

# WP13

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# Some extracts from the AIDA-2020 Mid-Term Review Report

Concerning WP13

## **Significant results linked to dissemination, exploitation and impact potential**

Outstanding research and development results have been obtained pushing considerably the high rate capability of gas detectors (WP13) and in the field of micro-electronics (ASIC in 65 nm technology and through silicon vias in WP4).

## **Recommendations concerning the period covered by the report**

WP6,WP7 and WP13: a more intense cooperation concerning the understanding and simulation of avalanche mechanism could be beneficial.

WP8 certainly would benefit from a more intense cooperation with WP13 and WP4. The better understanding of the gain mechanism and the possible manufacturing of gain structures could become useful when first signals over large drift distances are recorded where diffusion spreads out the drifting electrons and compromises the reconstruction of the track. These effects have been investigated for gaseous track detectors in the past and the knowledge may be useful for the present system.

## Recommendation from AIDA2020 management

→ Acknowledge AIDA2020 in the publication

→ Add AIDA2020 logo in your presentation

→ Contribute to the newsletter by proposing the results of your activities...

Inform us of any new publication to be added to the publication score

WP	No. of journal publications	No. of conference/ workshop proceedings	Other publications	Total
WP2	0	0	6 press articles 6 "On track" newsletter issues	12
WP3	0	1	5 presentations 3 scientific notes	9
WP4	0	0	1 poster	1
WP5	0	0	2 presentations 1 scientific note	3
WP6	4	1	1 poster	6
WP7	11	8	2 presentations 2 posters	23
WP8	1	0	0	1
WP9	1	0	5 presentations 1 poster	7
WP13	4	2	1 presentation 3 posters	10
WP14	4	3	1 scientific note	8
WP15	0	5	5 presentations 5 scientific notes 5 posters	20
<b>TOTAL</b>	<b>25</b>	<b>20</b>	<b>55</b>	<b>100</b>
<b>TARGET</b>	<b>60</b>	<b>50</b>	<b>-</b>	<b>180</b>

D7.6	Initial pixel characterisation	WP7	M24	28/04/2017	Achieved	Report
D9.6	Common test structures	WP9	M24	19/05/2017	Achieved	Report
D13.6	Miniaturised HV power supply	WP13	M24	28/04/2017	Achieved	Report
D13.7	Resistive anode manufacturing	WP13	M24	24/07/2017	Achieved	Report
D15.1	CERN pixel beam telescope for the PS	WP15	M24	27/03/2017	Achieved	Report
D15.6	CERN proton facility upgrade	WP15	M24	11/05/2017	Achieved	Report
D15.10	GIF++ gas system	WP15	M24	31/05/2017	Achieved	Report

D5.2	Trigger Logic Unit ready	WP5	M30			
D5.3	Data acquisition software	WP5	M30			
D5.4	Data acquisition hardware	WP5	M30			
D5.5	Data acquisition hardware	WP5	M30			
D7.5	Wafer Layout MPW run	WP7	M30			
D9.1	Station for tests on $\mu$ -channel test devices	WP9	M30			
D9.2	$\mu$ -channel prototypes	WP9	M30			
D15.3	Environmental control system at DESY	WP15	M30			
D15.4	New Frascati beam line	WP15	M30			

MS44	2nd AIDA-2020 Annual meeting	1	M24	28/04/2017	Achieved	Report
MS45	1st AIDA-2020 "Academia meets Industry" event	2	M24	28/04/2017	Achieved	Report
MS46	EUDAQ interfaces to other DAQs available	5	M24	23/06/2017	Achieved	Report
MS47	Online event data model available	5	M24	09/06/2017	Achieved	Report
MS48	Simulation tutorial on HV/HRCMOS TCAD and Geant4 simulations	6	M24	28/04/2017	Achieved	Report
MS49	Workshop on 3D-planar	7	M24	27/04/2017	Achieved	Report
MS50	LGAD thickness technological choice	7	M24	28/04/2017	Achieved	Report
MS51	LGAD Workshop on the characterisation results of the available LGAD sensors	7	M24	27/04/2017	Achieved	Report
MS52	High-rate RPC prototype ready	13	M24	30/03/2017	Achieved	Report
MS53	Small-size prototype of the R-WGEM built and qualified	13	M24	19/04/2017	Achieved	Report
MS54	Integrated FBG sensors for monitoring the mechanical tension of MPGD films and meshes	13	M24	31/05/2017	Achieved	Report
MS55	Quality control system to ensure the electrical integrity of electrode patterns	13	M24	26/04/2017	Achieved	Report
MS56	Commissioning of Fibre Test benches	14	M24	07/04/2017	Achieved	Report
MS57	Design and test of ASICs and readout board prototype for the test infrastructure	14	M24	19/04/2017	Achieved	Report
MS58	Definition of optical and electrical coupling of readout, interface functionality and DIF design	14	M24	13/04/2017	Achieved	Report
MS59	Silicon strip reference tracker hardware ready	15	M24	M31	Delayed	Justification for delay

MS60	AIDA-2020 Midterm Review	1	M25	15/05/2017	Achieved	<a href="#">Report</a>
MS61	Qualification of the new candidate materials for THGEM substrate	13	M26	16/06/2017	Achieved	<a href="#">Report</a>
MS62	Development of run control ready	5	M27	31/07/2017	Achieved	<a href="#">Report</a>
MS63	Final design review of 65nm CMOS chips	4	M30			
MS64	Final design review of deliverable chips in SiGe run	4	M30			
MS65	Final design review of deliverable D4.3	4	M30			
MS66	TLU hardware, firmware and software ready for tests beams	5	M30			
MS67	Data quality monitoring tools ready	5	M30			
MS68	Slow control system ready	5	M30			
MS69	Mechanical structure and supports for large, thin-gap RPCs	13	M30			
MS70	Photon tagging components installed	15	M30			

Transmitted to AIDA2020 management

AIDA-2020 Annual week

April 23 - 27, 2018

Venue: Centro San Domenico, downtown  
Bologna

