



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 730871.



Communication and Outreach

21 April 2020, WP2 Parallel Session

Daniela Antonio (CERN)

Summary of activities in Year 3

Internal communication

- Set up **ARIES Bulletin** (June 2019, March 2020)
- ARIES 3rd Annual Meeting **Poster**

Dissemination of ARIES results

- Dissemination of the [Editorial Series on Accelerator Science and Technology](#) (monographs)

Communication and Outreach

- 8 ARIES articles published in **Accelerating News**
- ARIES PIXE-RFQ and PoC project @ **CERN Open Days 2019**
- ARIES @ CERN institutional reports
- ARIES **social media** representation in partner channels
- 2nd ARIES Accelerator Communication and Outreach **Workshop**





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1. Internal Communication

ARIES Bulletin

June 2019: Issue #3

[View this email in your browser](#)

Programme: H2020 (Integrating Activity)

Grant Agreement No.: 730871

Project Coordinator: Maurizio Vretenar (CERN)



ARIES Bulletin | Issue #3

3rd ARIES Annual Meeting in Lisbon, Portugal (20-24 April 2020)



The 3rd ARIES Annual Meeting will be organised by the Instituto Superior Técnico in Lisbon (Portugal) in the Auditorium of the [IST Congress Center](#) from 20 to 24 April 2020.

March 2020: Issue #4

[View this email in your browser](#)

Programme: H2020 (Integrating Activity)

Grant Agreement No.: 730871

Project Coordinator: Maurizio Vretenar (CERN)



ARIES Bulletin | Issue #4

3rd ARIES Annual Meeting in Lisbon, Portugal (20-24 April 2020)



The 3rd ARIES Annual Meeting will be organised by the Instituto Superior Técnico de Lisbon (Portugal) in the Auditorium of the IST Congress Center from 20 to 24 April 2020.

The first 2 days (20-21 April) will be devoted to parallel sessions. A special Transnational Access meeting is planned on Tuesday 20 April afternoon. The plenary sessions, where all the ARIES activities are presented, will



December 2019: 3rd Annual Meeting Poster

ARIES 3RD ANNUAL MEETING

20-24 APRIL 2020
Instituto Superior Técnico
Lisbon, Portugal

The ARIES project invites its wide accelerator R&D community to convene in Lisbon, Portugal, in April 2020, to share recent results and to discuss future activities.

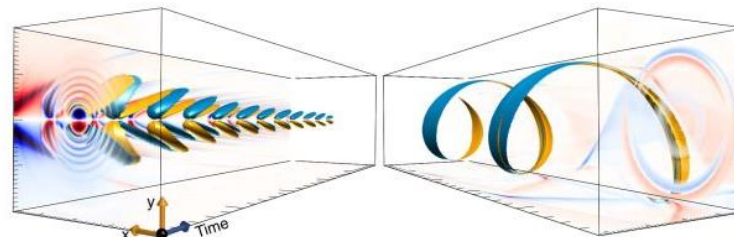
PROGRAMME

Monday 20 April – Tuesday 21 April
Work Package Parallel Meetings

Wednesday 22 April – Friday 24 April
Plenary Sessions

ORGANISING COMMITTEE:

Valérie Brunner (CERN)
Ana Luisa Matias (IST)
Cláudia Romão (IST)
Jorge Vieira (IST)
Maurizio Vretenar (CERN)



ARIES has received funding from the European Union's Horizon 2020 Research and Innovation programme (GA No 730871)

Produced by Daniela Antonio





2. Dissemination of ARIES results

June 2019: Monographs online



Accelerator Research and Innovation for
European Science and Society

Home About Work packages Transnational Access Proof of Concept Results Accelerator Innovation EuCARD-2 Contact

RESULTS

Deliverables

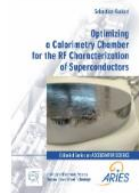
Milestones

Publications

Monographs

Editorial Series on Accelerator Science and Technology

The *Editorial Series on Accelerator Science and Technology* was started in 2008 as a joint initiative of the EU FP6 project CARE and its successor, EU FP7 project EuCARD. Copies from the Series up to Vol.18 volumes can be ordered [here](#), free of charge. From Vol. 18 onwards, copies can be ordered [here](#). If you need help with ordering, please [contact us](#).



Vol. 46: Optimizing a Calorimetry Chamber for the RF Characterization of Superconductors

Sebastian Keckert, MSc Thesis, 75 pages

In this thesis an optimized calorimetry chamber is developed, providing flat and easy mountable samples. Furthermore, it enables exchangeability of samples between the resonators at HZB and CERN.



Vol. 47: Radio Frequency Characterization of Superconductors for Particle Accelerators

Raphael Kleindienst, PhD Thesis, 157 pages

Within this work, the design, production and commissioning of an optimized Quadrupole Resonator is

[Editorial Series on Accelerator Science and Technology](#) (monographs)





2. Communication and Outreach

Highlights



8 articles published in Year 3



1'425 Accelerating News subscribers



27'104 unique ARIES website visitors



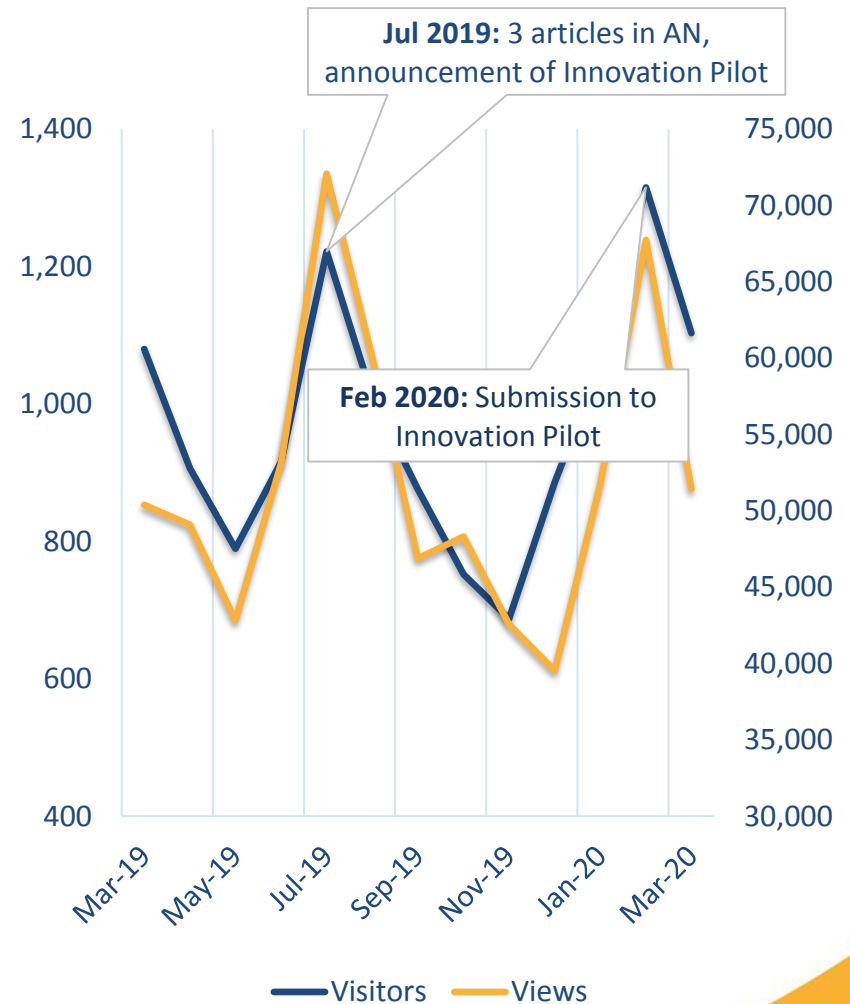
1'515'604 total ARIES website views



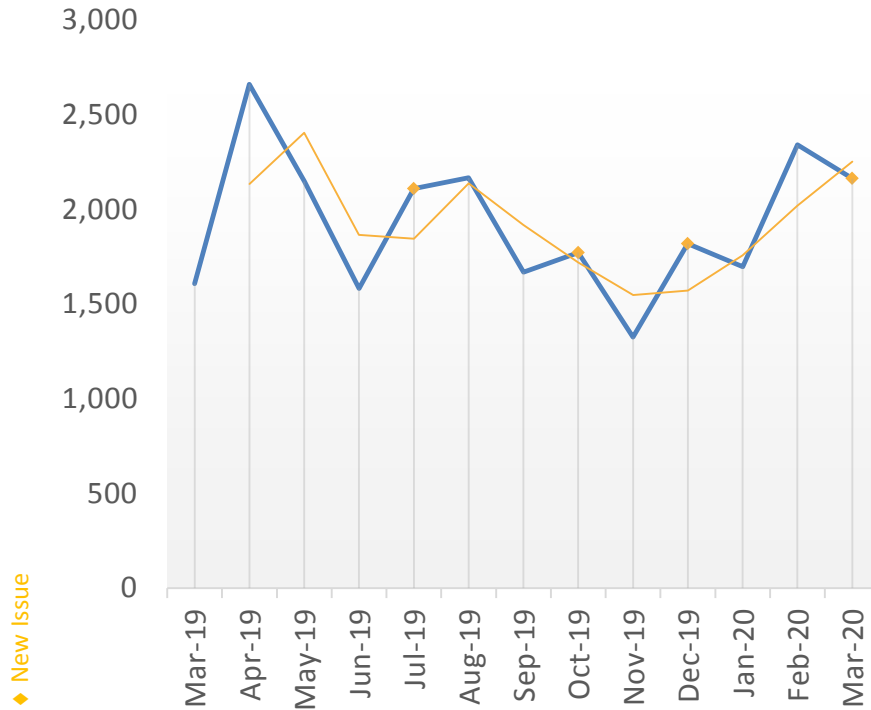
2nd ARIES ACO Workshop

Website: Statistics Year 3

- 1'515'604 total ARIES website views
- Two major peaks in Year 3
 - Expressions of Interest due in August 2019
 - Submission deadline for March 2020
 - Most visited page of December 2019 is [evaluation outcome](#)
- Top performing pages include ARIES Proof-of-Concept' pages and general information about the Innovation Pilot. Transnational Access and Results make the TOP10.
- Note the scale on different axis. We retain our visitors very well!



Newsletter: Accelerating News in Year 3

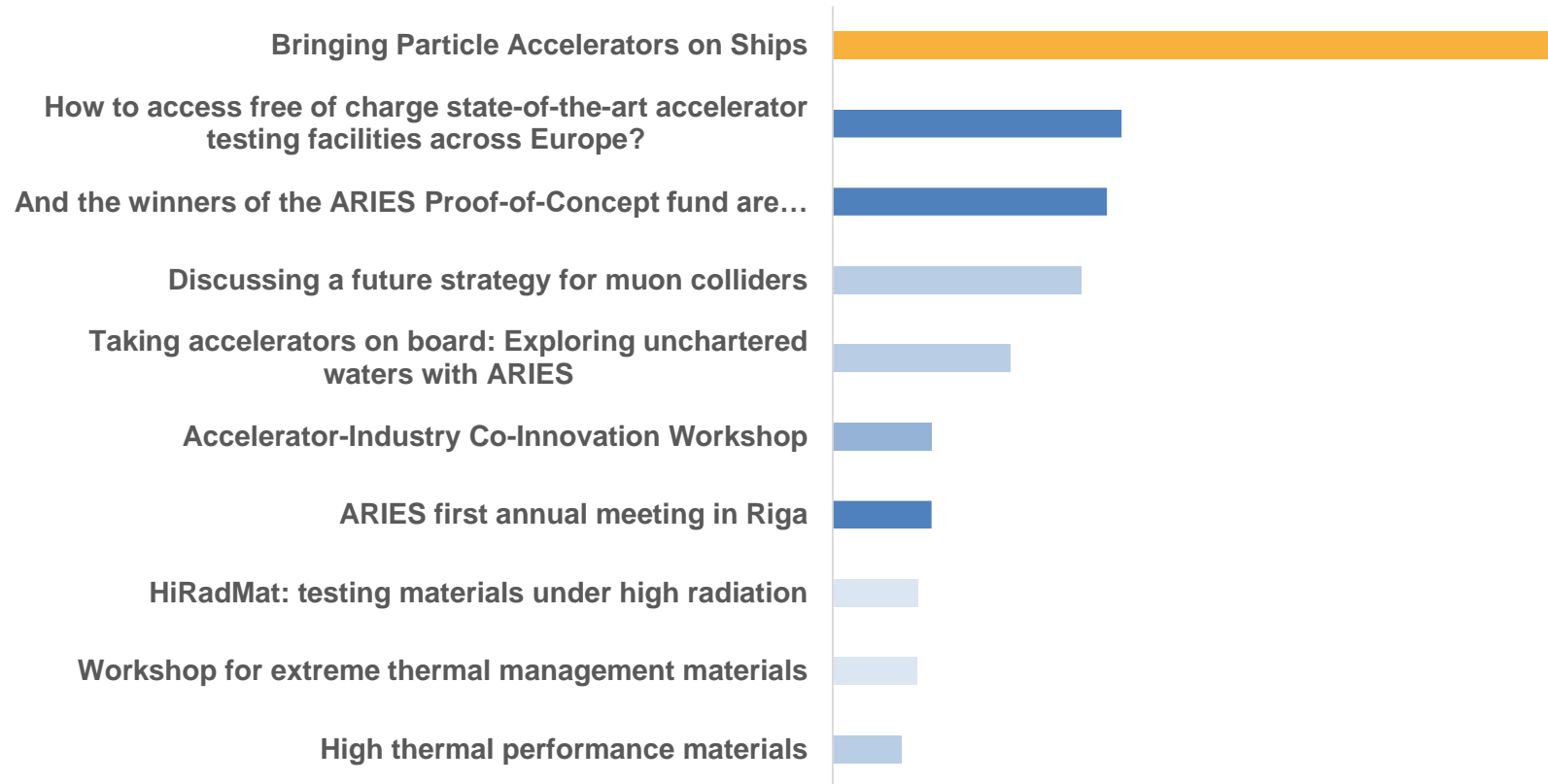


Accelerating News Most Read Articles, ARIES Highlighted

- 1 **Bringing particle accelerators on ships**
- 2 ISOLDE's new solenoid spectrometer
- 3 **Discussing a future strategy for muon colliders**
- 4 **And the winners of the ARIES Proof-of-Concept fund are...**
- 5 From laser alignment to laser communication
- 6 Synchrotrons on the frontline
- 7 **How to access free of charge state-of-the-art accelerator testing facilities across Europe?**
- 8 Power converters specially designed for CERN can now be used by the wider accelerator community
- 9 High-Precision Digitizer for High Luminosity LHC
- 10 Unfolding the full potential of a future circular lepton collider

Every issue of Accelerating News is followed by a peak in the visits to the website. Baseline visits and visits after publication have been increasing in recent months.

Newsletter: ARIES @ Accelerating News



TOP10 ARIES articles published through Accelerating News.

ARIES @ CERN Open Days



Accelerators for sustainable development

Design and advancement of accelerators go beyond fundamental physics and genuinely contribute to the goals of sustainable development for the 21st century. Today, maritime traffic is the single largest contributor to air pollution – a single cruise ship emits as much pollution as one million cars. Several technologies are being explored to reduce the pollutants in the exhausts of maritime diesel engines. Particle accelerators offer a solution that involves breaking down pollutant molecules with an electron accelerator before safely extracting them using water. This innovative approach was tested in the Latvian tugboat *Orkāns* (meaning Storm) at the Riga Shipyard on the Baltic Sea. The data collected by this experiment will be used to finalize the proposal for the next step in the progress of this technology.

Captain of the Latvian tugboat that is the first test-bed for a new accelerator-based technology to clean exhausts from ships.

This exhibition is part of a project that has received funding from the EU's Horizon 2020 Research & Innovation programme under grant agreements No 64493 (EuroCool) and No 74877 (RADPond). This activity is part of the ARIES project that has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No. 738871.

PIXE-RFQ



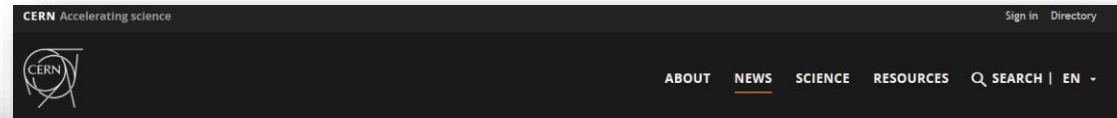
ARIES @ CERN Communication Channels

#ARIESProjectEU

CERN
151.200 seguidores
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Join the **#ARIESProjectEU** workshop on reliability, availability, maintainability and inspectability (RAMI) of particle accelerators! The workshop provides a platform for experts from **#industry**, particle accelerator laboratories and academi...visualizar mais

Visualizar tradução



News · News · Topic: Knowledge sharing

Voir en français

Cleaner cruises thanks to particle accelerators

Latvian tugboat provides first test-bed for new technology to clean exhausts from ships

Related Articles



CERN @CERN

Cleaner cruises thanks to particle accelerators.

When both the world of shipping and the world of scientific particle accelerators merge, this is what happens... Accelerator scientists have proposed a

CERN

7 de agosto de 2019

Cleaner cruises thanks to particle accelerators.

When both the world of shipping and the world of scientific particle accelerators merge, this is what happens...

Maritime traffic is the single largest contributor to air pollution but accelerator scientists have proposed a solution that involves breaking down particulate matter as well as molecules of sulphur and nitrogen oxides with an electron-beam accelerator, before safely extracting them using water.

Find out more: <https://home.cern/.../cleaner-cruises-thanks-particle-acceler...>



HOME CERN

Cleaner cruises thanks to particle accelerators

Maritime traffic is the single largest contributor to air pollution – a single...

445 interactions!



ARIES @ Institutional Communication

CERNKT Highlights 2019



IGLUNA: BUILDING A DEMONSTRATOR MOON HABITAT IN ZERMATT

IGLUNA is an educational project aimed at investigating the realisation of a human habitat on the moon. 18 student teams from all over Europe, coordinated by the Swiss Space Center, built several technology demonstrators for this habitat and tested them in June 2019 in the extreme environment of the Matterhorn

APPLYING ACCELERATORS TO ENVIRONMENTAL CHALLENGES WITH ARIES

Horizon 2020 project ARIES aims to improve the performance, availability and sustainability of particle accelerators, transferring its benefits and applications to science and society. In 2018, ARIES launched the Proof-of-Concept innovation fund for industry-oriented activities, awarding funding to four promising projects. One of these projects, coordinated by the RIGA Technical University, proposes to reduce the content of sulphur and nitrogen oxides and of particulate matter in the exhausts of maritime diesel engines using an electron beam accelerator. In 2019, the first measurements confirmed the expected reduction in pollutants. A dedicated project, with the goal of installing and testing a specially designed accelerator on a real cargo ship, requested funding to start in 2020. On the R&D aspect, ARIES also succeeded in producing a high-temperature superconducting (HTS) tape that reached a record current density on a series of samples, thus opening the possibility of scaling-up for industrial production for the future collider machines.



CERN AND ESA COOPERATING ON RADIATION ENVIRONMENTS, TECHNOLOGIES AND FACILITIES

The collaboration agreement between CERN and ESA, signed in July 2019, addresses the challenge of operating in harsh radiation environments found in both particle-physics facilities and outer space. This first protocol of the CERN-ESA Cooperation Framework concerns radiation environments, technologies and facilities with potential applications in both space systems and particle physics experiments or accelerators. Two projects related to radiation testing in CERN facilities for ESA space missions have already achieved important results. In October 2019, four more projects started, with the aim of addressing assessment strategies for commercial off-the-shelf (COTS), in-orbit technology demonstrators, development of radiation detectors, monitors and dosimeters and simulation tools for radiation effects. These activities will continue and, as new challenges emerge, they will be dealt with under the coordination of the CERN-ESA Committee on Radiation Issues.



glacier (Switzerland) at 3800 metres. CERN contributed to IGLUNA by hosting the Critical Design Review in IdeaSquare in January 2019 and by providing two high precision radiation-monitoring systems, developed to track on-site radiation levels, such as during the operation of CERN's accelerators. CROME and HEH-Monitors were deployed outside and inside the glacier to measure open-air high altitude cosmic rays and thick ice shielding capability.

8 | CERN

CERN Annual Report (unpublished)

STRENGTHENING FRUITFUL COLLABORATION IN EUROPE

One way in which CERN cultivates close collaboration with Member States is through its participation in projects co-funded by the European Commission (EC) under programmes such as Horizon 2020 for scientific and technological cooperation. These activities strengthen CERN's links with European universities, research institutes, laboratories, industrial partners and decision-makers. In 2019, CERN provided input to the Horizon Europe surveys launched by the European Commission and organised the annual CERN-EC meeting, which focused on topics such as Horizon Europe, ATTRACT and the European Open Science Cloud. In addition, CERN began a one-year chairship of the European Intergovernmental Research Organisation forum, EIROForum, which brings together eight of Europe's largest research organisations (CERN, EMBL, ESA, ESO, ESRF, European XFEL, EUROfusion and ILL).

CERN submitted 46 projects to the Horizon 2020 funding programme in 2019, eight of which have already been approved, including two Marie Curie Actions. In addition, five of the six ongoing EC co-funded projects in which CERN is involved include a strong knowledge transfer component (ARIES, AIDA-2020, QUIACO, AMICI and ATTRACT), corresponding to 33.9 million euros in EC contributions.



DEVELOPING BREAKTHROUGH DETECTION AND IMAGING TECHNOLOGIES

ATTRACT brings together Europe's fundamental research institutions and industrial communities in order to pursue the next generation of detection and imaging technologies. In 2019, 170 breakthrough ideas received funding from research data acquisition to front and back-end electronics, sensors and software integration. The aim is to develop technologies that could help to improve the clinical diagnosis of cancer, treat heart and neurological conditions, mitigate climate change or boost technological revolutions such as the Internet of Things or Artificial Intelligence. The projects have one year to show that their disruptive ideas are worth further investment and will present their results at a conference in Brussels in September 2020. During the one-year development phase, business and innovation experts will help the project teams to explore how their technologies can be transformed into innovations with strong market potential.





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ARIES Accelerator Communication and Outreach (ACO) Workshop

SAVE THE DATE!

27-28 FEBRUARY 2020

2nd Accelerator Communication and Outreach Workshop



Image: CERN

- **Location:** CERN
- **Date:** 27-28 February 2020
- **Objectives:**
 - Report on ARIES communication activities and contribution to deliverable 2.2
 - Report on strategy: gaps, goals and actions
 - Include 2 contributions to communication recommendations and strategy

2nd Accelerator Communication and Outreach (ACO) Workshop

- The event's agenda and minutes are publicly available on [Indico](#).
- Keynote speaker: Pedro Russo (Leiden University, Netherlands).
- **Highlights**
 - Key topics for future accelerator communication
 - Brainstorming session for potential activities
 - Group discussion on community activities
- **Next Steps**
 - International Year of Light social media campaign
 - Creation of a repository for educational material
 - **Deliverable on both workshops and other activities :: Due May 2020**



5. Plan for Year 3 – Next Steps

Communication and Outreach: Activities for 2020

- **Accelerating News**
 - Continue to source and publish ARIES articles in Accelerating News
 - Create editorial plan for Accelerating News, select articles to give visibility
 - Create a repository of resources for the ACO community
- **Social Media**
 - Make use of participants' channels to communicate project news
 - Create social media kit to support participants in this endeavor





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Thank you!

Highlights



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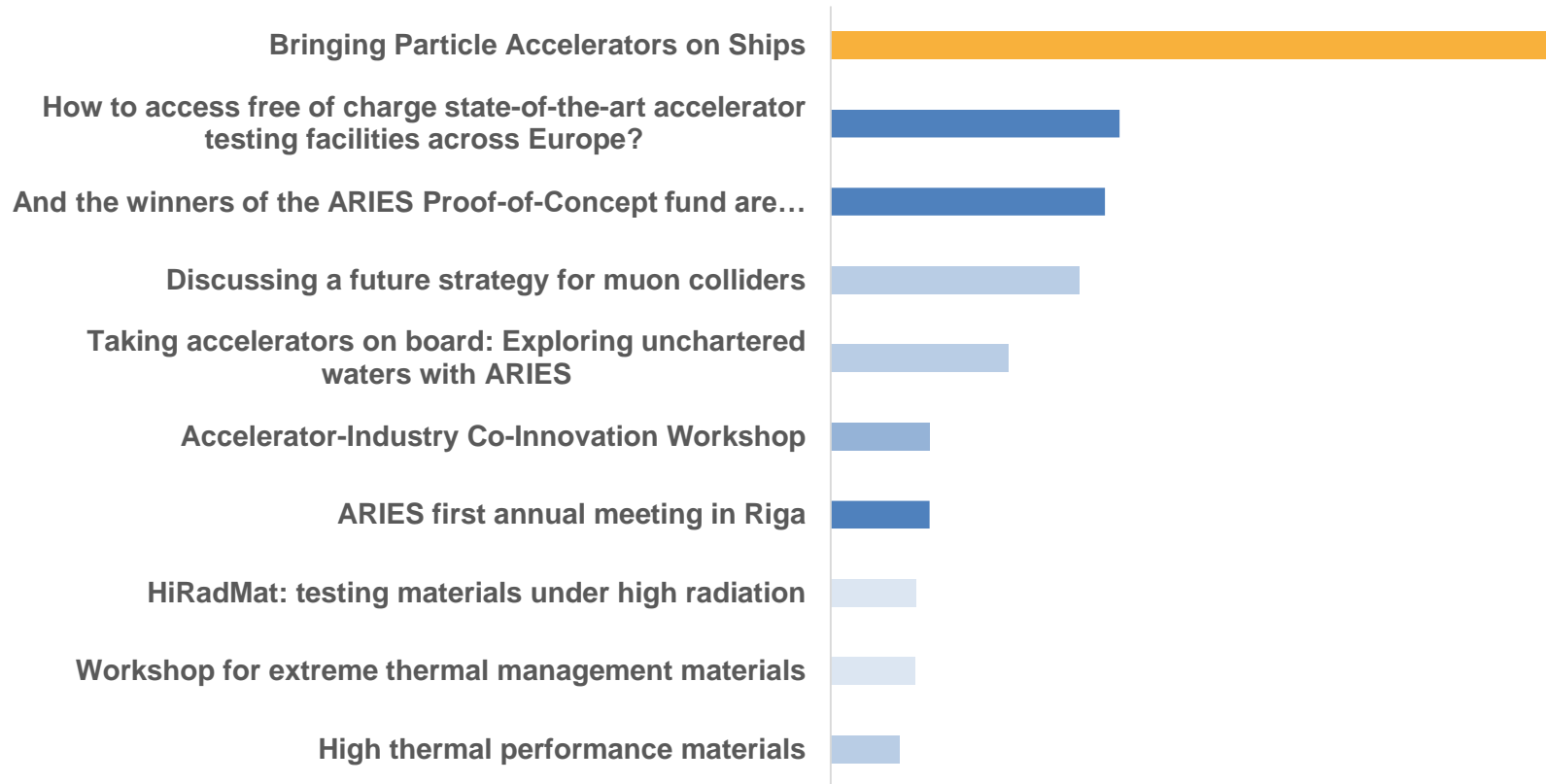
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2nd ARIES ACO Workshop



Newsletter: ARIES @ Accelerating News



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ARIES @ CERN Communication Channels



^ CERN Open Days 2019

CERN Social Media >

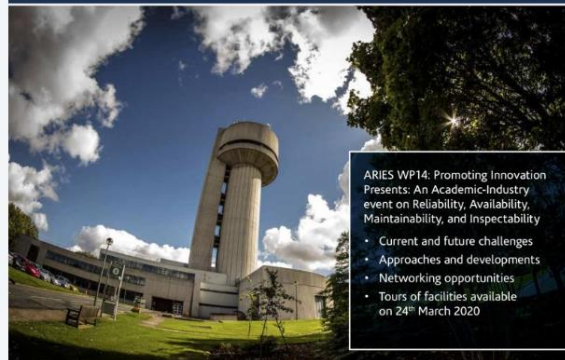
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R.A.M.I.

Reliability, Availability, Maintainability, Inspectability



ARIES WP14: Promoting Innovation Presents: An Academic-Industry event on Reliability, Availability, Maintainability, and Inspectability

- Current and future challenges
- Approaches and developments
- Networking opportunities
- Tours of facilities available on 24th March 2020



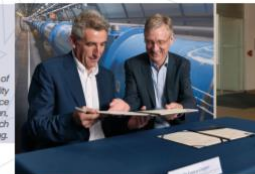
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Franco Ongaro, Director of Technology, Engineering and Quality Head of ESTEC, European Space Agency (left) with Eckhard Ehsen, CERN Director for Research and Computing.



CERN AND ESA COOPERATING ON RADIATION ENVIRONMENTS, TECHNOLOGIES AND FACILITIES

To improve sustainability by its benefits society. In of-Concept led activities, g projects. d by the es to reduce in oxides hausts of electron beam measurements in pollutants. of installing accelerator nding to ARIES also temperature reached a of samples, ing-up for collider

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^ CERN Institutional Reports



Scope & Activities for WP2 – a refresher

- **Task 2.2. Implement internal and external project communications and outreach activities**
 - News from the project will be circulated to members [via] Accelerating News.
 - The task will also monitor, via the network, **communication/outreach activities** across the European accelerator community. Best practice will be shared and disseminated via the network meetings and workshops, and actions for improving communications/outreach activities will be identified and promoted.
- **Task 2.3. Monitor provision for training in Europe and within a global context**
 - Promote sharing of resources and good practice in accelerator training throughout Europe. Assess the needs for, and promote, additional training activities.
- **Task 2.4 Produce an introductory e-learning course on accelerator science**

Milestones & Deliverables for WP2

Tasks

- 2.2 Internal and external project communications and outreach activities
- 2.3 Monitor provision for training in Europe and within a global context
- 2.4 Produce an introductory e-learning course on accelerator science

Deliverables

D2.1	E-learning course	2.4	M36	April 2020
D2.2	Final report on coordination of communication/outreach activities	2.2	M37	May 2020
D2.3	Final report on coordination of training activities	2.3	M39	July 2020

Milestones

We have a draft!

MS10	Project website launched	2.2	M6	Oct 2017
MS11	Meeting to agree MOOC platform and academic structure and content of e-learning course	2.4	M12	May 2018
MS12	Workshop on training activities in Europe in a global context	2.3	M24	April 2020