



# 5th and last ARIES Annual Meeting

## Welcome and Coordinator Report

### 2 May 2022

Maurizio Vretenar, CERN, Project Coordinator

# Welcome to the last ARIES Meeting

---

Welcome to CERN and thank you to be with us for this:

- Last meeting of the ARIES Project;
- First meeting in person since the Budapest 2019 meeting!

Not much luck for the project events:

- a. the “gilet jaunes” events in Paris forced to cancel our Steering Committee meeting of December 2019;
- b. The Covid-19 pandemics has blocked all meetings in person between March 2020 and now (2 years) and has slowed down all activities, in particular the Transnational Access.

***But we still made it!***

Thanks to the resilience and perseverance of all partners and to the extension by one year of the project, we could achieve all our objectives in Networks and JRA's, and hopefully most of our objectives for TNAs – to be checked at this meeting.

# A bit of history

---

- We are at the final steps of a process that started in 2014 (8 years ago!) with an internal call for proposals to go into a new project under the name of «**Eucard3**» (51 proposals submitted).
- The situation with the EC at the time was not very positive for us – they were trying to stop support to “super-advanced” communities like ours. In 2015 we had to fight to pass our messages to the Research Infrastructure Unit of DG/RTD and we knew that our proposal had to be really “spotless” to have a chance to be accepted.
- The name **ARIES** (Accelerator Research and Innovation for European Science and Society) was selected only at early 2016, to underline that we were widening our objectives to include a strong interaction with industry and a wealth of societal applications.

# A slide from January 2016...

---

## Choice of the name: 2<sup>nd</sup> round

- **ACCESS**: Accelerator (research and technology) for European Science and Society
- **ARES**: Accelerator Research for European Science and Society
- **ARTE**: Accelerator Research and Technology for Europe
- **ECOPART**: European Coordinated Particle Accelerator Research and Technology
- **ARIES**: Accelerator Research and Innovation for European Science and Society



# ARIES Highlights – February 2016

---

- Expanded **Transnational Access**: cluster of 14 Test Facilities in European Laboratories and Universities used for Accelerator R&D where access is provided under the new project (only 3 in EC2).
- Portfolio of 22 **key accelerator technologies** to be developed within the project (after consultation of the community and in agreement with ESGARD). 3 to be developed in industry, 3 in collaboration with industry.
- Strong **innovation JRA** with industries and one industrial association, continued and more focused activity on applications and energy efficiency.
- Improved links with **synchrotron light sources and ESS**.
- New task on “**sustainability** of accelerator research” and new Network on “**Education, training and outreach**”
- Enlarged consortium: **42 beneficiaries from 18 European countries** (+CERN and ESS). In EC2, 40 beneficiaries from 12 countries.

# ARIES towards submission

---

- Name selection in January 2016
- Logo selection early 2016
- Proposal submitted **4 April 2016** (more than 6 years ago!).  
New aspects like more industry, the innovation fund, enlargement towards south and east of Europe.
- **26 August 2016** received the Evaluation report: **14.5/15**,  
the highest ever for an accelerator integration project!  
ARIES was 3<sup>rd</sup> out of 28 projects submitted (the first 4 were at 14.5)
- **1 May 2017**: official start of the project.

ARIES logo was selected only in April 2017 !

Let's choose!



1



2



3



# The ARIES kick-off

- 4 – 5 May 2017 at CERN, 134 participants





# The first ARIES Meeting in Riga (May 2018)



# The four ARIES pillars



excellence

Develop **key accelerator technologies** to make more performant, affordable, reliable and sustainable the present and future accelerators

Improve the European **accelerator infrastructure**



access

New scheme of Transnational Access opening **14 accelerator test facilities**

**Enlarged consortium** with **20 new partners** in accelerator projects and **6 new countries** in the East and South of Europe



innovation

Enhanced **industrial participation** (7 industries and 1 association)

3 new **co-innovation programmes** with industry

Development of **societal applications** (medicine, industry, environment)

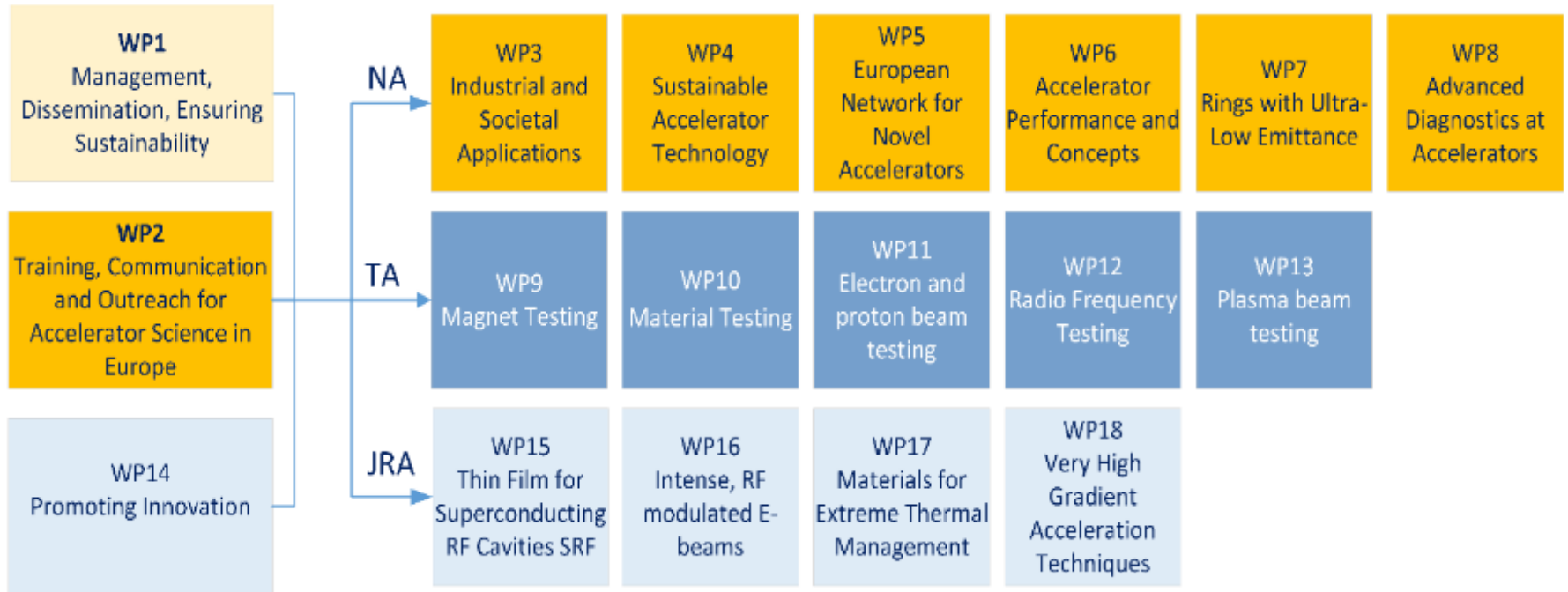


sustainability

Joint programme with TIARA to develop a **model for sustainable accelerator science** in Europe

**Training programme** for the new generations of accelerator scientists and engineers

# ARIES Structure



18 Workpackages:

8 **Networks** 5 **Transnational Access**, 5 **Joint Research Activities**.

# ARIES success stories (very personal view)

---

- We have contributed to promote **plasma and laser** based acceleration, creating the environment for the success of EuPRAXIA.
- We have contributed to relaunching after many years the study in Europe of the **Muon Collider**.
- **High Temperature Superconductivity** magnet studies have continued in Europe only thanks to ARIES.
- The **Proof-of-Concept** Innovation Fund has started an efficient scheme for internal selection and support of innovative projects.
- New applications to society have been identified and supported, in particular for the **environment** (ship exhaust, sludge, etc.).
- The WP6 Workshops have investigated many **new perspectives** for accelerators (muon collider, gravitational waves, etc.).
- An **electron gun** for electron lenses has been assembled and tested.
- Most of our **innovative TNA facilities** (including APOLLON!) have provided access to a variety of users, producing science and **enlarging our user community**.

# From ARIES to the ESPP Update

---

The conclusions of the recent update of the European Strategy for Particle Physics fully incorporate the strategic objectives of ARIES, and build many of their accelerator R&D recommendations on the results of ARIES:

- **Strengthen the European ecosystem of research centres:** *one of the main goals of ARIES.*
- **Launch a vigorous R&D on innovative accelerator technologies:** *was the main goal of ARIES, and continues now in I.FAST (HTS magnets, muon colliders, plasma wakefield)*
- **Develop synergies with neighbouring fields:** *ARIES (and before EuCARD2) have launched a strong synergetic effort with synchrotron light sources, neutron sources, and industrial/societal applications.*
- **Mitigate environmental impact of particle physics:** *one of the key themes of ARIES.*
- **Knowledge and technology transfer, training of next generation, education and communication:** *key topics in ARIES.*

# The ARIES «soft objectives»

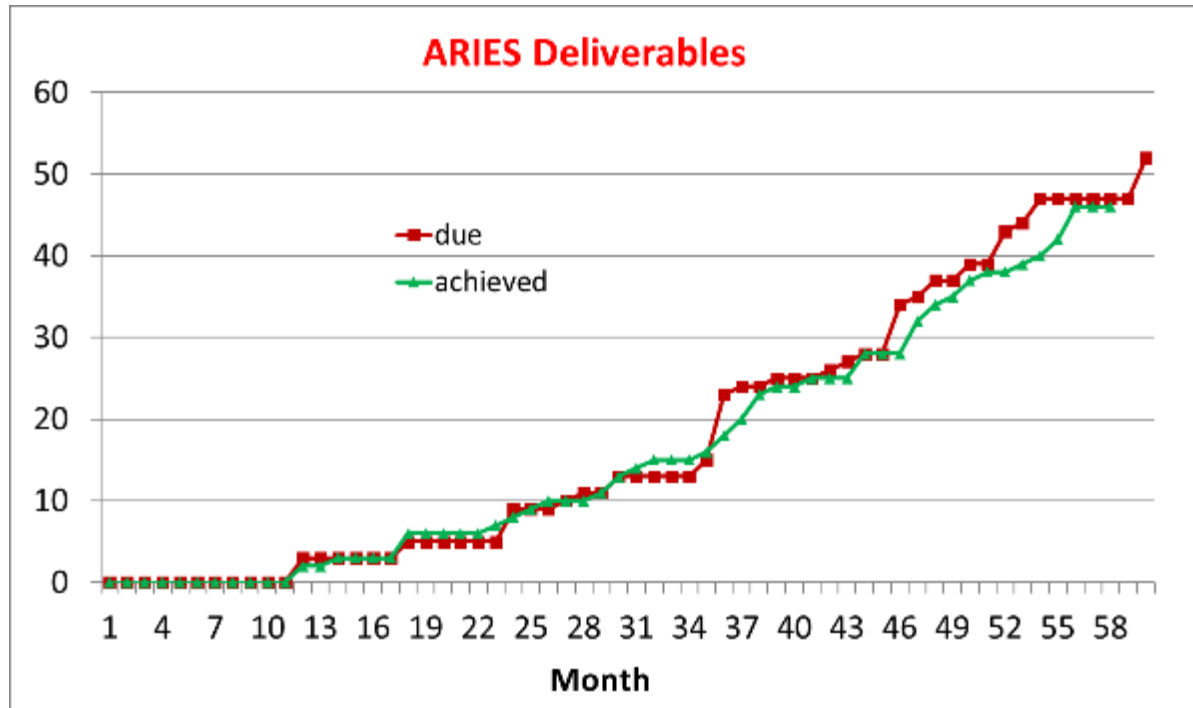
- One of the main goals of ARIES was not only to produce science and innovation, but to create a community including both industry and researchers around that would sustain the science and innovation.



ARIES-industry co-innovation workshop, Brussels 2018



# The bookkeeping – ARIES Deliverables

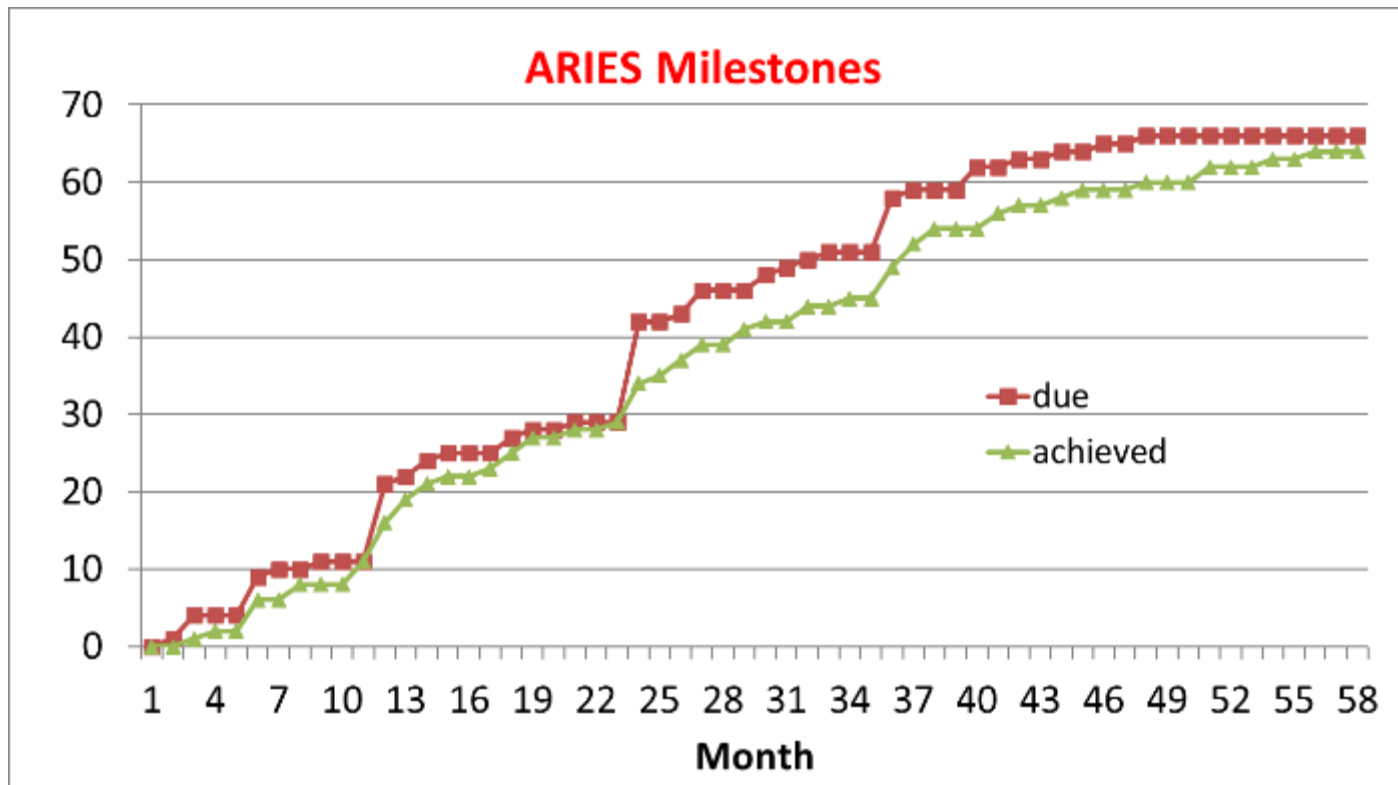


Almost done!

Missing only the 5 deliverable reports from the TNA's (to be compiled by Sabrina based on your inputs) and the final version of D16.3 (Test of electron gun completed) by IAP (Kathrin)

Many thanks to all those who have provided (after only a few reminders...) the 12 Deliverables to be delivered between April and December 2021 !

# The bookkeeping – ARIES Milestones



- For the Milestones, we only miss MS62 (Dissemination of R&D results) from WP17



# Next steps – 3rd Periodic Report

---

- By the deadline of 30 June, we have to submit the **Periodic Report 3** covering the last 2 years of the project (May 2020 – April 2022). This report should indicate that **all ARIES goals have been reached** (including all deliverables and milestones!) – a “Final Report” is no longer needed.
- The Work Packages that ended in 2021 (all Networks and JRA’s) have **already provided** the text that will be used for preparation of the Report.
- The **TNA Coordinators** have been asked to provide their text by 30 April (2 days ago!). Good success, only one contribution is missing, **13.3** (LULAL).

# Next steps – Governing Board Meeting

---

- The **Governing Board meeting** of 31 May (15:00 Geneva time) is expected to define a rule for «redistribution of unused funding».
- An analysis of the **ARIES finances at end 2021** (all Networks and JRAs closed, only 4 months of TNA to go) shows that beneficiaries have declared to have spent 107% of the EC contribution (10 M€), but with large deviations. Minimum is 37% of EC contribution spent, maximum is 281%.
- We can state that all objectives have been reached in NA's and JRA's – and claim the entire amount, while for TNAs we have to check whether all access units have been delivered accordingly to the Work Plan amended in 2020.
- In NA's and JRA's we can certainly propose a **redistribution of budget** from those who cannot claim their entire contribution to those who can claim more, at **pro-rata of their declared full costs** (including matching funds!) as was done in EuCARD2.
- For **TNA's**, if all Access Units were not delivered it might be that not all EC contribution will be granted. Certainly, all those who have provided the Access Units foreseen in the amended work plan will receive their entire contribution. Only questionable point is if we will be allowed to move budget from those who did not provide their Units to those who provided more.

# Next steps – the Final Review

---

- The new Project Officer wants to organise a «Final Review» of the Project.
- This will take place online in the 2<sup>nd</sup> half of July (date to be defined), for a duration of about 6 hours.
- The idea is to have a 15' presentation by each WP coordinator, on the main outcomes of the WP (the technical information will be already available in the Report).
- We hope that enough WP Coordinators will be available in this vacation time and we will circulate soon a Doodle with possible dates.
- This Review is an essential step to unblock the final payment for the project!

# Next next step... the farewell ARIES Dinner !

---

- Bus leaving tonight at 19:00 from the CERN Hostel B.39 to the Jiva Hill Resort in Crozet (France)



# The legacy of ARIES: I.FAST

---



Innovation Pilots,  
a new EC instrument for «super-advanced»  
Research Infrastructure communities

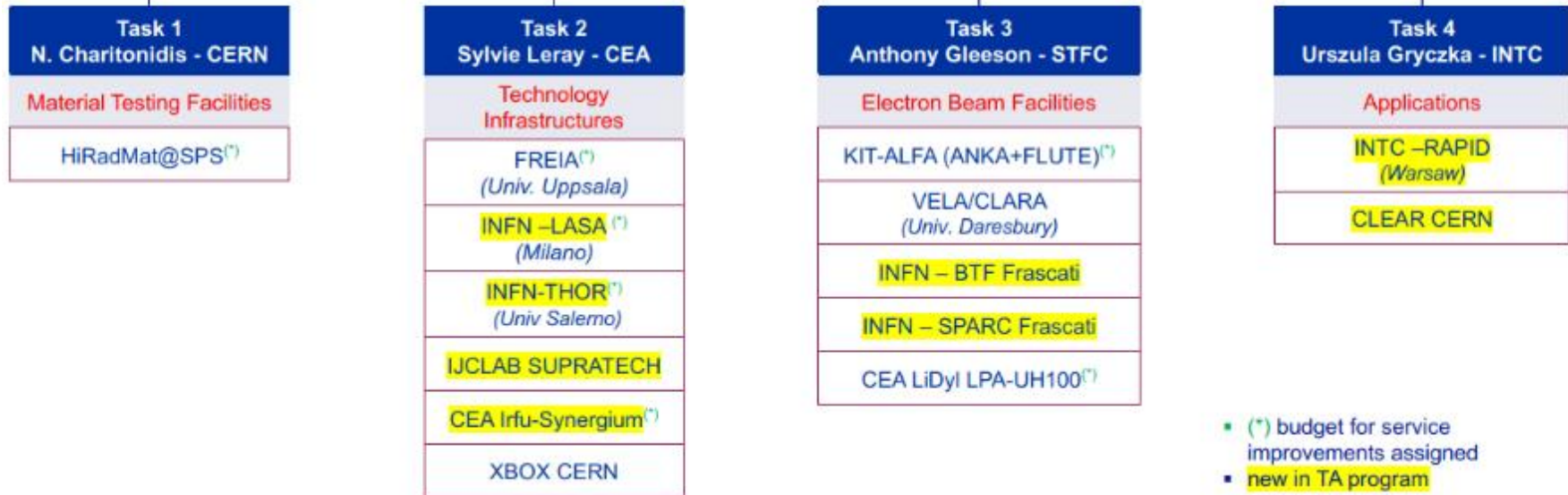
- In November 2020, the EC has approved the **Innovation Pilot Project I.FAST** (Innovation Fostering in Accelerator Science and Technology), submitted to the last call of Horizon 2020.
- **I.FAST** is a collection of joint R&D activities with industry and strategy groups to develop ideas and technologies for the next generation of particle accelerators, grouped into **13 thematic areas**.
- There is no Transnational Access, some Networks activities continue as strategy groups, and the largest fraction of the project is made of JRA-type activities with strong industry participation.

# The legacy of ARIES: EURO-Labs



## WP3 Access to RI for Accelerators

WP Coordinator: **I. Efthymiopoulos**



- <sup>(\*)</sup> budget for service improvements assigned
- new in TA program

---

Many thanks to all of you for the great exchanges and the nice atmosphere



ARIES was the last Integrating Activity for Accelerator R&D, and will always remain my «favoured».

Because it was gained with creativity and hard work, and because it opened new avenues for our community.



Your humble servant wants to **THANK YOU**  
**FOR YOUR ATTENTION**  
and  
**FOR YOUR COLLABORATION AND SUPPORT**  
**OVER THE PAST 5 YEARS**

and I hope to see you all in many more  
European projects!