

Point-One

MEMSLand

WP 7 Dissemination, Education and Standardisation

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30 September, 2008

NXP, Nijmegen

WP7 has the goal to disseminate knowledge from MEMSland and to stimulate education in the broader field of micro- and nano-science. And to contribute to standardization.

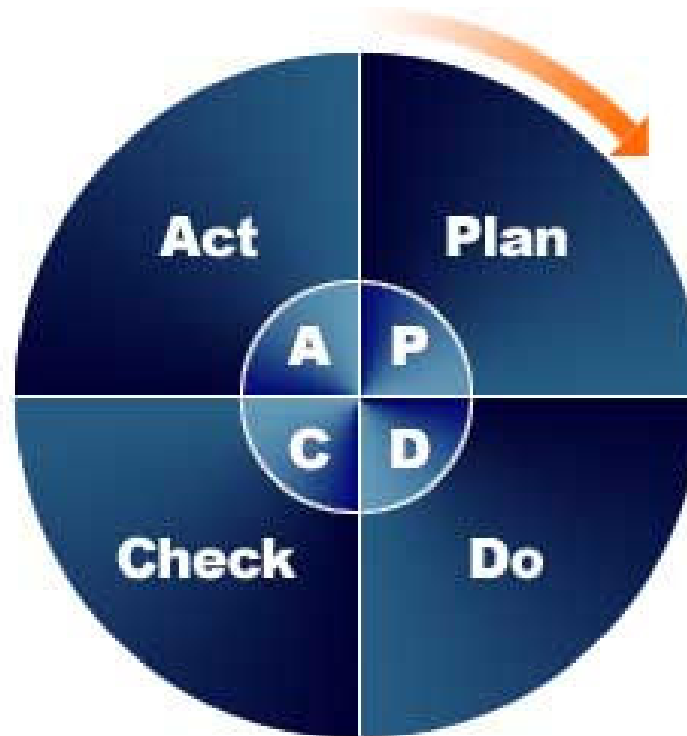
Expectations of the work package: To achieve this goal collaboration will be sought and further established with relevant national and international parties. To efficiently disseminate knowledge to industry and academics,

MEMSland will associate in the Netherlands with the following parties: MINACNED, MicroNed, 3TU and Mikrocentrum. At an international level association will be sought with EUSPEN (European Society for Precision Engineering and Nanotechnology), MANCEF Micro And Nano Educational Forum)

WP7 Expected results

- Overall
 - Website

- Per partner
 - Scientific papers
 - Dissemination activities
 - Contribution to memsland website



WP 7 'Plan' Deliverable 1 and 2

Deliverable 1: Setting up a website as primary dissemination tool for the project (E.g www.memsland.nl or a part of the point one website)

Structure and content of the website will be designed within in the first six months of the project.

Deliverable 2: Maintaining the project website with up to date information, at least every 3 months after establishment of the website an update of the website content has to take place. Updating of the website ends with the formal ending of the project. All participants of the project will contribute to the regular updates of the website.

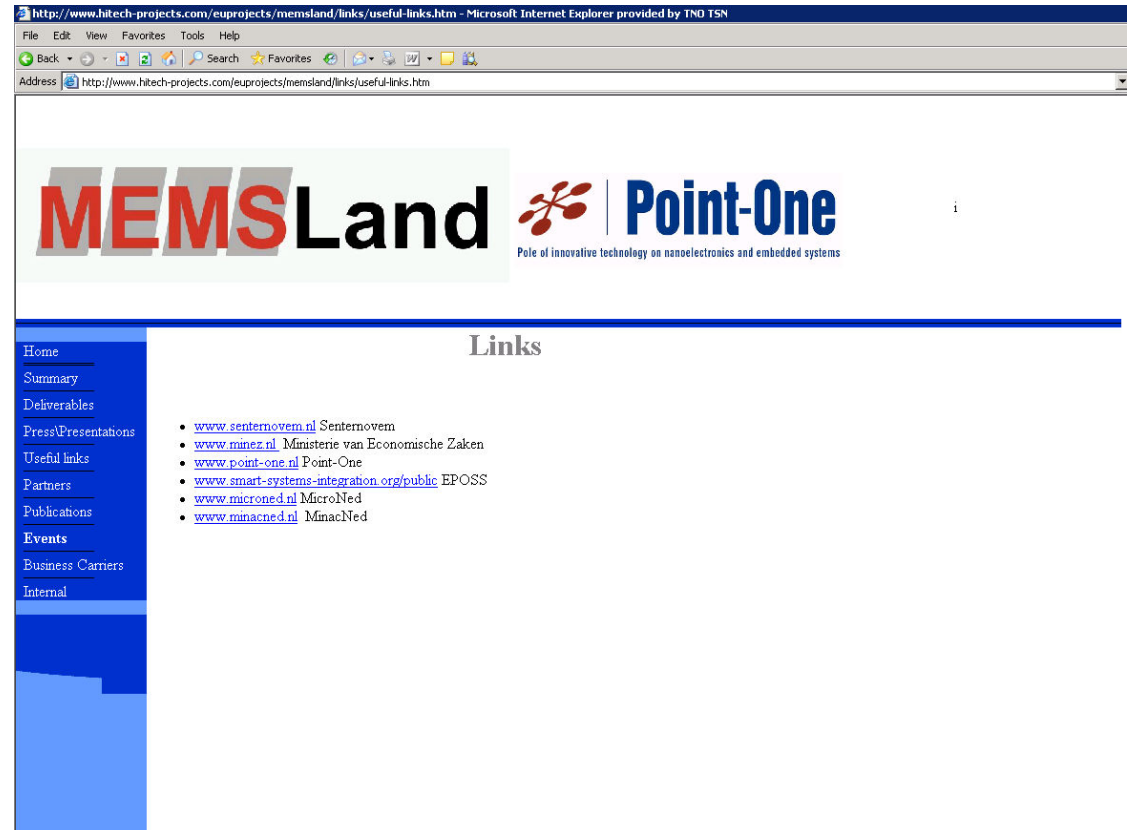
WP 7 'Do' Deliverable 1 and 2



Website: www.MEMSLand.nl

s38memsland traffic report for
Sunday, September 21, 2008

Total	636
Average per Day	1
Average Visit Length	1:03
This Week	9
Page Views	
Total	1,221
Average per Day	3
Average per Visit	2.1
This Week	19



WP 7 'Plan' Deliverable 3



Deliverable 3: An update of all relevant courses in the field of MEMS and Microsystems available at University level (Bachelor, Master, post-doc). This deliverable will be published as a written report at the end of year 1 of The MEMSland project. Cooperation will be sought with the educational committee of MicroNed to strengthen initiatives as setting up a basic teaching book on the fundamentals of micro technologies.

WP 7 'Do' Deliverable 3

A report is available on the relevant University and HBO courses in the micro and nano field on the MicroNed website (www.microned.nl).

Cooperation has been sought with the Educational Committee of MicroNed

3S270 Nanophysics

inhoud	Nanostructuren staan de laatste jaren sterk in de belangstelling. Enerzijds bieden nieuwe fysische technieken zoals, Scanning Probe en atomaire bundeltechnieken, nieuwe mogelijkheden om nanostructuren te maken en te onderzoeken, anderzijds zijn de wat meer conventionele groeitechnieken zoals MBE, elektronen- en optische lithografie zodanig geperfectioneerd dat nanostructuren met hoge reproduceerbaarheid en precisie gemaakt kunnen worden. Dit heeft geleid tot een nauwe samenwerking van een aantal groepen binnen de faculteit Natuurkunde. In het college nanofysica zal worden ingegaan op zowel de fabricage als de fysische eigenschappen van metallische- en halfgeleider nanostructuren. Naast fabricagemethoden zullen ook fysische eigenschappen in dit college aan de orde komen. Door verlaging van de dimensionaliteit in nanostructuren blijkt dat de elektronische, optische en magnetische eigenschappen vaak sterk verschillen van 3 dimensionale systemen.
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Fall trimester

- 4K200 Mechanics of micro-electronics
- 4A780 Fracture mechanics
- 4U740 Engineering optimization
- 4K300 Experimental mechanics
- 4P580 Physical measuring methods
- 4U700 Machine error modeling and measurement
- 6H300 Quantum chemistry
- 3D010 Optics

Winter trimester

- 4K700 Thin film mechanics
- 4U760 Micro- and Nanotechnology, special topics
- 4P630 Application of FEM to heat and flow problems
- 4U300 Electromechanics for precision engineering
- 3Y280 Solar energy
- 3N220 Theory of microscopically disordered media
- 3S270 Nanophysics
- 5L190 Semi-conductor physics
- 6KM01 Membrane technology
- 8C030 Molecular simulation

Spring trimester

- 4K570 Micro- and nano-structuring methods
- 4T300 Microscopic methods
- 4P710 Micro-heat transfer
- 8W150 Multi-fluid mechanics
- 4K620 Computational material models
- 5P020 Microcomputer architecture

WP 7 'Plan' Deliverable 4



Deliverable 4: A standard presentation, educational lesson, will be made available to be able to convey the purposes and ambitions from MEMSLand to a broader public (e.g. students, housewife's and politicians)
This presentation will be available six months after the start of the project.

WP 7 'Do' Deliverable 4

MEMSLand

A introductory presentation on the MEMSLand project has been prepared by Erik van de Riet and Vincent Spiering and is available on the MEMSLand website.

MEMSLand

MEMSLand

Cost Effective MEMS to Develop a Sustainable High Tech Business

Erik van de Riet (NXP)

Vincent Spiering (C2V)



Point-One

Pole of innovative technology on nanoelectronics and embedded systems

2007-03-26

WP 7 'Plan' Deliverable 5



Deliverable 5: MEMSland will contribute in relevant summer schools (eg as organized by MicroNed for PhD students) Contribution in summer schools can consist of various instruments: in-kind contribution, through a lecturer or professor, financial, delivering students, etc.

WP 7 'Do' Deliverable 5

TNO has contributed (content and teaching) to the 2 day course
'Introduction into MEMS' for Mikrocentrum

NXP has contributed tot the 2.5 day 'Micro Electro Mechanical Systems'
course of Philips CTT

Guest lectures have been given for universities

WP 7 'Plan' Deliverable 6

Deliverable 6: Scientific and technical papers are not within the scope of WP7. However, WP7 will deliver economical and technology exploitation papers. After year 1 at least two national and one international paper will be published.

WP 7 'Do' Deliverable 6

MEMSLand

A short article was published in: Technisch Weekblad (21 april 2007)

'Minder componenten voor mobiele telefoons met MEMS'

A paper was submitted to the COMS 2007 conference in Melbourne.

'MEMSland; successful MEMS commercialization in the Netherlands!'

WP 7 'Plan' Deliverable 7



Deliverable 7: Before the end of the project a written report will be published, which will elude the public available results of the project.

This report will be made available as PDF document on the website

WP 7 'Do' Deliverable 7

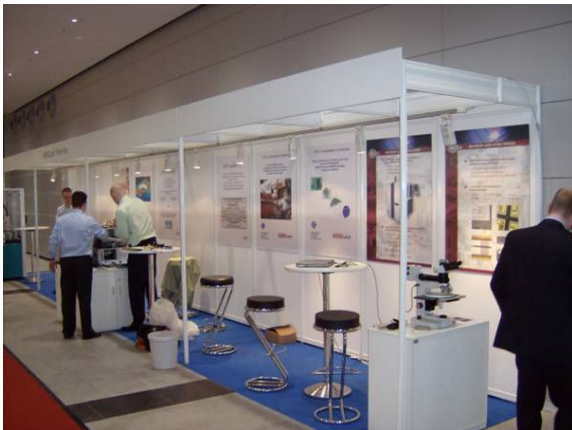


No activities yet, MEMSland is not yet in the final year.

WP 7 MEMSland @ Semicon2007

MEMSland

Five MEMSland partners participated in the MEMSland stand (ALSI, NXP, Philips Applied Technologies, MA3 and TNO) leading to a '*MEMSland village*', The MEMSland stand has generated interest in the MEMSland project, and also commercial leads for the participants. The '*MEMSland village*' has led to a varied and professional presentation of in Stuttgart



WP 7 “Check” MEMSland Scorecard



Sept 2008

	MEMSLAND	On website	Registered	IPR	MEMSland
Company		# scientific papers	# dissemination activities	# Patent Applications	# website contributions
NXP	16381	21	4	2	9
NXP => Epcos	1808	9			
C2V	3685	0	14		4
Boschman	2280	0	10	1	3
Philips Apptech	1934	1	1		2
Cavendish Kinetics	1628	1	0		3
UT	1604	0	0		3
TNO	950	2	2	3	7
Lionix	918	2	0		4
Lionix => Panthera					
ALSI	859	0	1		1
TUD 3me	720	2	0		2
IMEC NL	548	0	0		1
MA3	450	0	1		1
TU e	420	2	0		1
Phoenix	381	0	1		1
TUD DIMES	380	2	0		1
Bruco	372	0	0		1
Anteryon	304	0	0		1
Limis	246	0	0		1
	35868				
Frahofer Itzehoe	3390				
University of Uppsala	900				

Total **40158** **42** **34** **6** **46**

WP 7 “Check” MEMSland Scorecard



Growing number of scientific papers, in most cases

MEMSland not mentioned as sponsor for the work

Growing number of registered dissemination activities

Send evidence of participation on fairs, symposia, etc.

Limited number of website contributions and relevant updates

WP7 has a **Bottle neck** like mentioned in January 2008

There is insufficient support from all members of MEMSland.

Especially from the larger participants more is expected for dissemination

WP7 only can achieve goals if the other WPs

- (1) Provide timely information on publishable results => pdf of papers
- (2) Contribute to dissemination => fairs, symposia, etc.
- (3) Contribute to education activities => summer schools, lectures
- (4) Discuss standardization issues => e.g. patent DfMM, Semicon

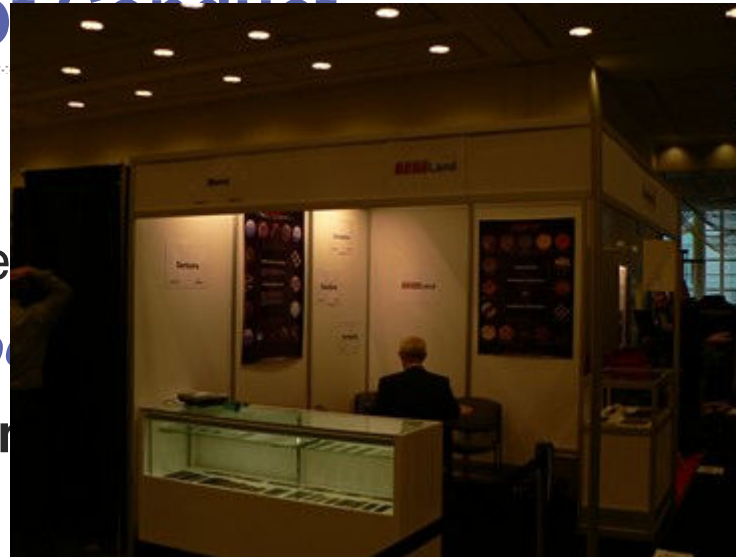
All work packages should provide WP7 with information

WP 7 'Act' Rules of Conduct

MEMSland



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spend?)

Dissemination activities:

Participation of a company on fairs: Use a poster /

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lema@tno.nl



Papers:

There was no paper submitted for COMS 2008

Dissemination:

Plan was to participate with a MEMSLand village at the Precisiebeurs in Veldhoven. There was too **limited enthusiasm** (< 6 companies) in the MEMSLand partnership to start organising this event.

A small MEMSLand symposium could be hosted by TNO in early 2009 at the TNO location in Eindhoven.

Website:

Regular updates, if the website is transferred back from Philips to TNO a complete overhaul will take place