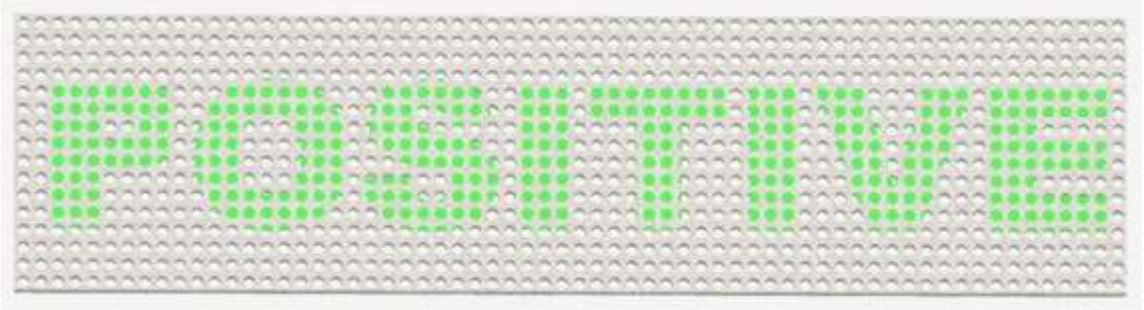

Project Number: 257401

A highly integrated and sensitive POrous SIlicon based lab on a chip for multiple quantitaTIVE monitoring of food allergies at point of care.

Specific Targeted Research Project

Information Society Technologies

Deliverable D11.9: Press release announcing innovation to date within the project

Due date of deliverable: **May 31st 2012**

Actual submission date: **November 8th 2012**

Start date of project: 2010-09-01 Duration: 3 Years

Organisation name of lead contractor for this deliverable: **UVEG**

Revision **[1.0]**

Project co-funded by the European Commission within the Seventh Framework Programme		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

1. About this deliverable

1.1. Introduction

This document contains a copy of a press-release announcing innovation to date in the project, delayed until bio-sensing results were made available.

1.2. Scope of the deliverable

The deliverable really just provides a copy of a press-release. Follow ups to the press-release will be reported in the next 6 monthly report and final report.

1.3. Structure of this deliverable

The report is laid out according to the tasks defined in WP11 as follows:

T11.6: Dissemination of Positive research results to the non-scientific/technical media at large (e.g. newspapers, magazines, TV, periodicals). Months: 1-36. (D11.3, D11.9, D11.18) (All partners)

Contents

2. Description of work performed

2.1. T11.6: Press release announcing innovation to date within the project

2.1.1. The Press release

"Technology advances for a rapid food allergy test"

Over 15 million people in Europe – including eight percent of all children - suffer from food allergies, and this number is growing steadily. Currently, children who portray mild symptoms may undergo a skin prick test that is not only lengthy but particularly painful and usually very traumatic. Researchers from the Positive consortium of industrial partners, 6 universities and research institutes in a 2.9M€ funded EC project are about to change all that by putting a food allergy machine on every pediatrician's desk, an instrument that produces test results in 15 minutes from a miniscule drop of blood.

Today's food allergy tests can be very expensive, take a long time, as well as being both difficult to administer and quite painful. This is especially true for the common skin prick test on young children whose arms are not large enough to take the regular test made on adults. Instead they have to be held face down for long periods of time while the pediatrician scratches food extracts into different marked patches on the skin of the child's back.

"The project has just completed its second year and we have made some great advances against very difficult challenges, proof of that coming recently in the form of successful bio-sensing experiments. In working towards the readiness of technologies necessary for realizing the Positive instrument we have developed technologies that not only offer functionality that the machine requires but will also have numerous applications across many areas of life." says Daniel Hill, Project Coordinator of Positive and researcher in the UMDO group at the University of Valencia.

Such advances are listed here:

- ✓ Development of a reliable and reproducible process to obtain porous membrane with highly tailored structural properties (thickness, porosity and pore size) and that shows a fluidic-friendly behavior. The membrane forms the basis of the biosensor for real-time sensing but it will also be of interest to companies developing membranes for filtering applications.

- ✓ The development of OSTE materials. OSTE is the first polymeric material developed specifically for the needs of microfluidic devices. We envision that OSTEs will be a very strong alternative for rapid prototyping of microfluidic devices thanks to rapid turnaround, high yield and properties very close to those found in the final commercial products. In the future, OSTEs may compete with commodity and engineering plastics in commercial devices.

- ✓ A module developed for blood filtering that enables several 100 ul of whole blood to be filtered and plasma to be generated for subsequent analysis. This will find uses in lab on chip applications which require alternatives for plasma extraction from whole blood samples which is currently done in dedicated laboratories by centrifugation. This overcomes problems in alternatives that use mechanical filtering structures as in those the filter flow paths are quickly obstructed by the solid content of the blood and no further fluid can pass through.

- ✓ The development of an instrument based on multiple spot phase change measurements. This overcomes the instability limitations found in phase change measurement systems based on interferometry as well as adding the possibility to tune the phase of one of the polarization states to compensate extraneous changes. Many instruments are interferometry based and so this technology could find multiple uses.

- ✓ Development of a proprietary robust polymer coating that makes the surface functionalization of sensors easier, faster and reproducible, enables a high probe density and has a good stability. The area of potential applications is very diverse and large.

- ✓ The development of a disposable cartridge where the sensing of the biomolecules responsible for the allergic reactions takes place. It includes a low-cost module for sequentially flowing liquids from individual reservoirs. This will be of interest to companies developing lab-on-chip solutions for analysis of markers in blood.

"Since the latter half of this year we have been integrating these technologies into a prototype machine which we aim to deliver to the clinical partner, Charité Hospital Berlin which will carry out trials with the instrument and pre-validate it up until the end of the project. We have tested the material the sensors will be made of and we have determined that it will be able to get up to ten different measurements of food allergies at a time in our eventual prototype, which will tell us to what degree the person is allergic. The first step afterwards will be to scale it up for hundreds of food allergies in order to be able to test all the food allergies at the same time."

The consortium is pushing to present a commercial product within two years of project conclusion. Innovative and commercially relevant research is ensured by the consortium's two technological companies' clear vision of what the market is and what is needed of the product if it is to be successful.

"Our vision is that all pediatricians should have this machine on their desk, whether they work in a hospital or in general practice. The companies' knowledge of the market really provides us with an excellent road map for innovation, making sure that we will able to exploit our results fully."

- Read more about the project on Positive's homepage

For more information, contact Daniel Hill, daniel.hill@uv.es

3. Conclusions

A press release was made in November 2012 announcing the start of the Positive project. With the release timed with the delivery of the first biosensing results and realised before the Y2 review follow ups will be reported in the next 6 monthly report and final report.

4. Near future planning/Future work

Future press-releases will be made when significant finds are made.

5. Bibliography

None

6. Glossary

None