



# Research Success Stories



March 2013

## A small company realizes its big vision

**It is a project with an ambitious vision: developing a chip with microtissues that can, to some extent, simulate how parts of the human body react to a potential new drug.**

InSphero is a spin-off company of the Swiss Federal Institute of Technology (ETH) Zurich and the University Zurich. Founded in 2009, its primary products are new types of microtissue models. Ideally, when such a microtissue model for, say, a part of the human liver, is exposed to a potential new drug, it reacts like an actual liver – or at least very similarly. The “Body-on-a-Chip” project is currently coordinated by InSphero company.



**Dr. Jens M. Kelm**  
**InSphero AG**  
 Chief Scientific Officer

whole system of tissues. Funding from the EU helps the small company to realize this vision, in collaboration with its partners.

But even if it should turn out that the vision cannot be fully realized, “the project is planned in a way that the ‘by-products’ of the development process are products that we can sell”, says Jens M. Kelm, co-founder of the company.

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### **Coordination: easier with some support**

“For a small company, it’s not all that easy to coordinate a project”, says Jens M. Kelm, “since we have enough to do with our daily

### **ABOUT THE PROJECT**

The aim of the project “Body-on-a-Chip” is to build a system of connected human microtissues (such as liver, tumor, heart) that in some ways act similarly to their counterpart in the human body. With such a system, the effects of potential new drugs can be assessed in a more reliable way than today.

Currently, the results of testing methods are not sufficiently predictive: even if 10 drugs reach the phase of clinical trials, about 9 of them fail afterwards.

Given that around two thirds of the development costs of a new drug (around 1.5 billion dollars) are incurred after the beginning of the clinical phase, improving the early testing phase is highly cost-relevant.

business. Everything else has to be done on top of that.” However, InSphero appointed a project manager, David Fluri, who handles a lot of the coordination tasks.

In addition, InSphero can rely on partners that, for the most part, they had already known before the project started. These partners also contributed their part in drafting the project proposal.

### **Strong competition**

Two consortiums from the US have started a similar project like that of InSphero – with a funding of about 30 million dollars each, while InSphero has to content itself with 1.4 million euro. “We were quite shocked when we heard that”, says Jens M. Kelm. “However, with our resources, we have to be pragmatic and always focus on practicability in the ‘real world’.

A simpler technology might be more robust and finally better suit the needs of customers.”

### **FACTS AND FIGURES**

<b>Project Name:</b>	The Body-on-a-Chip (BoC)
<b>Research Area:</b>	Health care
<b>Coordinating Institution:</b>	InSphero AG
<b>Coordinator:</b>	Dr. Jan Lichtenberg, Dr. Jens M. Kelm, Dr. David Fluri
<b>Start Date - End Date:</b>	01.06.2012 – 31.05.2015
<b>Duration:</b>	36 months
<b>Project Cost:</b>	1,919,000 Euros
<b>Project Funding:</b>	1,395,000 Euros
<b>Project Reference:</b>	296257
<b>Contract Type:</b>	Collaborative project