

AIDA-2020 WP15

Upgrade of beam and irradiation test infrastructure

Federico Ravotti (CERN) & Marcel Stanitzki (DESY)

WP15 Satellite Meeting @ 7th BTTB Workshop

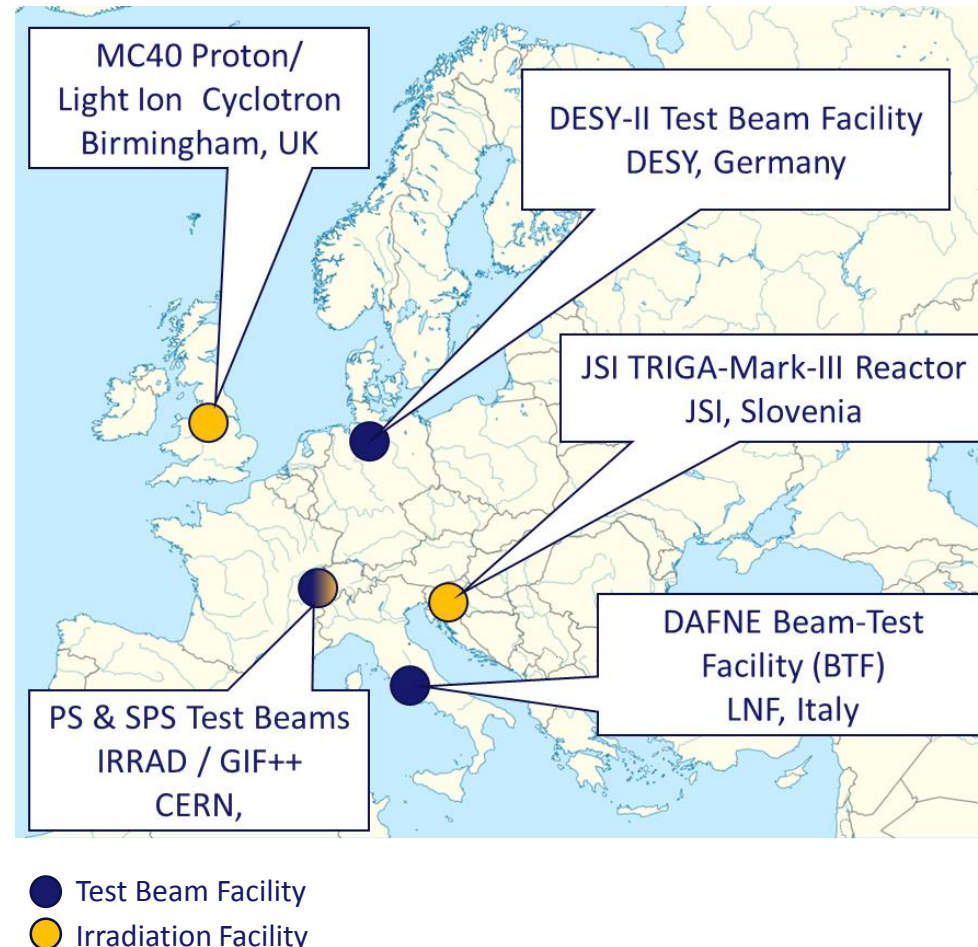
January 14th, 2019

<https://indico.cern.ch/event/780067/>



- **The BTTB series has been a very successful forum for:**
 - test beam & irradiation facilities users (and coordinators)
 - beam telescope users
- **AIDA-2020 WP15 has a large overlap of activities and participants (Tasks 15.2, 15.3, 15.4) ...**
- **Upgrade activities in test-beams and irradiation facilities (Task 15.5) are driven by users requirements ...**
 - ... natural to take the opportunity to meet and discuss WP15 matters!
- **Ideas for extension and follow-up of some of the AIDA-2020 WP15 activities, beyond 2019, were born @ BTTB!**

- **Task 15.1:** Scientific coordination (CERN, DESY)
- **Task 15.2:** Improvements of test-beam infrastructure for high precision tracking (CERN, DESY)
- **Task 15.3:** Improvements of the DESY test-beam infrastructure (DESY)
- **Task 15.4:** Improvements of the test-beam infrastructure at LNF (INFN)
- **Task 15.5:** Improvements of the infrastructure for irradiation tests (CERN, INFN, VU, INRNE, JSI, USFD*)

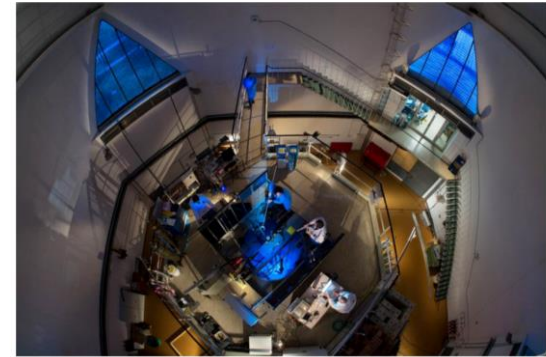


*associated partner linked to CERN

- **Fourth Annual Meeting:**
 - will be held in **Oxford, UK**
 - on **April 1st-5th, 2019**
 - Workshop **“Future of Tracking”** (1st -2nd)
- **AIDA-2020 extended of 1Y**
 - 3rd reporting period: M48 → M60
 - call for **new EU proposal** beyond AIDA-2020 in the period **Nov. '19 – Mar. '20** (news Dec. 2018)
- **On Track newsletter:**
 - <http://aida2020.web.cern.ch/content/newsletter>
 - articles about WP15 activities were prepared in 2018
 - watch out issues #9 and #10!

New Irradiation Facility in Slovenia

Vladimir Cindro (Jozef Stefan Institute, Slovenia), 16/01/2018



Top view of the reactor water tank. Fuel elements are on the bottom, blue Cherenkov light is emitted by charged particles moving faster than light in water. (fr Eranko Čvek, National Geographic, Slovenia)

Radiation hardness is a key issue for components installed in collider experiments. Therefore many irradiation studies have been performed in the past 20 years at the TRIGA reactor at the Jozef Stefan Institute (JSI) in

Pretty cool box: irradiation facility in Birmingham gets AIDA upgrade

Barbara Warmbein (DESY), 12/07/2018



Cold box in the lab in Sheffield, ready for installation in Birmingham's cyclotron. (Image: Richard French)

A new cold box for the University of Birmingham's irradiation facility is ready to move into its new home. Built by the University of Sheffield as part of AIDA-2020 Work Package 15, it features a new robotic scanning system for

Mil. no.	Milestone name	WP no.	Planned delivery date	Actual delivery date	Status	Comments
MS16	Specifications for IRRAD sample & user management system and online database fixed	15	M12	08/06/2016	Achieved	Report
MS17	Design of a transport system for neutron irradiations of large samples	15	M12	08/06/2016	Achieved	Report
MS32	Pixel telescope hardware assembled	15	M18	31/10/2016	Achieved	Report
MS33	Environmental control system hardware installed	15	M18	24/10/2016	Achieved	Report
MS34	New Frascati beam line components installed	15	M18 → M41	15/11/2018	Achieved	Report
MS35	Test of various low cost silicon materials for fluence monitor concluded	15	M18	31/10/2016	Achieved	Report
MS36	Concept of cold box evaluated and design fixed	15	M18	31/10/2016	Achieved	Report
MS37	Design of the additional cosmic trackers on the other side of the source and on the side walls	15	M18	01/11/2016	Achieved	Report
MS59	Silicon strip reference tracker hardware ready	15	M24	08/12/2017	Achieved	Report
MS70	Photon tagging components installed	15	M30	07/11/2017	Achieved	Report
MS85	Installation and commissioning of instantaneous dose rate monitoring system	15	M36	03/04/2018	Achieved	Report
MS86	Test of the different software modules as event display, camera position tracking and user interface	15	M36	19/04/2018	Achieved	Report

**ALL
MILESTONES
ARE NOW
ACHIEVED!**

Del. no.	Deliverable name	WP no.	Planned delivery date	Actual delivery date	Status	Comments
D15.9	JSI TRIGA Reactor Transport system	15	M18	04/11/2016	Achieved	Report
D15.1	CERN pixel beam telescope for the PS	15	M24	27/03/2017	Achieved	Report
D15.6	CERN proton facility upgrade	15	M24	11/05/2017	Achieved	Report
D15.10	GIF++ gas system	15	M24	31/05/2017	Achieved	Report
D15.3	Environmental control system at DESY	15	M30	27/10/2017	Achieved	Report
D15.4	New Frascati beam line	15	M30	M44	Delayed	Justification for delay
D15.2	Silicon strip reference tracker at DESY	15	M36	M45	Delayed	Justification for delay
D15.8	Cold irradiations at Birmingham	15	M36	10/04/2018	Achieved	Report
D15.7	Radiation-hard facility instrumentation for the CERN proton facility	15	M44	→ report being prepared		
D15.11	GIF++ Facility upgrade	15	M48	→ end of 4 th year		
D15.5	Frascati photon tagging system	15	M52	→ moved to Y5 (linked to D15.4)		

- Becoming more and more important!
 - frequently asked/reminded by AIDA-2020 coordination
- **54 (+2) records for WP15 in CDS** so far (including official reports)
 - <http://cds.cern.ch/collection/AIDA-2020?ln=en>
- Please, **submit your publications** related to WP15 activities:
 - <http://aida2020.web.cern.ch/content/submit-your-publication>
 - *journal publications, conference/workshop papers, scientific/technical notes, academic dissertations, posters, presentations and handouts, press articles, etc. ...*
- and, please, remember the **AIDA-2020 acknowledgement text!**
 - <http://aida2020.web.cern.ch/science/publications>

10:00 → 10:05 **Welcome & Introduction**

Speakers: Federico Ravotti (CERN), Marcel Stanitzki (Deutsches Elektronen-Synchrotron (DE))

🕒 5m

10:05 → 10:20 **WP15.3 Improvements of the DESY test beam Infrastructure**

Speaker: Mengqing Wu (Deutsches Elektronen-Synchrotron (DE))

🕒 15m

10:20 → 10:35 **WP15.4 Improvements of the test beam Infrastructure at INFN-LNF**

Speaker: Paolo Valente (Sapienza Universita e INFN, Roma I (IT))

🕒 15m

10:35 → 10:50 **WP15.5 - IRRAD Facility Data Manager & Irradiation facilities / test-beams database (D15.6)**

Speaker: Blerina Gkotse (Mines ParisTech (FR))

🕒 15m

10:50 → 11:05 **WP15.5 - IRRAD Facility BPM and sample holders for high particle fluence levels (D15.7)**

Speaker: Isidre MATEU (CERN)

🕒 15m

11:05 → 11:20

Break

🕒 15m

11:20 → 11:35 **WP15.5 - Cosmic-rays tracker Improvements & augmented reality event-display for GIF++ Facility (D15.11)**

Speakers: Davide Boscherini (Universita e INFN, Bologna (IT)), Giulio Aielli (Universita e INFN Roma Tor Vergata (IT))

🕒 15m

PART 1:
reports (15 min) about
deliverables/tasks to be
completed, delayed or
extended

11:35	→ 11:45	Updates from completed Deliverables	🕒 10m
		<ul style="list-style-type: none"> Improvements of test beam infrastructure for high precision tracking (D15.1) Speaker: Jan Dreyling-Eschweiler (Deutsches Elektronen-Synchrotron (DESY)) 	🕒 10m
11:45	→ 12:35	Updates from completed tasks and Deliverables within WP15	🕒 50m
		<ul style="list-style-type: none"> Si and GaN for large fluence irradiation monitoring (D15.6) Speaker: Juozas Vaitkus (Vilnius University) 	🕒 10m
		<ul style="list-style-type: none"> Upgrades to the Birmingham robotic scanning system (D15.8) Speaker: Richard French (The University of Sheffield) 	🕒 10m
		<ul style="list-style-type: none"> Transport system for large objects at JSI Neutron Facility (D15.9) Speaker: Vladimir Cindro (Jozef Stefan Institute (SI)) 	🕒 10m
		<ul style="list-style-type: none"> GIF++ gas system upgrade (D15.10) Speaker: Roberto Guida (CERN) 	🕒 10m
		<ul style="list-style-type: none"> Instantaneous dose-rate monitor for GIF++ Facility (D15.11) Speaker: Plamen Stoianov Iaydjiev (Bulgarian Academy of Sciences (BG)) 	🕒 10m
		<div style="font-size: 2em; color: green; margin-left: 20px;">} not confirmed</div>	
12:35	→ 12:45	Wrap-up	🕒 10m
		Speaker: All	

PART 2:
 News, updates and
 follow-up about
 completed
 deliverables/tasks
 (10 min)