



**AIDA**<sup>2020</sup>

Advanced European Infrastructures  
for Detectors at Accelerators

# AIDA-2020

## TA – Transnational Access Facilities in WP10

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On Behalf of WP10 (CERN&DESY TA)

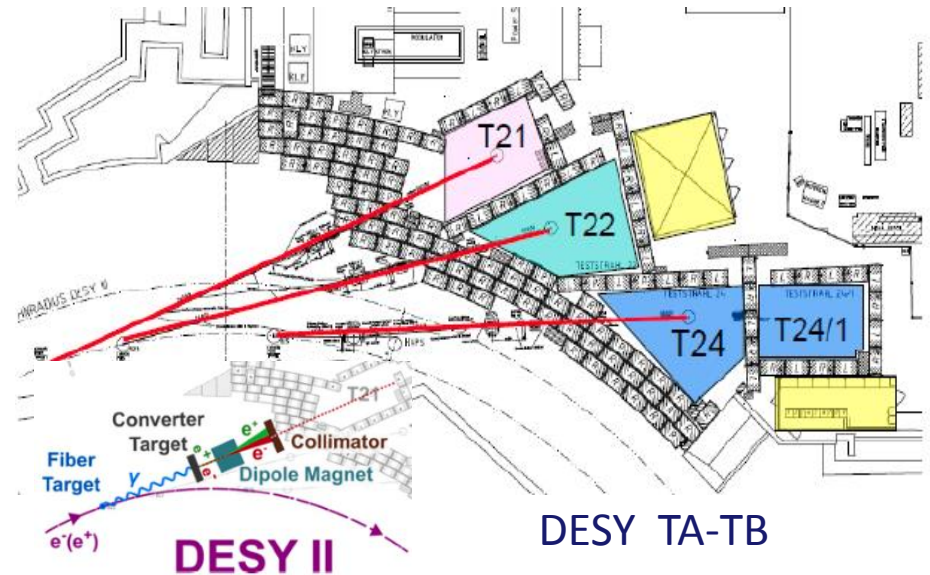
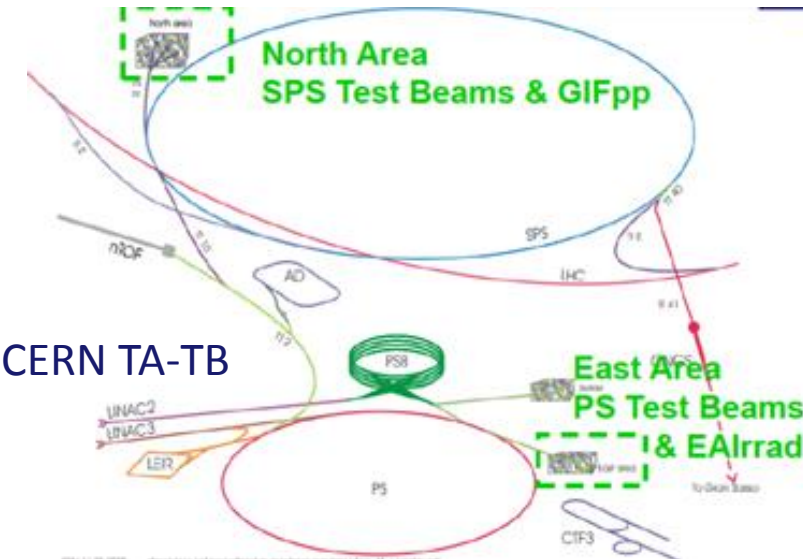


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The WP10 Transnational Access enables users to perform their test beam campaigns at two different test beam facilities; with their locations in:

- **CERN TA-TB** (Switzerland) provides 2 beam lines: CERN PS (1 to 12 GeV/c) and SPS (15 to 400GeV/c)- East / North Areas
- **DESY TA-TB** (Germany) provides 3 beam lines at DESY II (1 to 6 GeV, energy spread 5% / electron – positron)

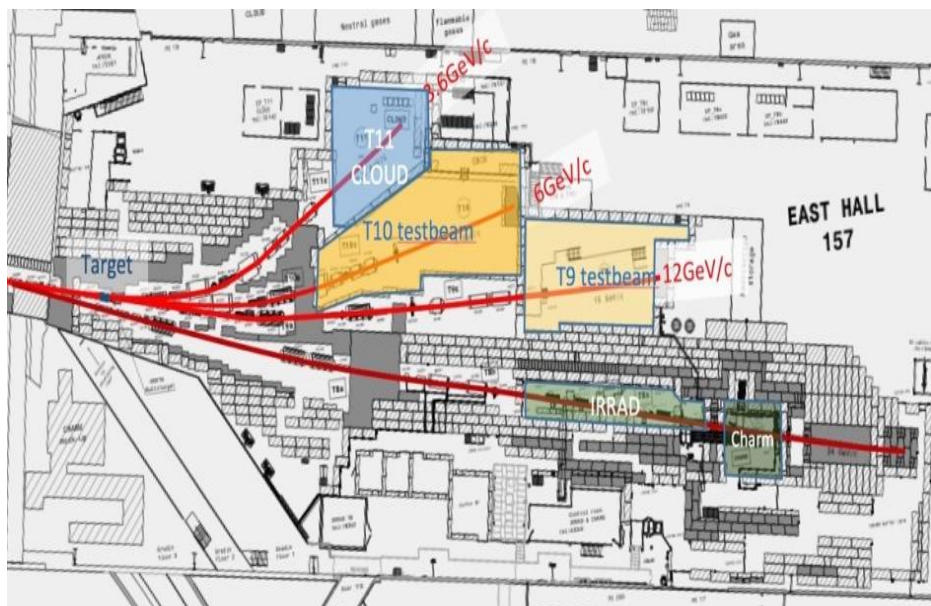




CERN PS & SPS	User Projects		Total users	AU
	Submissions	Selected		
M1-M60	42	42	220 /170*	15624
M1-M60 Foreseen	47		210	11280

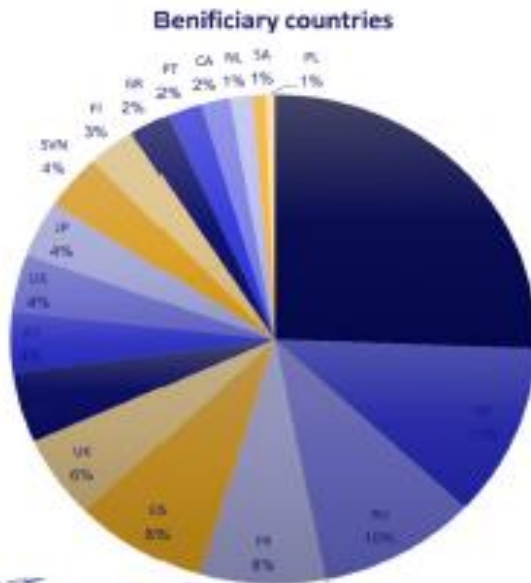
DESY	User Projects		Total users	AU
	Submissions	Selected		
M1-M60	31	31	177/134*	~9736
M1-M60 Foreseen	30		120	8400

**\*134 received financial support**





- Participants from 19 countries



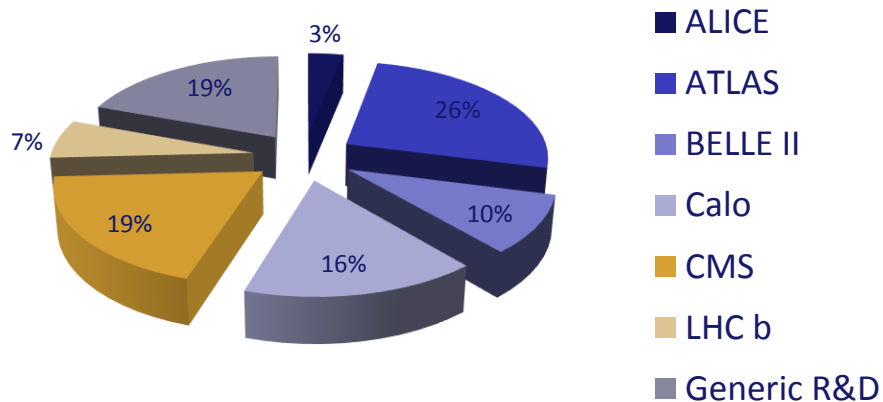
- WP10.1 allowed to simplify test beam user registrations at CERN, when they have no affiliation to a CERN experiment.
- CERN test-beams stopped for the Long Shutdown 2 (2019-2020).
- Only a few projects haven't reported publications yet. Some more publications are being written.



### Number of projects per reporting period



By the project selection we tried to guarantee a fair-allocated support to all interested communities

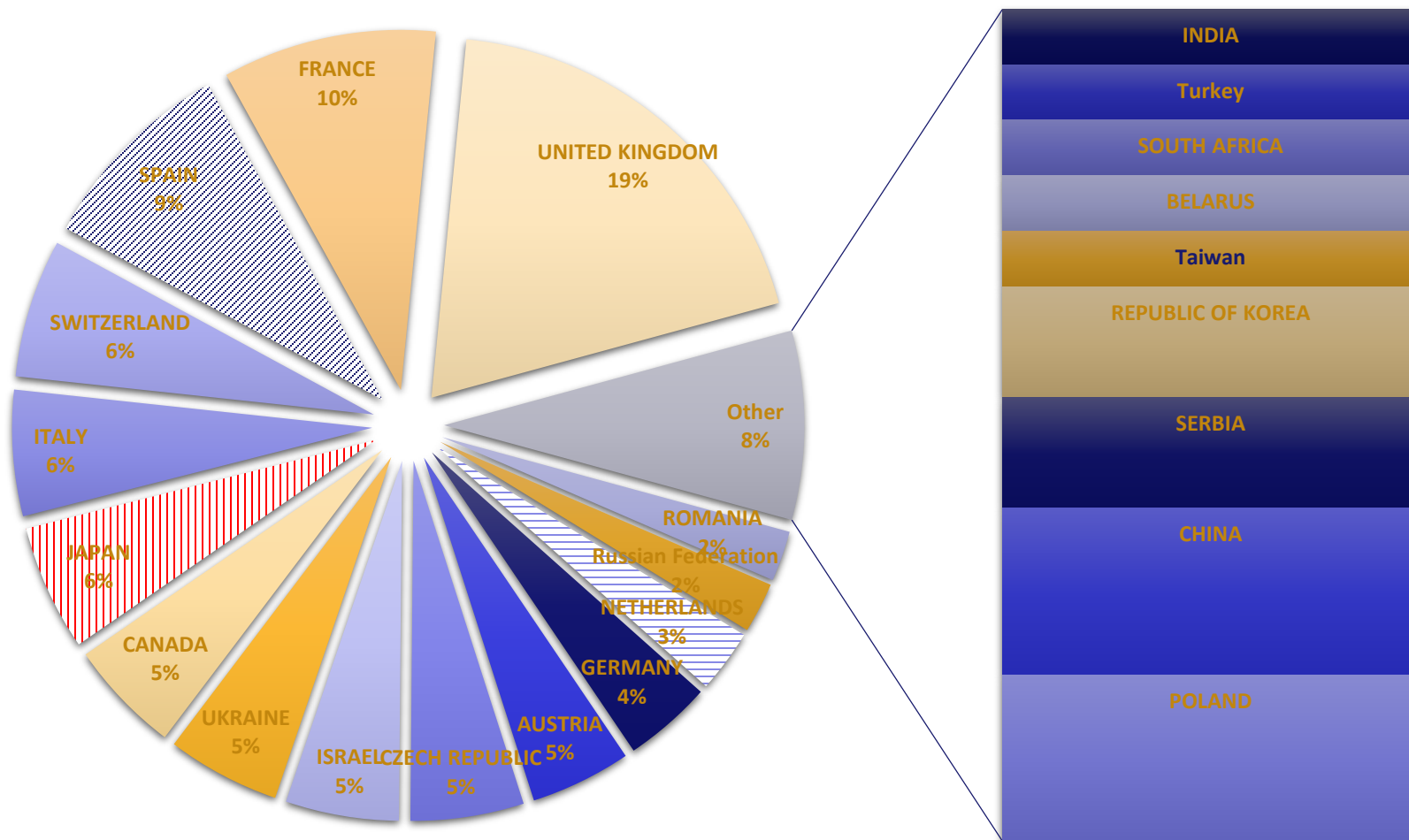


### Some Facts & Figures

- ✓ 2017 was the most productive year for the DESY TA program
- ✓ 24 countries (by user affiliation) are included in our user statistics
- ✓ 49% of supported users used the DESY Test Beam infrastructure for the first time
- ✓ 12% of supported users were female
- ✓ 7% of AUs were granted to user groups from non-EU or associated countries



### Distribution by user affiliation countries:





Communitiy	TA Project Acronym	Project Title	Group Leader	AU in Weeks	Number of users
ATLAS	AIDA-2020/DESY/2015/02	Beam test studies of silicon sensor for ATLAS ITK upgrade	Blue, Andy	2,0	12
CALO	AIDA-2020/DESY/2015/01	Study of the FCAL compact calorimeter prototype	Benhammou, Yan	2,0	9
BELLE II	AIDA-2020/DESY/2016/01	Belle II	Itoh, Ryosuke	4,0	6
ATLAS	AIDA-2020/DESY/2016/02	Beam test studies of silicon sensor for ATLAS ITK upgrade	Blue, Andy	3,0	17
CALO	AIDA-2020/DESY/2016/03	Study of a thin luminosity calorimeter/FCAL	Benhammou, Yan	2,0	10
BELLE II	AIDA-2020/DESY/2016/04	Magnetic Field Measurement in BELLE II	Bacher, Szymon	1,0	2
LHCb	AIDA-2020/DESY/2017/01	LHCb Scintillating Fiber Tracker	Haefeli, Guido	2,0	4
CALO	AIDA-2020/DESY/2016/05	AHCAL + Telescope integration and DAQ tests	AMJAD, Muhammad	1,4	2
CMS	AIDA-2020/DESY/2017/02	CMS Tracker Upgrade: PS-p and strip sensor beam test	König, Axel	2,0	4
BELLE II	AIDA-2020/DESY/2017/03	BELLE II	MOYA MARTIN, David	3,0	8
ALICE	AIDA-2020/DESY/2017/04	ALICE ITS	Martinengo, Paolo	1,0	3
ATLAS	AIDA-2020/DESY/2017/05	ATLAS ITk Strips	Blue, Andrew	3,0	11
CALO	AIDA-2020/DESY/2017/06	CALICE-SiW-ECAL	Boudry, Vincent	2,0	8
LHCb	AIDA-2020/DESY/2017/07	LHCb Upgrade	Kuonen, Axel	1,0	5
CMS	AIDA-2020/DESY/2017/08	CMS Tracker Upgrade: CenterBias sensor beam test	Blöch, Dominic	2,0	3
Generic R&D	AIDA-2020/DESY/2017/09	Integration Test of AIDA-2020 TLU and Telescope(AIDA-TLU/X0)	Cussans, David	1,0	2
CMS	AIDA-2020/DESY/2017/10	Test Beam characterization of small pitch 3D pixel sensors(CMS-Pixel-Phase II)	Gómez, Gervasio	1,0	4
CMS	AIDA-2020/DESY/2017/11	Test Beam characterization of small pitch 3D pixel sensors(CMS-Pixel-Phase II - Continuation)	GOMEZ, Gervasio	1,0	3

**average DESY TA project:**  
5,7 users (4,3 paid)



TA-acronym	Year of publ.	Authors	Title	References	Publication type	Peer reviewed	DOI	Open access	Acknowledgement
AIDA-2020-DESY-2015-02, 2016-02	2017	S. Kuehn et al.	First test beam results of prototype modules for the upgrade of the ATLAS strip tracking detector	ICHEP2016	Conference paper	yes	<a href="https://doi.org/10.22323/1.282.0252">https://doi.org/10.22323/1.282.0252</a>	yes	yes
AIDA-2020-DESY-2015-02, 2016-02, 2017-05, 2018-04	2019	M. Sykora et al.	ITk Strip Module Design and Performance	VERTEX2018	Conference paper	yes	<a href="https://doi.org/10.22323/1.348.0057">https://doi.org/10.22323/1.348.0057</a>	yes	yes
AIDA-2020-DESY-2015-02, 2016-02, 2017-05, 2018-04	2018	A. J. Blue et al.	Test beam evaluation of silicon strip modules for ATLAS phase-II strip tracker upgrade	NIM A	Journal publication	yes	<a href="https://doi.org/10.1016/j.nima.2018.09.041">https://doi.org/10.1016/j.nima.2018.09.041</a>	no	yes
AIDA-2020-DESY-2018-02	2018	G. Calderini et al.	Active-edge FBK-INFN-LPNHE thin n-on-p pixel sensors for the upgrade of the ATLAS Inner Tracker	NIM A	Journal publication	yes	<a href="https://doi.org/10.1016/j.nima.2018.10.035">https://doi.org/10.1016/j.nima.2018.10.035</a>	no	yes
AIDA-2020-DESY-2015-02, 2016-02, 2017-05, 2018-04	2019	J. Keller et al.	The ATLAS ITk strip detector system for the High Luminosity LHC upgrade	15th Vienna Conference on Instrumentation 2019	Conference paper	yes	<a href="https://doi.org/10.1016/j.nima.2019.04.007">https://doi.org/10.1016/j.nima.2019.04.007</a>	yes	yes
AIDA-2020/DESY/2018/05; AIDA-2020/DESY/2018/07; AIDA-2020/DESY/2019/02; AIDA-2020/DESY/2019/03	2020	S.V. Trofymenko et al.	Formation region effects in x-ray transition radiation from 1-6 GeV electrons in multilayer targets	Nucl. Instrum. Meth. In Phys. Res. Section B (accepted)	Journal publication	yes		no	yes

Usual problem with tracking publications and acknowledgements ...  
 Significant delay between TA and publication (12 month),  
 so expect still a few to come





WP10 TA program supported nearly 100% of the pledged number of users and user projects, and provided a larger number of AU than foreseen.

In financial terms WP10 TA is closing without any difference between costs occurred and targeted budget - all available EC budget in WP10 has been used:

### **Direct costs for user's travel and subsistence ->**

**WP10.2 TA DESY : 105,000 (Target) vs. 106,600 (occurred)**

**WP10.1 TA CERN: 245,000 (Target) vs. 255,000 (occurred)**

*All access units were delivered in 2015-2016.*

*In 2017-2018 TA provided administrative support to users.*

Nearly each project supported in frame of the TA program has had publications and the final number of the TA-publications (especially with proper acknowledgment) will be specified more exact for the final report.



AIDA TA <i>1.02.2011 – 31.12.2014 *</i>	AIDA-2020 TA <i>1.05.2015 – 30.04.2020*</i>
CERN (WP6 with 150+ kEUR EC budget) <ul style="list-style-type: none"><li>• 41 projects</li><li>• 183 users</li></ul>	CERN (WP10.1 with 245 kEUR EC budget) <ul style="list-style-type: none"><li>• 42 projects</li><li>• 198 users</li></ul>
DESY (WP5 with 106.333EUR) <ul style="list-style-type: none"><li>• 40 projects</li><li>• 194/133** users</li></ul>	DESY (WP10.2 with 105 kEUR EC budget ) <ul style="list-style-type: none"><li>• 31 projects</li><li>• 177/134** users</li></ul>

\* according to the reports presented during the Final Meeting 2014 (<https://indico.cern.ch/event/342026/timetable/?view=standard>)

\*\* received financial support



- ✓ TA programm has been extensively used in the past 10 years (with EUDET- even 15) and played an important role for the LHC, ILC detector R&D as well as for broader communities
- ✓ The demand for user support always largely exceeded the available EC funding
- ✓ The scope and dimension of the offered users support has been constantly enhanced and improved

*Summarizing, it was the end of a very long success story...*

## **Bye-Bye Transnational Access Program!**