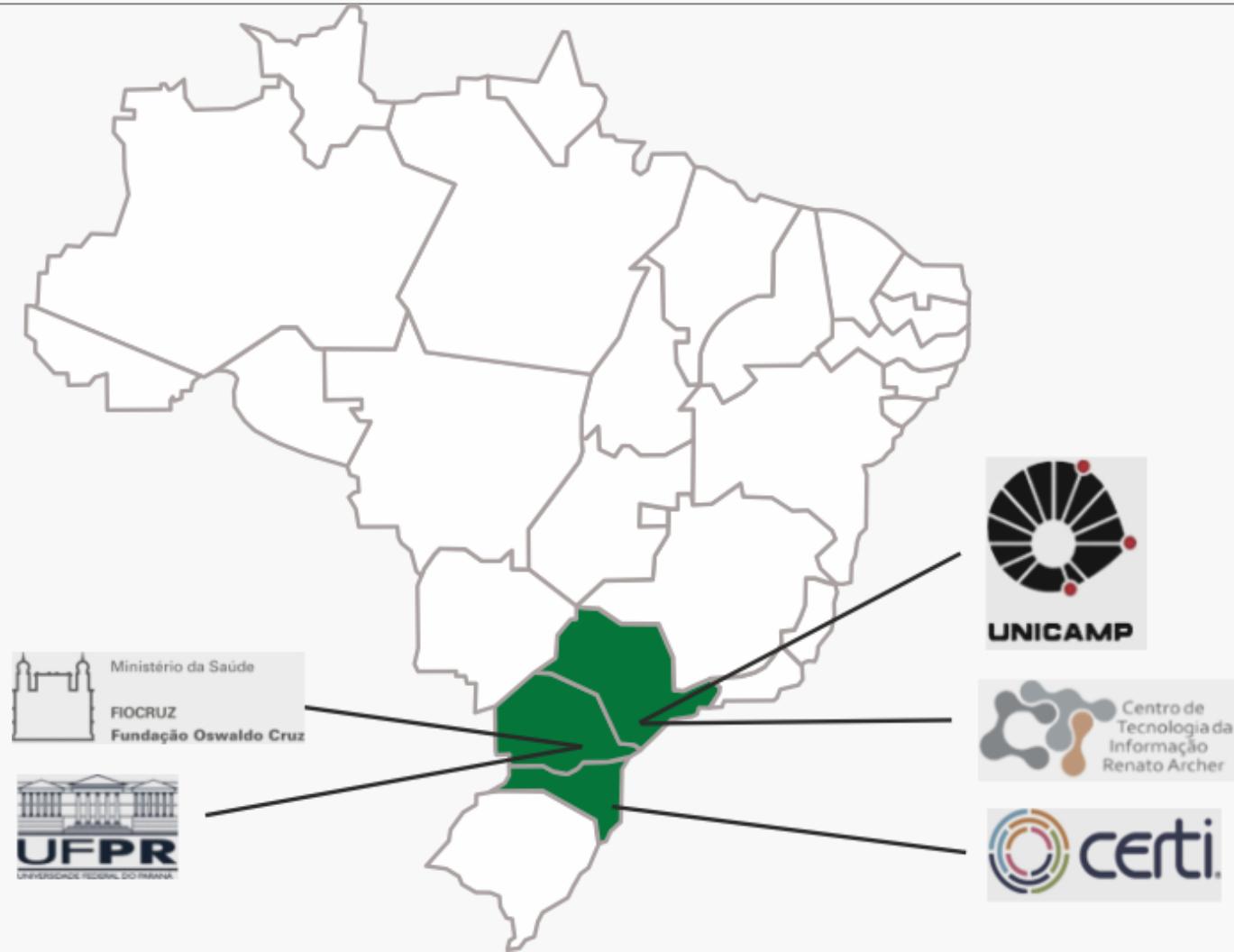
PodiTrodi-EU Nr: FP7 287770

1. The PodiTrodi project



8 European partners from research and industry

1. The PodiTrodi project



5 Brazilian partners from research and industry

1. The PodiTrodi project

Europe

- Fraunhofer ENAS (Germany)
- CEA Leti (France)
- Teknologian tutkimuskeskus VTT (Finland)
- ST Microelectronics (Italy)
- Haecker Automation GmbH (Germany)
- University of Aveiro (Portugal)
- CNRS, University of Montpellier, Laboratoire Charles Coulomb (L2C) (France)
- BiFlow systems GmbH (Germany)

Brazil

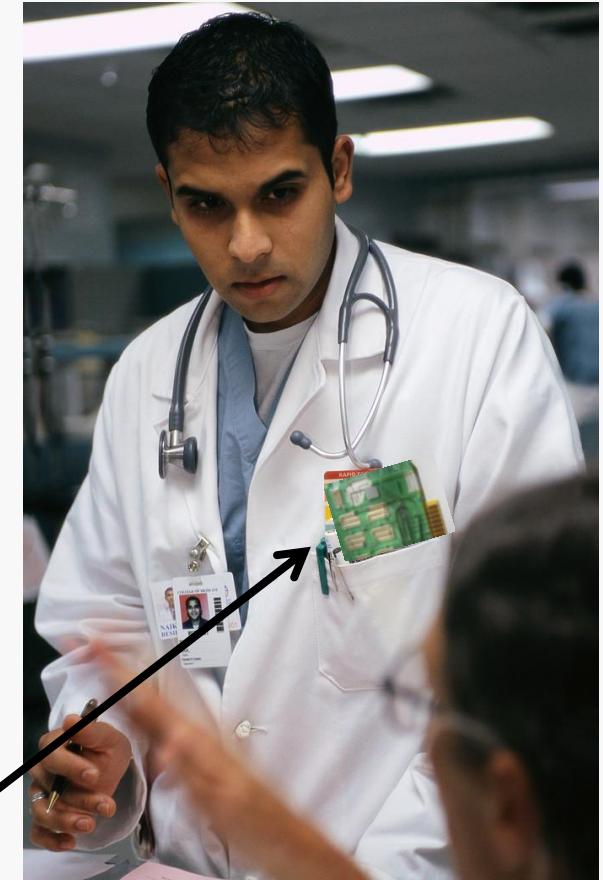
- Centro de Tecnologia da Informação Renato Archer CTI (Campinas)
- Fundação Centros de Referência em Tecnologias Inovadoras CERTI (Florianópolis)
- Fundação Oswaldo Cruz FioCruz (Curitiba)
- Centro de Componentes Semicondutores, Universidade Estadual de Campinas UNICAMP CCS (Campinas)
- Universidade Federal do Paraná UFPR (Curitiba)

2. Chagas disease and technical approach

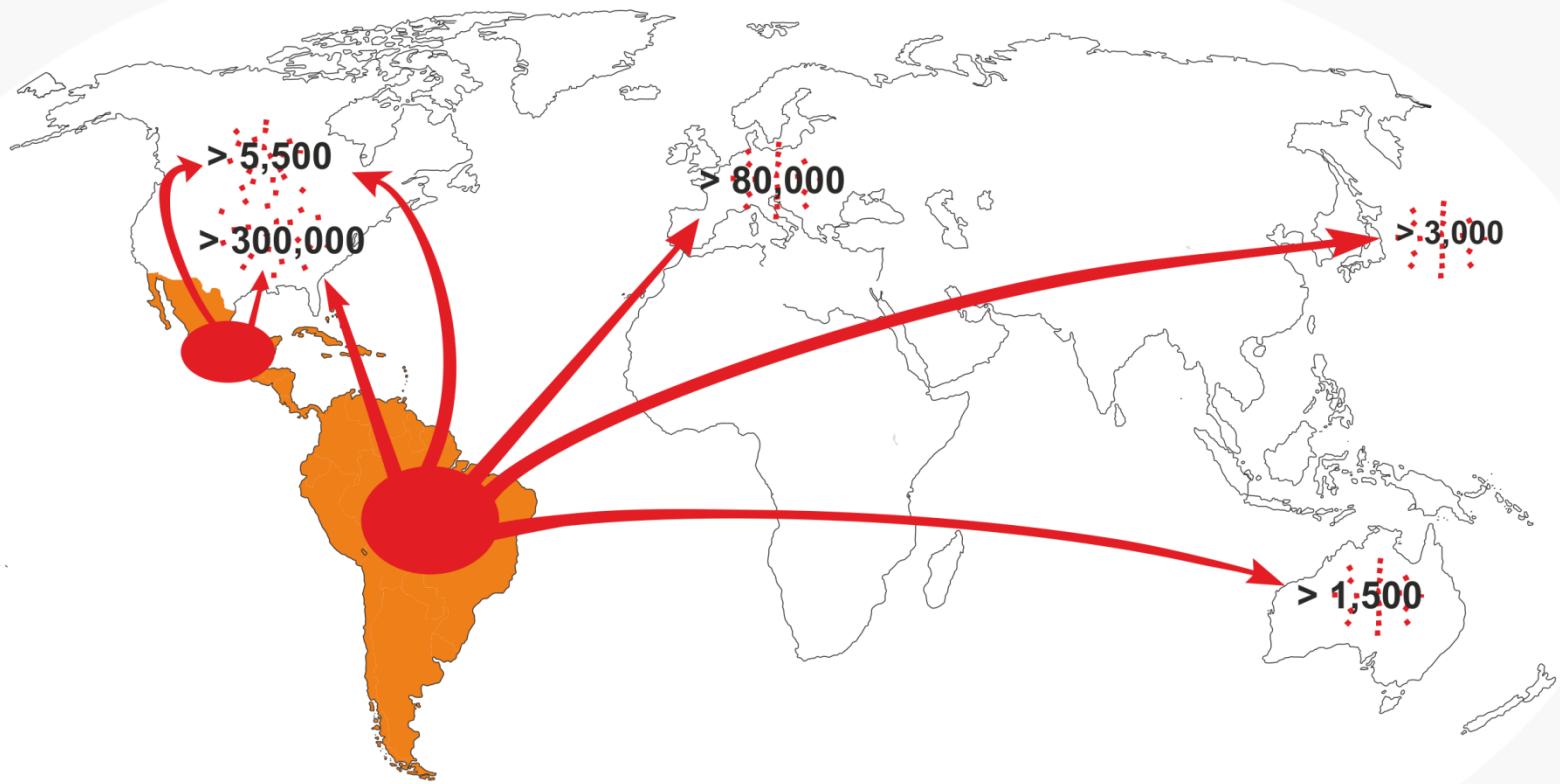
2. Chagas disease and technical approach

What is Chagas disease?

- Caused by protozoan parasite *Trypanosoma cruzei*
- One of the “top neglected diseases” (WHO 2010) with about 15-17 Mio people infected worldwide
- Ranked at the 4th cause of death within tropical diseases
- Project Goal: pocket-size cartridge that allows full diagnosis

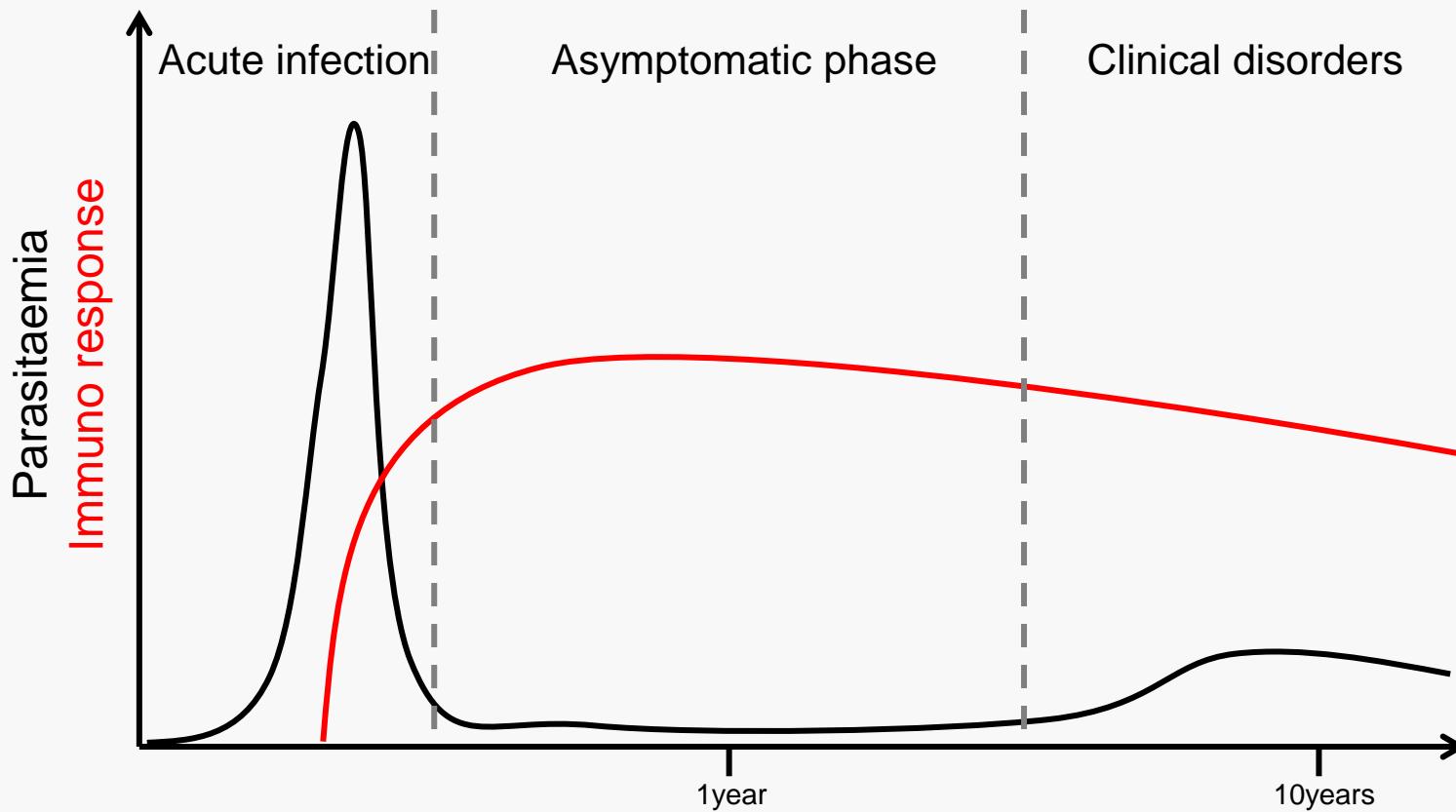


2. Chagas disease and technical approach



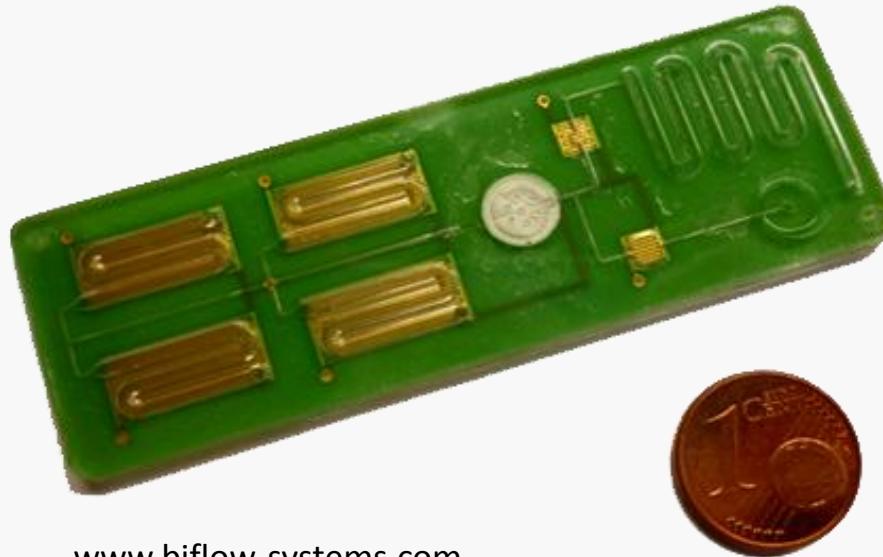
Based on José Rodrigues Coura & Pedro Albajar Viñas: Chagas disease: a new worldwide challenge, Nature, 465, S6–S7, (24 June 2010)

2. Chagas disease and technical approach



- Detection of disease in the acute and chronic phase
- Combined protein and nucleic acid testing

2. Chagas disease and technical approach



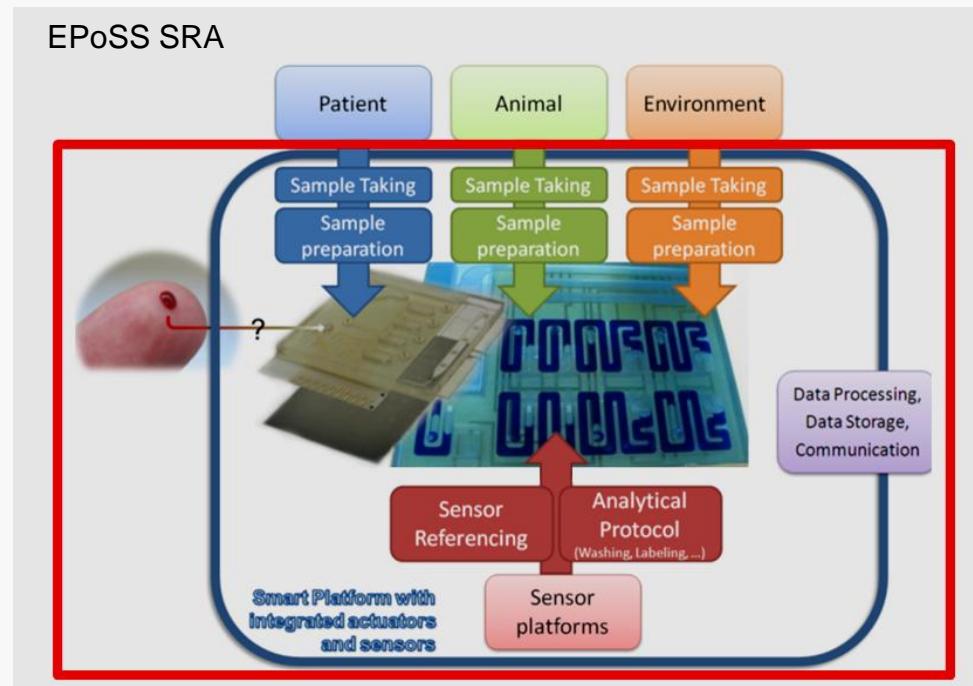
- Development of a microfluidic based platform for the PoC detection of tropical diseases
- Integration of sample preparation
- Evaluation of new detection principles (SAW, functionalized nano tubes)

3. Value chain and sustainability

3. Value chain and sustainability

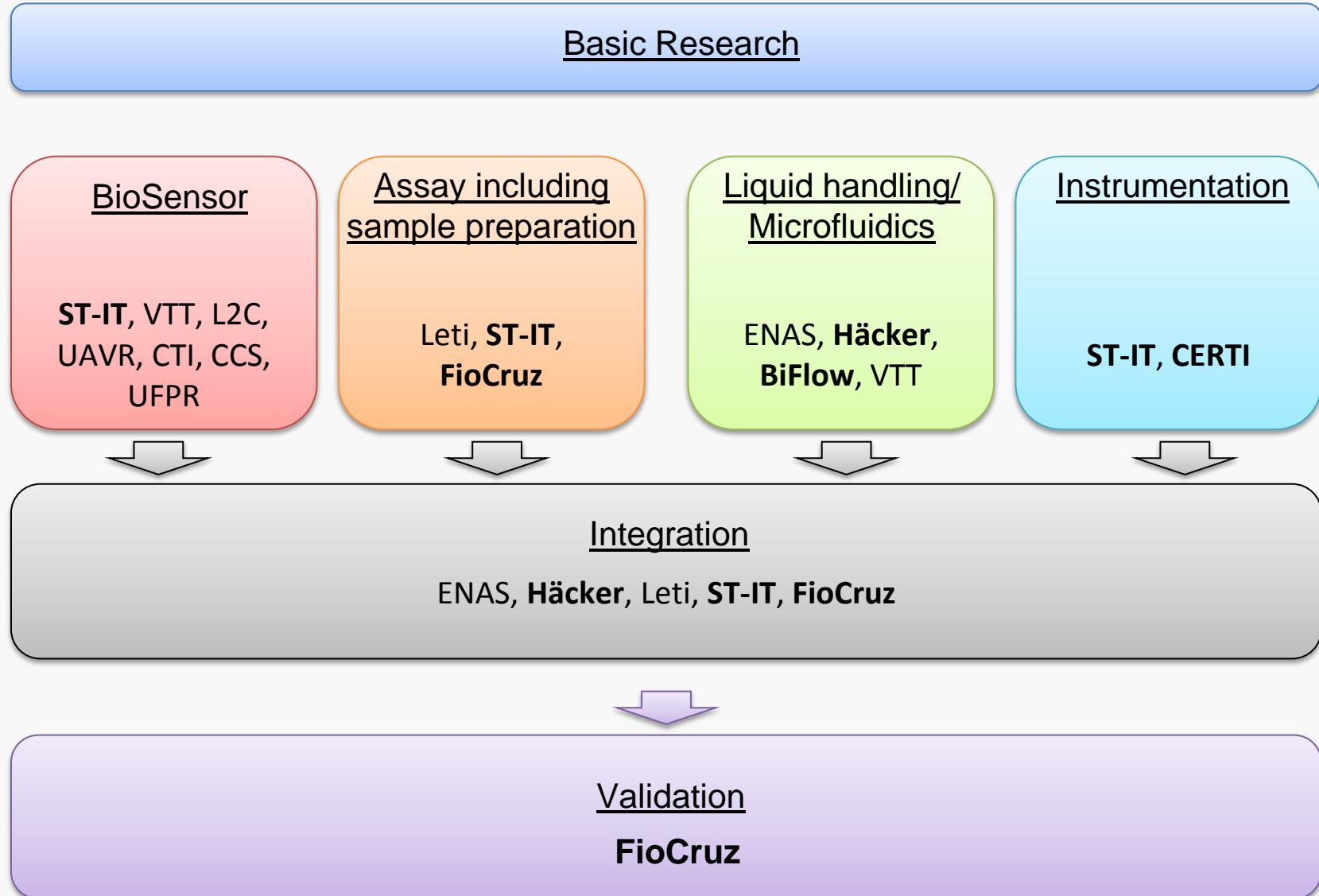
Point of Care devices

- Basic components:
 - Assay / sample preparation
 - Liquid handling
 - Biosensor
 - Instrumentation

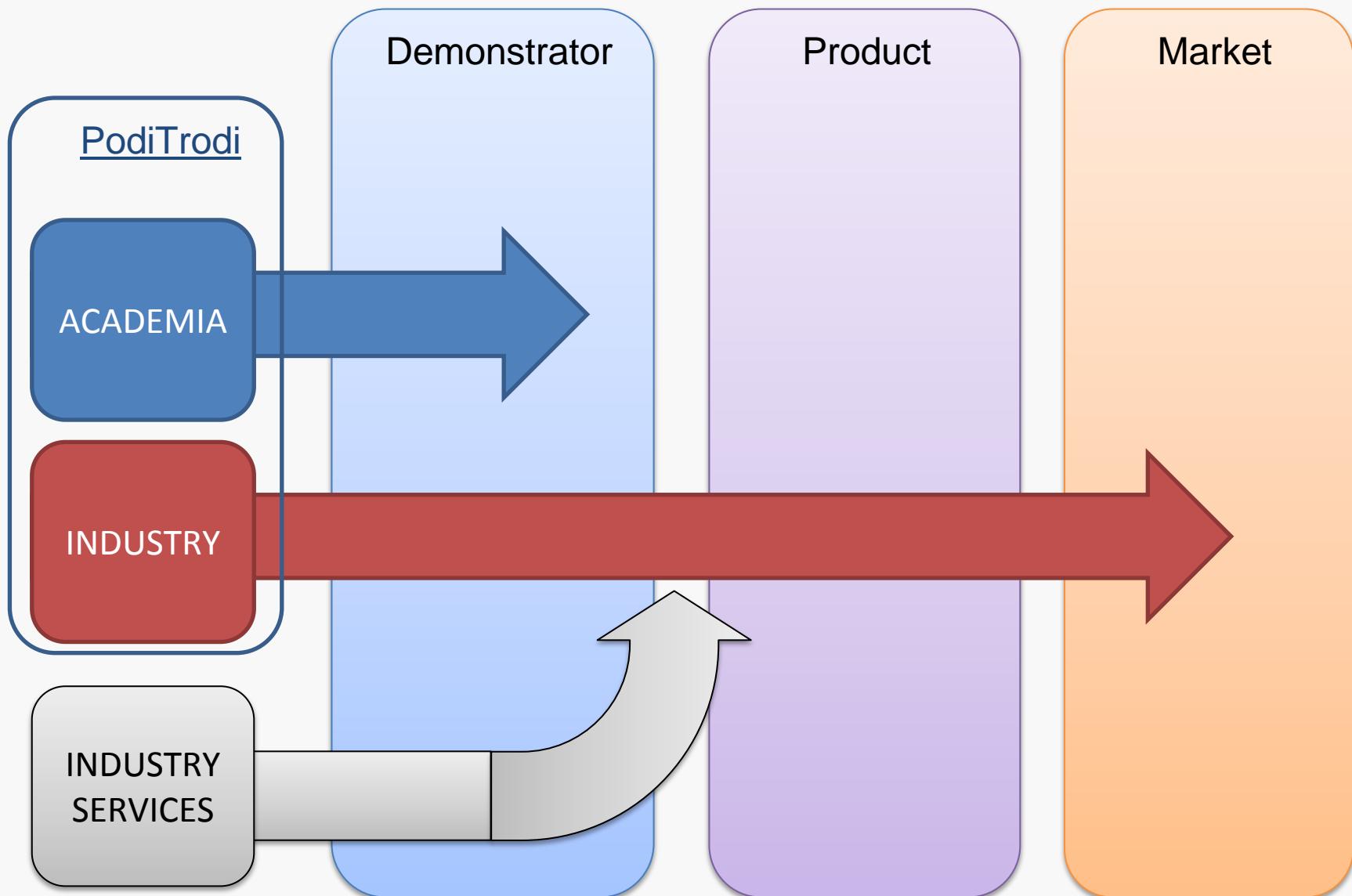


- Consortium needs to have competencies on all sectors
- Mixture of academia and industry
- Question: What happens after the project?

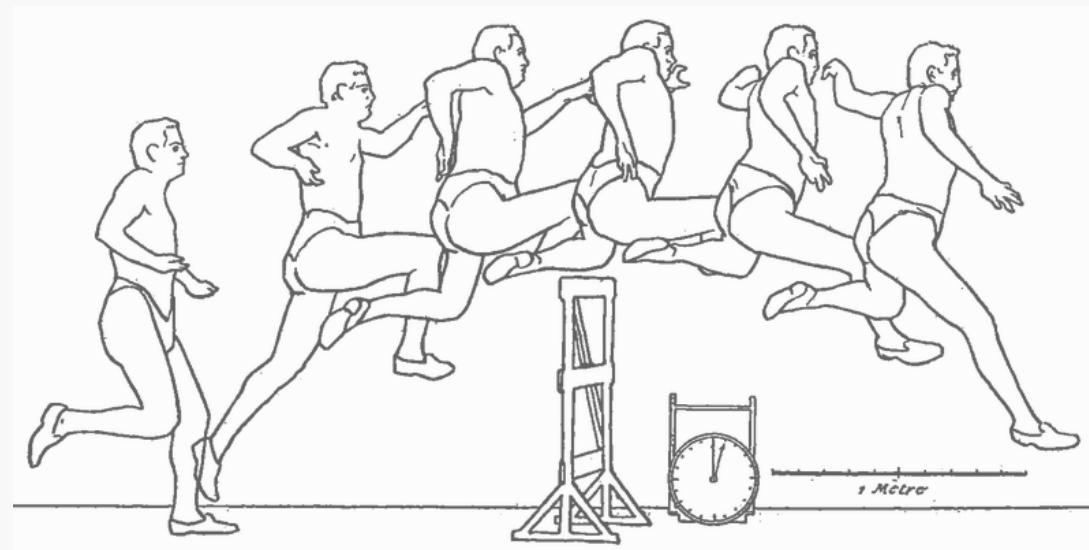
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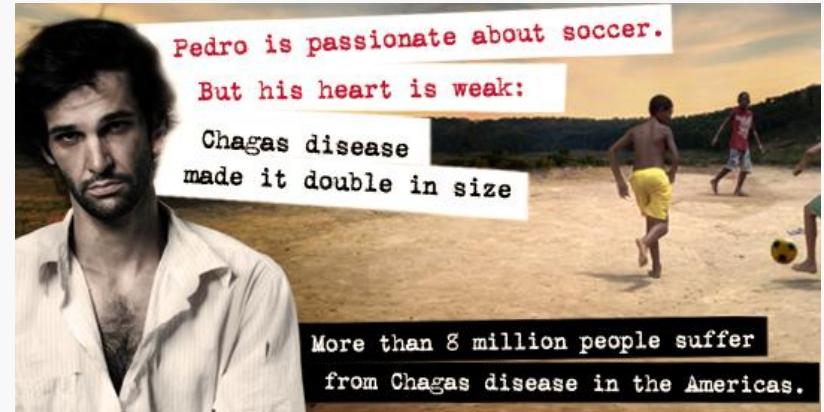


Hurdles on the way to a product

- Missing standardization
- High development risk
- Long time to market
- Support gap between demonstrator and product

4. Conclusion

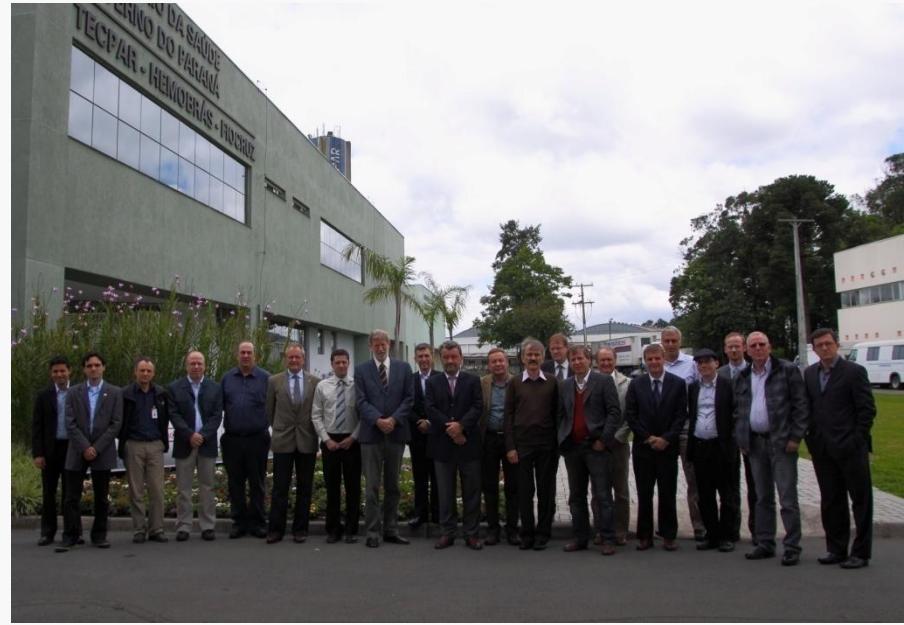
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www.treatchagas.org

PodiTrodi...

- is a trans-atlantic research project between Europe and Brazil
- targets one of the top neglected tropical diseases (Chagas)
- follows a microfluidic approach for a highly integrated PoC-device
- has a well balanced consortium from academia and industry



THANK YOU FOR YOUR ATTENTION
AND VISIT US AT
www.poditrodi.org