AIDA WP3 Annual Meeting

H.-G. Moser
MPI Munich

Valerio Re
INFN

WP3 EVO
April 12, 2011

- **Status of milestones and deliverables**

- **Progress report by established sub-projects**

- **Discussion: projects not yet established and**

- **Groups not yet associated to a project**

- **AOB**
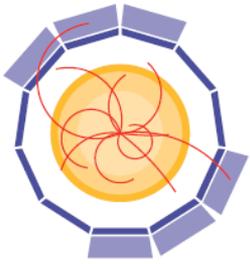
Agenda, Wednesday

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AIDA meeting
28.3.2012
DESY, Hamburg

14:00 Introduction
Presenter(s): MOSER, Hans-Günther *(Max-Planck-Institut für Physik), (I*

14:20 Bonn/CPPM plans for 3D integration
Presenter(s): BARBERO, Marlon Benoit *(Universitaet Bonn)*

14:40 INFN plans for 3D integration
Presenter(s): RATTI, Lodovico

15:00 LAL plans for 3D integration
Presenter(s): LOUNIS, Abdenour *(Universite de Paris-Sud 11 (FR))*

15:20 MPI plans for 3D integration
**Presenter(s):** WEIGELL, Philipp *(Max-Planck-Institut fuer Physik (Werner-Heisenberg-Institut) (D)*

15:40 Univ. Barcelona plans for WP3.2
Presenter(s): DIEGUEZ, Angel *(Universitat de Barcelona)*

15:50 Discussion
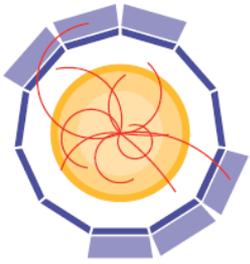
Agenda, Thursday

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28.3.2012
DESY, Hamburg

14:00   CERN TSV activities with CEA-LETI
Presenter(s): DANNHEIM, Dominik *(CERN)*

14:20   RAL plans for WP3.2

14:30   Uppsala plans for WP3.2

14:40   CNM plans for WP3.2

14:50   AGH-UST plans for IP blocks
Presenter(s): IDZIK, Marek *(AGH Univesity of Science and Technology (PL))*

15:05   Design of an area-effective digital library for pixel readout chips
Presenter(s): SZCZYGIEL, Robert *(AGH UST)*, *(AGH University of Science and Technology)*

15:25   IP blocks in SiGe
Presenter(s): MARTIN-CHASSARD, Gisele

15:35   Discussion
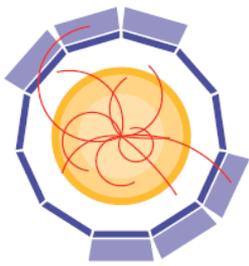
Milestones

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Schedule of relevant Milestones				
Milestone number [a]	Milestone name	Lead beneficiary number	Delivery date from Annex I [b]	Comments
MS18	Availability of wafers with ASIC	18	17	Layout of ASICs in MPW (Task 3.2)
MS19	Submission of dedicated sensors for 3D interconnection	11	17	Layout of sensors (Task 3.2)
MS20	Qualification of ASIC and sensors for 3D interconnection	18	25	Laboratory tests (Task 3.2)
MS21	Validation of first set of IP blocks	1	26	Laboratory tests and full documentation of functional blocks (Task 3.3)
MS22	3D interconnection processing accomplished	18	36	3D integrated devices available for technology assessment (Task 3.2)
MS23	Enable access to 3D interconnection technology	12	48	Laboratory tests for validation of 3D integration processes (Task 3.2)
MS24	Validation of second set of IP blocks	8	48	Laboratory tests and full documentation of
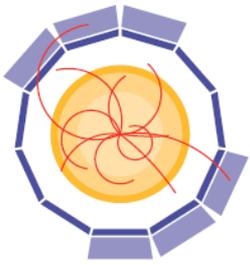
Deliverables

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	List of deliverables					
Deliverable Number [61]	Deliverable Title	Lead beneficiary number	Estimated indicative person-months	Nature [62]	Dissemination level [63]	Delivery date [64]
D3.1	Organisation of the 3D production	18	20.00	R	PU	12
D3.2	Availability of wafers of ASIC electronics	18	30.00	R	PP	17
D3.3	Production of dedicated sensors	11	25.00	R	PP	17
D3.4	1st set of macro blocks	1	22.00	R	PU	22
D3.5	Wafer post processing (thinning, TSV)	12	24.00	D	PP	25
D3.6	Component processing	18	12.00	R	PU	29
D3.7	Test interconnection and evaluation	12	24.00	R	PP	36
D3.8	Detectors in 3D available for assessment	18	24.00	D	PP	40
D3.9	2nd set of macro blocks	8	22.00	R	PU	44
D3.10	Assessment of 3D integrated sensors	11	20.00	R	PU	48

Milestones and Deliverables in 2012
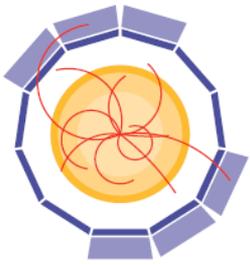
Milestones:

1) MS18 Availability of ASIC wafers,   M17 (July 2012)
     already met (FEI4, Medipix)

2) MS19 Submission of dedicated sensors,   M17 (July 2012)
     INFN: production of edgeless sensors (April 2012)
     MPP: sensor procurement (CSEM/VTT) (July 2012)

Deliverables:

1) D3.1 Organisation of the 3D production   M12 (Feb 2012) done

2) D3.2 Availability of ASIC wafers   M17 (July 2012)
     already delivered (FEI4, Medipix)

3) D3.3 Production of dedicated sensors   M17 (July 2012)
     INFN: production of edgeless sensors (April 2012)
     MPP: sensor procurement (CSEM/VTT) (July 2012)

4) D3.4 1st set of macro blocks   M22 (Dec 2012)

Schedule

ID		Project	Start	Finish
1				
2		**Bonn/CPPM**	**Mon 02.01.12**	**Fri 30.01.15**
3	✓	Initial test of TSV and bakcside access	Thu 26.01.12	Thu 26.01.12
4	⊞	Test of TSV with FE-I4	Mon 02.01.12	Tue 31.07.12
5	⊞	Shipping of FE-I4 ansd sensor to LETI/IZM	Tue 31.07.12	Tue 31.07.12
6	⊞	Processing at LETI/IZM	Thu 02.08.12	Thu 28.02.13
7	⊞	Evaluation in Bonn/CPPM	Fri 01.03.13	Fri 31.01.14
8	⊞	Evaluation with other sensors	Mon 03.02.14	Fri 30.01.15
9		**CERN**	**Fri 01.07.11**	**Thu 31.05.12**
10	⊞	Phase 1 (TSV processing at CEA-LETI)	Fri 01.07.11	Thu 31.05.12
11	⊞	Phase 2 (Hybridization)	Mon 02.04.12	Thu 31.05.12
12	⊞	Phase 3 (Demonstrator)	Mon 02.01.12	Thu 31.05.12
13		**INFN/IPHC-IRFU**	**Mon 02.01.12**	**Fri 27.06.14**
14	⊞	Edgless sensor design	Mon 02.01.12	Fri 30.03.12
15	⊞	Edgeless sensor production	Mon 02.04.12	Mon 31.12.12
16	⊞	CMOS sensor design	Mon 02.01.12	Fri 29.03.13
17	⊞	CMOS sensor production	Mon 01.04.13	Fri 28.06.13
18	⊞	readout chip desing	Mon 02.01.12	Fri 29.06.12
19	⊞	readout chip production	Mon 02.07.12	Fri 29.03.13
20	⊞	vertical integration & evaluation	Mon 01.04.13	Fri 27.06.14
21		**LAL/LAPP/LPNHE/MPP**	**Thu 01.09.11**	**Fri 30.01.15**
22	⊞	Sensor procurement	Thu 01.09.11	Fri 31.08.12
23	⊞	ASIC in 65nm technology	Mon 02.01.12	Fri 30.08.13
24	⊞	3D integration & evaluation	Mon 02.09.13	Fri 30.01.15
25		**MPP/GLA/LAL/LIV/LPNHE**	**Wed 01.02.12**	**Mon 02.02.15**
26	⊞	Sensor procurement	Mon 02.07.12	Fri 27.09.13
27	⊞	TSV etching, thinning, electroplating	Mon 02.07.12	Fri 29.11.13
28	⊞	sensor electroplating	Mon 30.09.13	Fri 29.11.13
29	⊞	SLID interconnection	Mon 02.12.13	Fri 30.05.14
30	⊞	evaluation	Mon 02.06.14	Fri 30.01.15
31	⊞	D3.1 Organisation of 3D production	Wed 01.02.12	Wed 01.02.12
32	⊞	D3.2 Availability of ASIC wavers	Fri 01.06.12	Fri 01.06.12
33	⊞	D3.3 Production of sensor wafers	Fri 01.06.12	Fri 01.06.12
34	⊞	D3.5 wafer post processing	Fri 01.02.13	Fri 01.02.13
35	⊞	D3.6 component processing	Mon 03.06.13	Mon 03.06.13
36	⊞	D3.7 test interconnection and evaluation	Wed 01.01.14	Wed 01.01.14
37	⊞	D3.8 Detectors in 3D ready for assessment	Thu 01.05.14	Thu 01.05.14
38	⊞	D3.10 Assesment of 3D integrated sensors	Mon 02.02.15	Mon 02.02.15