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Dissemination activities and planning updated

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1 Executive Summary

In this document we report the dissemination activities in year 3/4 and compare them to the targets of year 3/4. Due to the project extension by 4 months (from 42 to 46 months) the reporting period is no longer 12 months (M 25 - M36) but has been extended.

The activities are based on developments of the web site: www.place-it-project.eu and on the participation of partners at different events, conferences and fairs. Hereby the highlights of activities:

- The website has been regularly updated to show the latest news, e.g. Avantex Award for TITV, new publications related to the scientific results, feedback from the last Flex&Stretch workshop III and links to related projects.
- The next F&S Workshop IV in November 2013 in Eindhoven is already announced and the contact data base has been used for publicity of the workshop. So far some 60 participants have registered (status October 10).
- Actually, 4 Newsletters are available and the 5th and final one will be released at the Flex&Stretch workshop 2013.
- The conference list shows 24 events with participation of partners from the consortium for 2012. In 2013 already 16 contributions to conferences have been passed.
- Technology samples were provided for the Review Meeting 3 in Eindhoven covering Building Blocks, Test Vehicles and sunvisor demonstrators.
- More presentations describing the technologies as well as application samples (numerous pictures) are available on the shared project disk as input for the partners for further marketing and dissemination. The current set of prototypes will be amended and refreshed regularly based on samples consisting of building blocks or test vehicles.
- The final deliverable D9.11 “dissemination kit” contains the information made publicly available to the European Commission for further dissemination.
- 21 conferences have been visited in year 3/4).

Based on the scheduled activities the quantitative targets for Year 3/4 and the results are summarized in Table 1.

Table 1 Quantitative Targets

Topic	Target 2012/13 (based on 18 months)	Results 2012/2013
Newsletter	NL IV and V	Newsletter IV and V to be release before F&S Workshop IV
Participation at conferences	15/year	24 (in 2012) 16 (in 2013)
Publications in peer-reviewed journals	9	published: 8 (2012) 5 (2013) in review: 4
IPR: patents or designs filed	4 filed (some more in preparation)	FFD: 2 filed Philips: 2 filed imec: 1 filed Ohmatex: 1 (in prep)

The dissemination activities of the remaining months will be reported in the final project report.

2 Introduction

2.1 Purpose of the document

This document describes the update of the dissemination plan within the PLACE-it project covering year 3/4. It is a deliverable from Task 9.1, which aims to present the project to the external world.

2.2 Related documents

- D9.2 containing the initial dissemination plan for year one.
- D9.4 reviewing year 1 and setting targets for year 2
- D9.6 reviewing year 2 and setting targets for year 3

3 Dissemination activities

3.1 Public website – update (www.place-it-project.eu)

The website originates in 2012 with listed publications steaming from the scientific results of the project. An update was done. This update was implementing new pictures. Currently, Newsletter IV is visible and the invitation to the Flex&Stretch Workshop, November 2013.



Upper part of homepage



Lower part of homepage

Fig. 1: The PLACE-it homepage mid 2013

3.2 Newsletter IV

The electronic versions are available for download from the web site.



Fig. 2: Title page of PLACE-it newsletter

The newsletter is distributed electronically via the contact list available at Freudenberg. Furthermore, each partner receives the pdf-version as well as printed samples for individual distribution. Hard copies are also available to be used at fairs and conferences.

3.3 Flex Stretch Conference 2013 (www.flexstretch2013.eu)

The planning of the conference is finalized, the homepage is created and invitations are sent based on the existing addresses:



Fig. 3: Homepage of Flex&Stretch Conference IV

It will start with a one-day-tutorial (November 11th) to show the technical details in lab environment followed by a two-days-conference. The program is co-organized by Philips, imec and the Holst Centre from the PLACE-it project and includes also the

- PASTA project
- i-TEX project

Session are organized on foil, flex and stretch technologies as well as application domains like light in mobile applications, medical and sports and wearable. The program is available on the website of the conference (www.flexstretch2013.eu) for further details.

3.4 Avantex 2013

As an example of PLACE-it contributions on conferences and exhibitions, the Avantex 2013 is discussed. PLACE-it was presented at the Avantex 2013 symposium in April 2013 with:

- “Interconnection techniques to connect textiles substrates and electronical components” by Dirk Zschenderlein
- “Testing of Smart Textiles” by Kay Ullrich

The audience consisted of ca. 70 participants.

TITV has been awarded the Avantex Innovation Price 2013.



Fig. 4: TITV: Presentation, booth and Avantex innovation price 2013

3.5 TechDay at Faurecia

TITV was invited to present new material at the SMARTMATERIAL show at Faurecia company in Germany. This is an internal exhibition with a selection of innovative companies. TITV showed samples made with the new FSD process and gave a general overview about research activities. The newsletter was spread but no PLACE-it samples were shown. 230 participants from Faurecia visited this event.

3.6 pHEALTH 2013

PLACE-it was presented at pHealth 2013. The following story is been told:

Wearable textile-based phototherapy systems

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Abstract. In this paper, we discuss the phototherapy concepts developed by Philips in the EU FP7 PLACE-it project. These concepts demonstrate the use of e-textiles for medical applications in a meaningful way. By introducing a comfortable, wearable technology, Philips has enabled a new world of devices which provide comfortable, home treatment of different diseases and complaints. Here we show concepts, clinical validation and give insight in the development steps to be taken to build this kind of devices.

Keywords. Phototherapy, e-Textiles, Home treatment, Wearable technologies

Introduction

Imagine a world in which electronics are freed from their rigid, confining encapsulation. The vision of the Intelligent Textiles group at Philips Research is to develop wearable healthcare systems where electronics are intimately integrated with comfortable, conformable (flexible/stretchable) textiles.

Together with a large European consortium, the Philips Team is working to realize this vision by developing stretchable, flexible and textile technologies within the EU FP7 PLACE-it project [1]. The PLACE-it project aims to develop a technology platform for large area stretchable opto electronics (LED / flex OLED) by using e-textiles technologies. Applications of the PLACE-it technology platform include light emitting textiles used for phototherapy treatment of pain (e.g. to treat repetitive strain injuries [RSI] at the wrist) and neonatal jaundice. As most current commercial wearable electronic textiles focus on sensing and heating human bodies, this optical energy providing system can be seen as beyond the state of the art for wearable electronics. Activities of the project include clinical investigation of the phototherapy treatment and the realization of first concepts of such medical devices.



Figure 1 PLACE-it Logo.

Place-it Methods

Three years ago, e-Textiles were at a more or less academic level of development, as described in a published article [1]. Also the vision paper of the SYSTEX project (a project funded by the EU) reflects the need for industrialization and commercialization of e-textiles by collecting technological and non technological information on smart textiles projects along the whole textile value chain [2]. At this point, twelve companies and institutes joined forces within the EU funded (FP7) PLACE-it project [3].

From this beginning, the team started a journey towards achieving the next level in conformable electronics. The PLACE-it project brought together an academic and industrial consortium with a high level of experience in making large area, flexible and even stretchable electronics. This existing experience strongly defined the PLACE-it method of development: i.e. co-development of both clinical proof and photo biomechanical knowledge in parallel with development of technical building blocks of physical parts and structures. Technical progresses on those axes were continuously checked on the proposed end-user. Therefore a comfort model is applied which distinguishes comfort and discomfort as two independent, sometimes contradictory aspects, of a product [4]. Especially this model is applicable in the non-conventional design of artificial heat load towards the human body skin in the phototherapy application. Discomfort is measured by physical parameters (like skin temperatures while receiving phototherapy, biocompatibility of skin touching materials, and thermal behavior of textile constructions [5]), where comfort parameters are guided by end-user questionnaires and prototype testing.

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This end-user focused parallel approach proved to be successful and resulted in the introduction of a first commercial product, BlueTouch pain relief by blue light therapy, by Philips [6]. This medical certified (CE class 2a) product contains PLACE-it building blocks based on e-textiles next to a validated new phototherapy concept with blue LED light resulting in a new comfortable solution of chronic pain relief for many sufferers of back pain. This is a significant step for e-Textiles for getting out of the academic discussion.

Place-it Results

Technology platform: The PLACE-it technology platform consists of three major technologies with which a variety of electronic devices can be realized. These three technologies are flexible (foil substrate based), stretchable material based and textile based technologies. The flex foil platform developed flexible OLEDs (light emitting device based on plastic materials) in dimensions and specifications as required by PLACE-it demonstrators. The stretchable platform made electronic interconnection between functional elements in a large area body conformable surface. E-Textiles brought the perceived qualities from textile materials into the electronics. All platforms have unique characteristics which are useful for particular applications. The PLACE-it demonstrators show all three platforms together in balanced combinations.

Demonstrators: The PLACE-it demonstrators have found applications in the field of automotive interior lighting, biomarker sensing and in phototherapy. Yet, the focus of this paper is on the phototherapy applications.

With respect to developing phototherapy devices, the project co-developed the photo biomechanical insights as well as the physical construction of phototherapy devices in a parallel and interactive way. This helped to refine the end-user needs and functional specifications of the device and the treatment, which changed over time and led towards a well, understood and developed list of specifications. For example the effect of high levels of blue light on muscular back pain, resulting skin temperatures and perceived comfort were adjusted. Ultimately, this resulted in an extremely fast way of development and led to market introduction of the device just 2 years after starting the process.

Currently, the phototherapy applications are extended with two additional phototherapy demonstrators being developed within PLACE-it: (1) A blanket to treat neonatal jaundice [7] and (2) a wrist-worn light-emitting device to treat carpal tunnel syndrome. The blanket will show the capability of the technology to make large, light weight highly flexible light emitting surfaces and the wrist-worn device will show high levels of stretchability. By adding both, the width of the PLACE-it technology platform will be visible.



Figure 2 Philips BlueTouch, a first commercial introduced phototherapy product.

Place-it Discussion

As the PLACE-it project is coming to the end, we can conclude that developed methodology and technology development approach was successful. The PLACE-it technology platform can now be exploited in other products and applications.



Figure 3 Jaundice Treatment, one of the next application concepts in PLACE-it

General learnings can be extracted by the results of this project. The team always used the vision of the end-user as starting point of development. This end-user centric approach brought a lot of speed and decisiveness in the team and can be recommended to be re-used. Also, the co-development of the clinical insight together with physical realization of devices is worthwhile to follow. Combining three more or less competitive technologies in one project brought a high level interchange of ideas. For example, testing reliability and endurance started for foil, stretchable and textile working groups on different levels, but became an identical way of working. This can even develop into industry standards and recommendation in near future. Focus on manufacturing and industrialization was a key factor of success. If ideas are beyond the capabilities of existing manufacturing industries, one has to introduce with care. This was done for example by introducing textiles with electric conductive threads into the automated assembly lines created for manufacturing conventional electronics [8], figure 4. This started with a lot of hesitation and product rejects, but developed currently into a highly competitive way of making reliable, comfortable, and highly bendable light emitting devices.

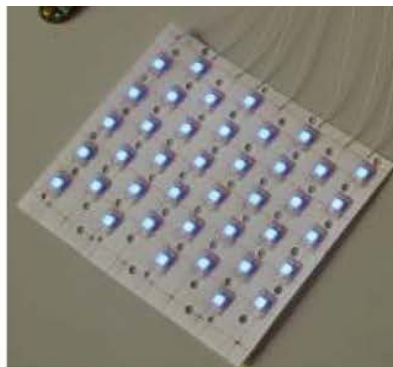


Figure 4 PLACE-it industrial building block e-Textiles as used in Philips BlueTouch

By the PLACE-it contribution, the challenge of making wearable textile-based phototherapy systems has reached another level. The opportunities inherent in textiles to make comfortable devices are introduced in electronic devices in a way that quality, quantity and costs are under control. Both industries, textiles and electronics, still have to get used to it, but finally we expect a great potential for bringing new, meaningful devices in this category.

References

- [1] Kunigunde Cherenack, Liesbeth van Pieteron , *Smart textiles: Challenges and opportunities* ,Journal Applied Physics 112, 091301 (2012)
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- [8] L.van Pieteron, FA van Abeelen, K. van Os, E. Hornix, G. Zhou, G. Oversluizen, *Fabric opto-electronics enabling healthcare applications; a case study*, Conf Proc IEEE Eng Med Biol Soc. (2011)

3.7 Participation in conferences and venues

The list of the scheduled participations/invitations to conferences is maintained on the project shared disk. A snapshot of the list starting in 2012 is shown below.

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES									
NO.	Type of activities ³	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁴	Size of audience	Countries addressed
							manager,		
34	Textile international symposium	Ohmatex, TUB							
35	Workshop	Centexbel	<u>Wallonie design</u>		24 November 2011	Verviers	Designers	20	
			2012						
36	TITV conference	TITV, Philips			February, 23				Germany
37	"Up-Text"	Philips			March	Lille			
38	ETP	Philips, OHM			29-31 March	Brussels			
39	Printed & Plastic Electronics	TUB, IMEC, <u>UHei</u>	Stretchable Electronic manufacturing and applications		3-4 April 2012	Berlin			
	Printed & Plastic Electronics	IMEC, F. Bossuyt	Printed Circuit Board Technology Inspired Stretchable Circuits		3-4 April 2012	Berlin			
	Company Mission – enterprise European network Weimar (Germany)	D Zschenderlein, TITV			10-11 June 2012				
40	ERA-EDTA	<u>UHei</u>			24-27 May	Paris			International
41	<u>Cimtec</u>	Philips, TUB, TNO, IMEC,			June, 10-14 2012	<u>Montecatini</u> Italy			International
42	Congress	TUB Malte von Krshiwoblozki	CIMTEC	Electronics in Textiles – Adhesive Bonding Technology for reliably embedding	10-14 June, 2012	<u>Montecatini</u> <u>Terme/</u>	<u>Scientists,</u> <u>Companies,</u> <u>R&D manager,</u>		
TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES									
		Main leader		Title of the				Size of	Countries

In the Appendix I the list covering the entire project can be found as provided by the EC.

4 Publications in peer-reviewed journals

Submitting papers to peer-reviewed journals is one focal point in dissemination of the academic partners. A selection of the relevant publications is shown in the following table. The full table is listed in the Appendix I.

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES										
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers ¹ (if available)	Is/Will open access ² provided to this publication?
			Physics Review)							
9	Printed circuit board inspired fabrication technologies for stretchable electronics	Vanfleteren	MRS Bulletin, volume 37, nr.3, 2012	Published	MRS	USA	2012			No
10	Integration of stretchable and washable electronic modules for smart textile applications	T. Vervust	Journal of The Textile Institute	Published, Volume 103, Issue 10, October 2012, pages 1127-1138	Taylor & Francis	USA ?	2012		doi :10.1080/00405000.2012.664866	
11	Stretchable Electronics	IMEC, TUB, FFD	Textbook		Wiley-VCH	GER	2012		978-3-527-32978-6	No
12	Endurance behavior of conductive yarns	H. de Vries	Micro-electronics Reliability	Accepted for publication	Elsevier	USA	2013			Yes
13	Measuring electrical fatigue in e-textiles (title to be determined)	H. de Vries	IEEE Electron. Device Letters	Out sent by Kuni	IEEE	USA	2013			No
14	Intelligente Textilien zur Schmerzlinderung	K. Cherenack	Physik in Unserer Zeit	Accepted but not out yet	Wiley	Germany	2013			No
15	Invited review: The emerging role of MRI in quantitative renal glomerular morphology		American Journal of Physiology - Renal Physiology	To be sent by Norbert	NIH		2013			
16	SCB and SMI: two stretchable circuit technologies, based on standard printed circuit board	Jan Vanfleteren et al.	Circuit World	Vol. 38 Iss: 4 pp. 232 - 242	Circuit World	USA	2012	232-242	DOI 10.1108/03056121211280440	No

In 2012 8 papers have been published, 2013 another 5. Some papers are still in the review process.

5 Review of Targets for 2012

The targets set for 2012 are fulfilled as can be seen from the following table. For publications and IPR a delay of 12-18 months is typical because of the extensive preparation of results and the subsequent review phase

- for IPR negotiations with internal patent offices are necessary
- for publications results need careful evaluation and feedback from the reviewers require special attention

Table 2 Targets

Topic	Target 2012/13 (based on 18 months)	Results 2012/2013
Newsletter	NL IV and V	NL IV and V (for F&S Workshop)
Participation at conferences	15/year	24 (in 2012) 16 (in 2013)
Publications in peer-reviewed journals	9	published: 8 (2012) 5 (2013) in review: 4

Topic	Target 2012/13 (based on 18 months)	Results 2012/2013
IPR: patents or designs filed	4 filed (some more in preparation)	FFD: 2 filed Philips: 2 filed imec: 1 filed Ohmatex: 1 (in prep)

6 Final dissemination

The final dissemination is the “dissemination kit” D 9.11 due Month 46. This kit will be a collection of slide materials, separate photos and the e-modules made available to the EU for internal and external use.

7 Appendix 1: templates of the EC

Section A

This section includes two tables

- Table A1: List of all scientific (peer reviewed) publications relating to the foreground of the project.
- Table A2: List of all dissemination activities (publications, conferences, workshops, web sites/applications, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters).

These tables show all publications and activities from the beginning until after the end of the project. Updates are made regularly during the General Assembly.

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES										
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers ² (if available)	Is/Will open access ³ provided to this publication?
1	Transcutaneous assessment of renal function in awake rats: a new device for measuring FITC-sinistrin disappearance curves	Daniel Schock-Kusch	Kidney International	advance online publication March, 2 nd , 2011	International Society of Nephrology	USA	2011		DOI: 10.1038/ki.2011.31	No
2	The Effect of Encapsulation on Deformation Behavior and Failure Mechanism of Stretchable Circuit	Yung-Yu Hsu	Thin Solid Films	Vol. 519, No. 7,	Springer Link	Germany	2011	pp. 2225-2234	DOI: 10.1016/j.tsf.2010.10.069	No
3	Polyimide-enhanced Stretchable	Yung-Yu Hsu	Transactions on	Vol. 58, No. 8 05 May 2011	IEEE	USA	2011			No

² A permanent identifier should be a persistent link to the published version full text if open access or abstract if article is pay per view) or to the final manuscript accepted for publication (link to article in repository).

³ Open Access is defined as free of charge access for anyone via Internet. Please answer "yes" if the open access to the publication is already established and also if the embargo period for open access is not yet over but you intend to establish open access afterwards.

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES

NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers ² (if available)	Is/Will open access ³ provided to this publication?
	Interconnect: Factorial Design, Fabrication, and Characterization		Electron Devices,							
4	Contacting electronics to fabric circuits with non conductive adhesive bonding	Torsten Linz	Journal of the Textile Institute	07 Mar 2012	Taylor & Francis	UK	2012	1-12	DOI: 10.1080/ 00405000.2012.664867	No
5	Online feedback–controlled renal constant infusion clearances in rats	Daniel Schock-Kusch	Kidney International	advance online publication, 18 April 2012;	International Society of Nephrology	USA	2012		DOI:10.1038/ ki.2012.117	No
6	Transcutaneous measurement of renal function in conscious mice	Andrea Schreiber	American Journal of Physiology - Renal Physiology	advance online publication, June 13, 2012; ajprenal.00279.2012	American Physiological Society	USA	2012		doi: 10.1152/ajprenal.00279.2012	No
7	Failure Modes in Textile Interconnect Lines	Hans de Vries	IEEE Electron Device Letters	33(10), pp 1450–1452, 2012.	IEEE	USA	2012		EDL-2012-06-1123.R1	No
8	SMART TEXTILES: CHALLENGES AND	Cherenack	Journal of Applied Physics (Applied Physics Review)	Accepted for publication	Applied Institute of Physics (AIP)	USA	2012		Manuscript Code #: JA11-0017R1 AIP ID: 001216JAP	No

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES

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9	Printed circuit board inspired fabrication technologies for stretchable electronics	Vanfleteren	MRS Bulletin, volume 37, nr.3, 2012	Published	MRS	USA	2012			No
10	Integration of stretchable and washable electronic modules for smart textile applications	T. Vervust	Journal of The Textile Institute	Published, Volume 103, Issue 10, October 2012, pages 1127-1138	Taylor & Francis	USA ?	2012		doi :10.1080/00405000.2012.664866	
11	Stretchable Electronics	IMEC, TUB, FFD	Textbook		Wiley-VCH	GER	2012		978-3-527-32978-6	No
12	Endurance behavior of conductive yarns	H. de Vries	Micro-electronics Reliability	Accepted for publication	Elsevier	USA	2013			Yes
13	Measuring electrical fatigue in e-textiles (title to be determined)	H. de Vries	IEEE Electron. Device Letters	Sent for review	IEEE	USA	2013			No
14	Intelligente Textilien zur Schmerzlinderung	K Cherenack	Physik in Unserer Zeit	Accepted	Wiley	Germany	2013			No
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16	SCB and SMI: two stretchable circuit technologies, based on standard printed circuit board processes	Jan Vanfleteren et al.	Circuit World	Vol. 38 Iss: 4 pp. 232 - 242	Circuit World	USA	2012	232-242	DOI 10.1108/03056121211280440	No

TEMPLATE A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES

NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers ² (if available)	Is/Will open access ³ provided to this publication?
17	Stretchable Electronics Technology for Large Area Applications : Fabrication and Mechanical Characterization	Frederick Bossuyt	IEEE Transactions on Components, Packaging, and Manufacturing Technology, Volume 3 issue 2	February 2013	IEEE	USA	2013	229-235	DOI 10.1109/TCPMT.2012.2185792	No
18	Reliability of a stretchable interconnect utilizing terminated, in-plane meandered copper conductor.	Michal Jablonski	Microelectronic s Reliability	Vol. 53	Elsevier	Netherlands	2013	956-963	Doi 10.1016/j.microrel.2013.04.002	No
19	The emerging role of MRI in quantitative renal glomerular morphology	Norbert Gretz	Am J Physiol Renal Physiol	March 20, 2013	American Physiological Society	US	2013	F1252–F1257	doi:10.1152/ajprenal.00714.2012	No
20	Stretchable Circuits with Horseshoe Shaped Conductors Embedded in Elastic Polymers	Jan van Fleteren	Jap. J. Appl. Phys.	May 20, 2013	The Japan Society of Applied Physics	JP	2013	05DA18: 1-7	10.7567/JJAP.52.05DA18	No
21	Reliability of Transcutaneous Measurement of Renal Function in Various Strains of Conscious Mice	Daniel Schock-Kusch et al.	PLoS ONE	August 8(8): e71519	peer-reviewed, open-access, online publication	E journal	2013		DOI 10.1371	YES

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES									
NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
1	Conference	TITV			February, 25-26, 2010	Zeulenroda/ Germany	Scientists, R&D manager	Ca. 100	Germany
2		FFD	4 Jahre STELLA Stretchable Electronics was ist erreicht, wie geht es weiter?		February, 25-26, 2010	Zeulenroda/ Germany			
3	Fair	FFD	Hannover Industry Fair		April, 19-23, 2010	Hannover	Companies, R&D manager, public audience	Ca. 150 contacts	International
4	Conference	Philips Research	Smart Fabrics		April 14-16, 2010	Miami	Scientists, R&D manager		International
5	Conference	TNO	pHealth and SFIT workshop		May 24-26, 2010	Berlin	Scientists, R&D manager		International
6	Concertation meeting	Philips Research	EC OLAE		June 14-15, 2010	Brussels	Scientists, R&D manager		European
7	Conference	FFD	Lope-C 2010		June, 2 nd , 2010	Frankfurt	Scientists, R&D manager		International
8	Open Door	TUB	Lange Nacht der Wissenschaften		June, 6m, 2010	Berlin	Public		Germany
9	Conference	FFD	Advanced Textiles		June 17, 2010	Paris	Scientists, R&D manager		International

⁴ A drop down list allows choosing the dissemination activity: publications, conferences, workshops, web, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters, Other.

⁵ A drop down list allows choosing the type of public: Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias ('multiple choices' is possible).

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES									
NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
10	Conference	TNO/Holst	EMRS		June 6-8, 2010	Strasbourg	Scientists, R&D manager		European
11	Conference	TUB	IEEE Body Sensor Network		June, 2010	Singapore	Scientists, R&D manager		International
12	Workshop	imec	Biomedical Textiles		June, 2010	Brussels	Scientists, R&D manager		European
13	Conference	imec	SPIE Photonics Europe		June, 12-16, 2010	Brussels	Scientists		European
14	Conference	TUB	24. Treffpunkt Medizintechnik		July, 1 st , 2010	Berlin	Scientists, R&D manager		Germany
15	Conference	TUB	ESTC 2010		September, 13- 16, 2010	Berlin	Scientists, R&D manager		International
16	Conference	imec	IMPACT		October, 20 – 22, 2010	Taiwan	Scientists		International
17	Conference	PRE, TITV	IFAI Asia 2011		March 22-25, 2011	Singapore	Scientists, R&D manager		International
18	Conference	PRE, TITV	Smart Fabrics 2011		April 4-6, 2011	London	Scientists, R&D manager		International
19	Fair	FFD, TITV, TUB	Hannover Industry Fair		April 4-8, 2011	Hannover	Companies, R&D manager, public audience	Ca. 60 contacts	International
20	Conference	TITV	Printed Electronic Europe 2011		April 5, 2011	Düsseldorf	Companies, R&D manager		International
21	Conference	TITV	RADComm		April 7, 2011	Hamburg			
22	Small fair	PRE	Systex Salon		April 21, 2011	Ghent	Scientists		European
23	Fair	TITV	TechTextil		May, 22-24, 2011	Frankfurt	Companies, R&D manager		International

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24	Small fair	TITV	Avantex 2011		May, 22-24, 2011	Frankfurt	Companies, R&D manager		International
25	Conference	PRE	DTIP 2011 Textile microsystems		May, 11-13, 2011	Aix-en-Provence	Companies, R&D manager		European
26	Conference	TNO/Holst	Materials Engineering		May 25-26, 2011	Eindhoven	Scientists, R&D manager		Netherlands
27	Conference	ZMF	48th congress of ERAEDTA (European Renal Association; European Dialysis and Transplantation association)		June 24-26, 2011	Prague	Scientists		International
28	Conference	TITV	Conference Fibermed 2011		June 28-30, 2011	Tampere	Scientists, R&D manager		International
29	Conference	TNO/Holst M. de Kok	SPIE Optics and Photonics		12 - 16 August 2012	San Diego	Scientists		International
30	Conference	PRE	IEEE-EMBC'11 Engineering in Medicine and Biology Society		August 30 - September 3	Boston	Scientists		International
31	Plastic electronics				August?	Dresden			
32	Conference	Centexbel	Preview in Seoul 2011 (Textile Trade show and Seminar)		31/08 and 1/09/2011	Seoul	Scientifics and public	100	International
33	Conference	consortium	Flex/stretch workshop 2011		November 16-17, 2011	Berlin	Scientists, Companies, R&D manager,		International
34	Textile international symposium	Ohmatex, TUB							

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35	Workshop	Centexbel	Wallonie design		24 November 2011	Verviers	Designers	20	
			2012						
36	TITV conference	TITV, Philips			February, 23				Germany
37	"Up-TeX"	Philips			March	Lille			
38	ETP	Philips, OHM			29-31 March	Brussels			
39	Printed & Plastic Electronics	TUB, imec, UHei	Stretchable Electronic manufacturing and applications		3-4 April 2012	Berlin			
	Printed & Plastic Electronics	imec, F. Bossuyt	Printed Circuit Board Technology Inspired Stretchable Circuits		3-4 April 2012	Berlin			
	Company Mission – enterprise European network Weimar (Germany)	D.Zschenderlein, TITV			10-11 June 2012				
40	ERA-EDTA	UHei			24-27 May	Paris			International
41	conference	Philips, , TNO, M. de Kok,	CIMTEC	Integration of organic electronics in textile	June, 10-14 2012	Montecatini Italy			International
42	Conference	TUB Malte von Krshiwoblozki	CIMTEC	Electronics in Textiles – Adhesive	10-14 June, 2012	Montecatini Terme/ Italy	Scientits, Companies, R&D manager,		

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NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
				Bonding Technology for reliably embedding Electronic Modules into Textile Circuits					
43	Conference	imec	CIMTEC	Reliability of Stretchable Molded Interconnect in aConformable Matrix Application (poster)	10-14 June, 2012	Montecatini Terme /Italy	Scientits, Companies, R&D manager,		international
44	Large Electronics LOPE-C	Philips			19-21 June, 2012	Munich			
45	Ind. Techn days	OHM			19-21 June, 2012	Denmark			
46	Conference	TNO/Holst M. de Kok	SPIE Optics and Photonics	Conformable organic electronics	12 - 16 August 2012	San Diego	Scientists		
47	Conference	imec, TUB Vanfleteren Loeher	ICPFE	Stretchable circuits with horse shoe shaped conductors embedded in	6-8 Sept.2012	Tokio	Science / Industry	~120	international

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NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
				elastic polymers (IMEC) Stretchable electronic system manufacturing using printed circuit board technologies (TUB)					
48	conference	TNO / Holst	ESTC 2012 Adam	Conformable electronics	12-16 september 2012	Amsterdam	Scientists	250	International
49	Workshop	TUB, Löher	Crazy Guy Meeting	Stretchable electronics	12./13. October	Adelshofen, Germany	Printed circuit board specialists	12	Germany, Swiss, Austria
49a	Inauguration event (for new general director of Fraunhofer Society)	TUB, K.-D. Lang	Fraunhofer Forum und Ausstellungseröffnu	Hightec in Textilien	22. Oct. 2012	Munich	Industry representatives	200	Europe
50	Conference	CMST	ESTC 2012	Short, Stretchable Molded Interconnect reliability under 10% cyclic elongation. (proc. paper)	17-20 September	Amsterdam	Ind. & Sci.		International
	TIFE 2012	PRE	TIFE2012, by Taiwan Textile	PLACE-it, textile applications	25-27 Sept	Taipei, Taiwan	Ind. & Scientists	200	International

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NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
			Research Insitute TTRI						
51	Man made fibre	TITV			19-21 Sept.	Dornbirn			
53	Conference	CENTEXBEL	CLOTECH 2012	Standardization issues with smart textiles	20-21 September	Warsaw	Ind&Scientifics	100+	International
54	Conference Organization	Philips / Cherenack	MRS, Symposium A:	Conformable Power Supplies	December 2012	Boston	International, academic	500+	International
55	Conference	Daniel Schock- Kusch	Kidney Week 2012	Reproducibility of transcutaneous measurement of glomerular filtration rate in conscious mice	30 Oct - 4 Nov 2012	San Diego	International, academic	15 000+	International
			2013						
56	Conference	Philips Cherenack	Smart Fabrics 2013	Workshop: Wearable Technologies beyond Textiles	April 2013	San Francisco	International, industry, designer, academic etc	250+	International
61	Conference	TNO / Holst Margreet de Kok	Smart Fabrics 2013	Workshop: Wearable Technologies beyond Textiles	April 2013	San Francisco	International, industry, designer, academic etc	250+	International

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NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
57	Symposium	Juergen Guenther Christian Dalsgaard	3F-Talks	Stretchable Electronics – from STELLA via PLACE-it to ...	April 26	Aachen, Germany	National, academic	100	national
58	Conference	Bernard Paquet	Work it! Conference 2013	Next generation display- embedded textiles	April 16-17,2013	Silverstone, UK	International industry for workwear, corporate clothing and PPE	100+	international
59	Conference	Norbert Gretz, Christian Dalsgaard, Koen van Os	Printed Electronics		17, 18 April 2013	Berlin		1000 +	
60		Norbert Gretz				Fraunhofer Dresden			
62		imec Johan de Baets	Smart Fabrics 2013	Workshop: Wearable Technologies beyond Textiles	April 2013	San Francisco	International, industry, designer, academic etc	250+	International
63	Conference/exhibition	TiTV imec TUB	Tech Textile		June 2013	Frankfurt	International, industry, designer	100+	International
64	Workshop	TUB	Flexible electronics		19-21 june 2013	Erlangen	Academic	50+	National
65	conference	TiTV	Smart textiles		26 th February	Leipzig			
66	Conference	imec;	Strategical	Flexible and	March 11-12	Taipei	International,	100+	International

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NO.	Type of activities ⁴	Main leader AUTHOR(S) name	Title	Title of the paper/ presentation	Date	Place	Type of audience ⁵	Size of audience	Countries addressed
		Vanfleteren	Conference of EU-Taiwan ICT Technical Cooperation	stretchable electronics			industry, academic		
67	Kick-off meeting	Imec; Vanfleteren	Projet Equipex LEAF	Flexible and stretchable circuit technologies for wearable electronics	March 20	Villeneuve d'Ascq	Project members	30+	
68	conference	Imec?	Sustainable solution with technical textiles IWFPE??	Jan / Kuni / GA	5-6 sept	Korea			
69	conference	imec	ICMAT			Singapore			
70	Conference	Koen van Os, Philips	p-Health	Wearable Textil-Based Phototherapy Systems	June 26 - 28	Tallinn, Estland	International, industry, academic	100+	International
71	Conference	Imec; Vanfleteren	EIPC Summer Conference Luxembourg	PCB technology based stretchable circuits	June 27 & 28, 2013	Luxembourg	International, industry, academic	50+	International

Section B (Confidential or public: confidential information to be marked clearly),

The applications for patents, trademarks, registered designs, etc. are listed according to the Table B1. The list should, specify at least one unique identifier e.g. European Patent application reference. For patent applications, only if applicable, contributions to standards should be specified. This table is cumulative, which means that it should always show all applications from the beginning until after the end of the project

TEMPLATE B1: LIST OF APPLICATIONS FOR PATENTS, TRADEMARKS, REGISTERED DESIGNS, ETC.					
Type of IP Rights ⁶ :	Confidential Click on YES/NO	Foreseen embargo date dd/mm/yyyy	Application reference(s) (e.g. EP123456)	Subject or title of application	Applicant (s) (as on the application)
Registered design	No	public	DE 2010 014 729.8	Sensor zur transkutanen Bestimmung klinisch relevanter Parameter	Carl Freudenberg KG
Patent			12PA0010DE	Dünnes Leuchtelement	Carl Freudenberg KG
Patent			2012PF00966	Adjustable strap construction for light therapy devices	Philips Electronics
Patent	NO	public	IMEC825.001PRF	Method and tool for estimating mechanically weak zones in deformable electrical interconnection designs	imec
Patent			2011PF0231	Textile optics – solution for robust flexible light treatment pads	Philips Electronics

⁶ A drop down list allows choosing the type of IP rights: Patents, Trademarks, Registered designs, Utility models, Others.