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# ARIES Industrial and Societal Applications Network

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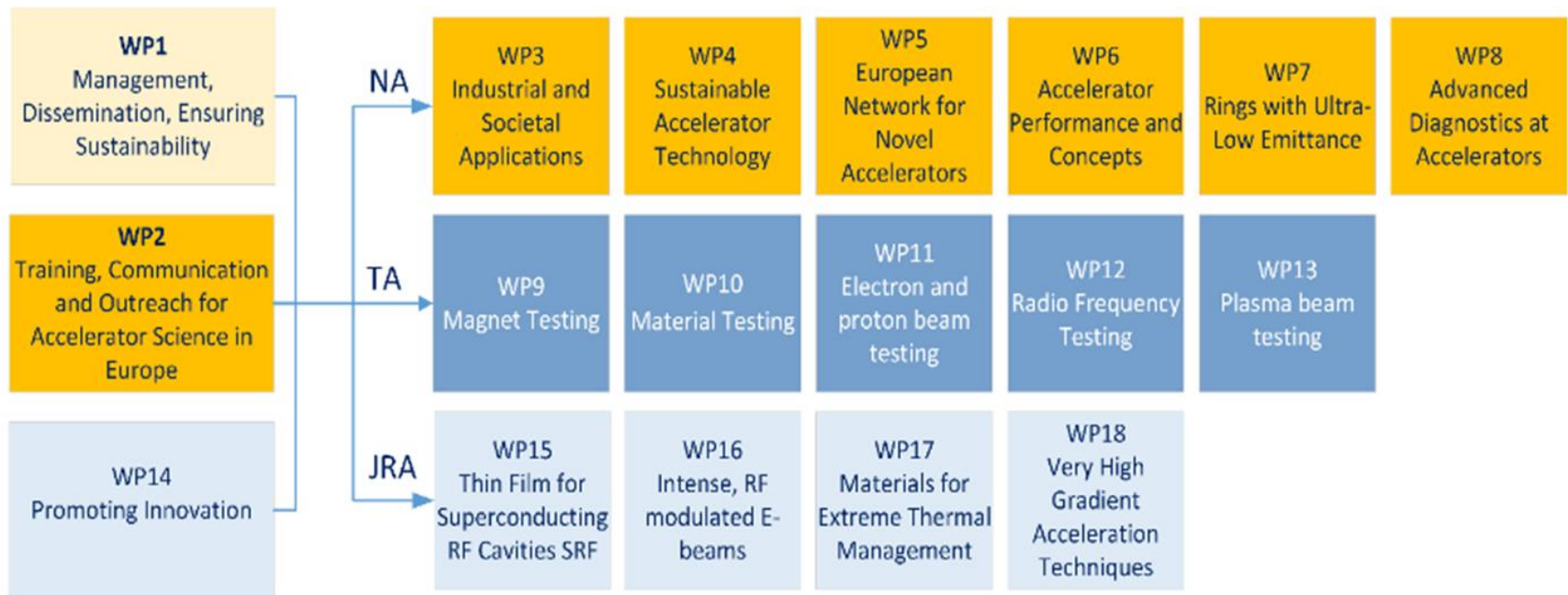
# Outline

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- Introduction to ARIES
- WP3
- Partners
- Objectives
- Reporting
- Deliverables
- Milestones
- Papers
- Meetings
- Proof of Concept fund

# Introduction to ARIES

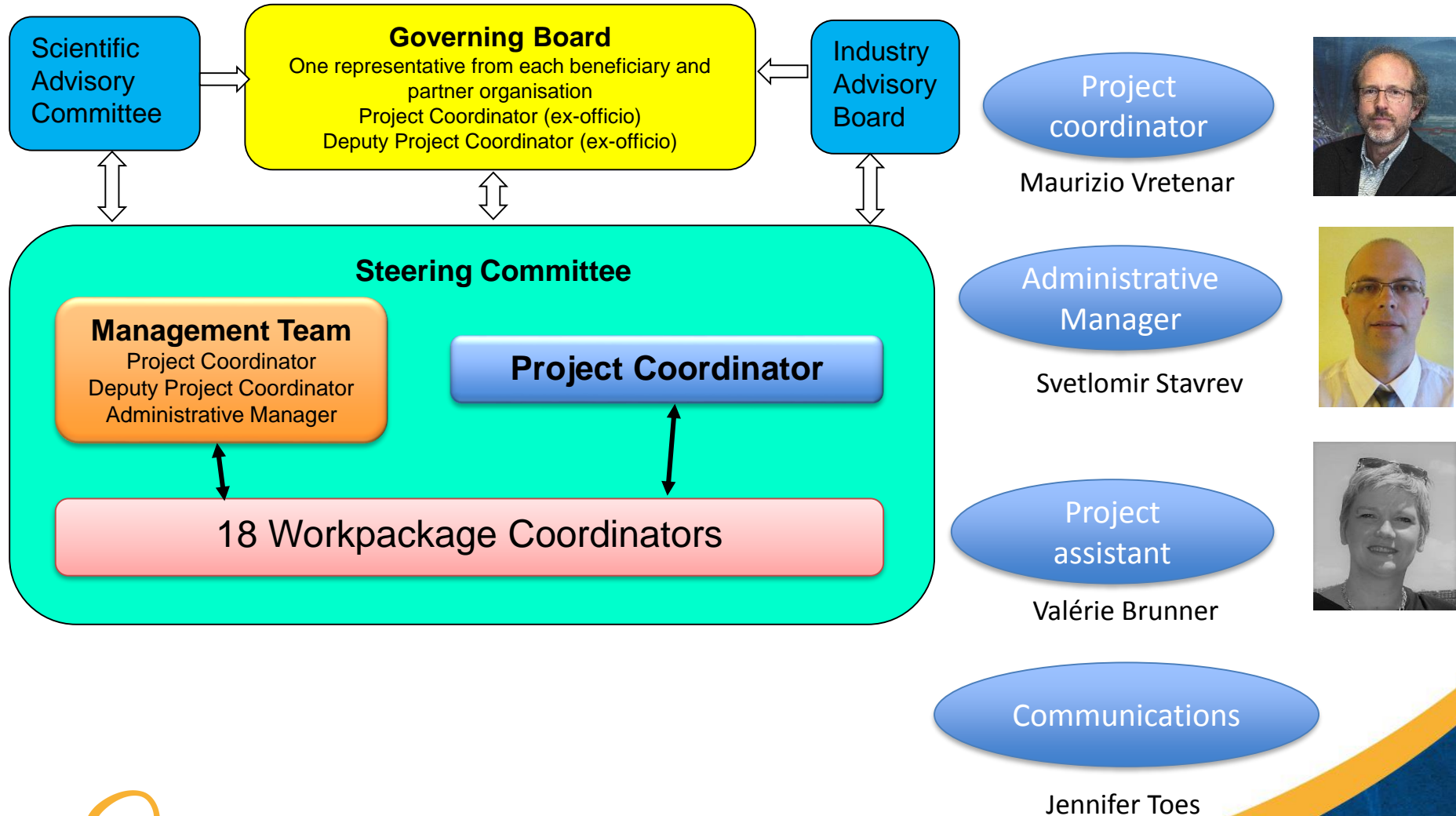
- ARIES: see <http://aries.web.cern.ch/>



18 Workpackages:

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

# ARIES



# WP3

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- ISA: Industrial and Societal Applications of accelerators
- Three science areas:
  - Industrial and environmental applications of electrons up to 10MeV
  - Accelerator radioisotope production
  - Applications of electron beams up to ~200 MeV
- Will do real work (i.e. not organise workshops)
- Focus is on improving or developing new applications

# WP3

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## Task 3.1. Coordination and Communication (Rob Edgecock)

- Coordinate the WP activities
- Monitor the progress of WP tasks and ensure the obligations are met
- Manage the WP budget and use of resources and prepare internal and deliverable reports

## Task 3.2. Low energy electron beam applications: new technology development (Frank-Holm Roegner)

- Study and document the requirements for current e-beam applications
- Study the introduction of new technology from the research area to bring improvements to these applications
- Develop a standard electron beam unit to make the transition to electron beam applications easier for newcomers

## Task 3.3. Low energy electron beam applications: new applications (Andrzej Chmielewski)

- Study the use of electron beams in the environmental area
- Study the expansion of the use of electron beams in the industrial area
- Document the new applications and the requirements on the accelerator technology

## Task 3.4. Medium energy electron beams (Angeles Faus-Golfe)

- Study of the applications of electron beams up to 140 MeV in the medical and other areas
- Study of the construction of high performance electron linear accelerator up to 140 MeV

## Task 3.5. Radioisotope production (Conchi Oliver)

- Document the requirements for compact accelerators for radioisotope production
- Optimise the design of a new compact cyclotron for PET isotope production, with the aim of maximising the production
- Analyse different solutions for a compact source for PET, with the aim of improving the performance and cost
- Study which existing and possibly new therapeutic isotopes are of interest clinically and how they can be produced using particle beams
- Study and compare novel acceleration techniques for  $^{99m}\text{Tc}$  and therapeutic isotope production

# WP3 - Partners

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- Full partners:
  - CERN (Switzerland)
  - Ciemat (Spain)
  - CNRS (France)
  - Fraunhofer FEP (Germany)
  - University of Huddersfield (UK)
  - IBA (Belgium)
  - INCT (Poland)
- Associates:
  - EBtech
  - IAEA
  - iiA
  - Slovak Medical University

# Reporting

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- WPs must report scientific results after
  - 12 months – to CERN
  - 18 months – PR to the EU
  - 36 months – PR to the EU
  - 48 months – PR and Final Report to the EU
- Template comes to me from Maurizio/Valerie/Jennifer
- I'll then send it to Task leaders
- With 18 WPs, usually needs to be concise!
- (Financial reports will also be required from all partners)



Deliverable Number <sup>14</sup>	Deliverable Title	Lead beneficiary	Type <sup>15</sup>	Dissemination level <sup>16</sup>	Due Date (in months) <sup>17</sup>
D3.1	Applications of electron beams in the environmental area	27 - INCT	Report	Public	24
D3.2	Evaluation of new technology for electron beam applications	27 - INCT	Report	Public	30
D3.3	Comparison of different accelerator options for <sup>99m</sup> Tc and therapeutic isotope production	39 - HUD	Report	Public	36
D3.4	Design of a compact 140 MeV electron linear accelerator	6 - CNRS	Report	Public	42

### Description of deliverables

D3.1 : Applications of electron beams in the environmental area [24]

Report to describe the possible applications of electron beam accelerators in the environmental area including the technological requirements (Task 3.3)

D3.2 : Evaluation of new technology for electron beam applications [30]

Report to assess the potential for new accelerator technology to bring improvements in terms of cost and performance for electron beam applications (Task 3.2)

D3.3 : Comparison of different accelerator options for <sup>99m</sup>Tc and therapeutic isotope production [36]

Report to compare the different new accelerator options in this project for the production of these isotopes with those already in use and with each other (Task 3.5)

D3.4 : Design of a compact 140 MeV electron linear accelerator [42]

Report to describe the design of a compact linear accelerator for producing electron beams in the range 30 to 140 MeV for a variety of applications (Task 3.4)

# Deliverables

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- Go to the EU, so important
- Must be on time
- Approval procedure:
  - well in advance, start writing using template on website
  - >1 month in advance, send to me for comments, etc
  - 1 month in advance, send to Maurizio
  - Will allow the deliverable to be uploaded by the deadline
- “Reasonable” length: 12-20 pages?
- Scientific documents

# Milestones

<b>Milestone number<sup>18</sup></b>	<b>Milestone title</b>	<b>Lead beneficiary</b>	<b>Due Date (in months)</b>	<b>Means of verification</b>
MS13	Current applications of e-beam accelerators up to 10 MeV (Task 3.2)	27 - INCT	12	Report approved by StCom
MS14	New industrial applications of electron beams (Task 3.3)	11 - FEP	18	Report approved by StCom
MS15	Medical applications of high energy electron beams (Task 3.4)	6 - CNRS	24	Report approved by StCom
<b>Milestone number<sup>18</sup></b>	<b>Milestone title</b>	<b>Lead beneficiary</b>	<b>Due Date (in months)</b>	<b>Means of verification</b>
MS16	Study of different options for PET isotope production (Task 3.5)	34 - CIEMAT	30	Report approved by StCom

# Milestones

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- Don't go to the EU, so not quite as important
- Should still be on time
- Approval procedure:
  - well in advance, start writing using template on website
  - >1 month in advance, send to me for comments, etc
  - 1 month in advance, send to Maurizio
  - Will allow the deliverable to be uploaded by the deadline
- Can be short length: >4 pages?
- Scientific documents

# Papers

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- Worth considering whether deliverables & milestones could be converted to refereed papers
- Papers are encouraged
- Three rules:
  - Must ensure open access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results. In particular, it must as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications.
  - Must have an acknowledge to EU funding
  - Must be uploaded onto the ARIES website

# Papers

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## Acknowledgement

All ARIES publications (including Transnational Access) must include the following acknowledgement:



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# Meetings

- ARIES Annual meetings
  - Next one: Riga, Latvia, 29<sup>th</sup> May to 1<sup>st</sup> June 2018

Monday May 28	Tuesday May 29	Wednesday May 30	Thursday May 31	Friday June 1
spare	Parallel WP Meetings	Plenary session 1	Plenary session 2	Parallel meetings SAC report 12:30 end
	Welcome drink	GB Meeting	Banquet	

- WP3 Annual Meetings
- Task leaders meetings: every ~month by video
- Task meetings: every n months (n=1 to 4)
- Agenda, etc, on indico at CERN under ARIES → WPs → WP3

# Proof of Concept Fund

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- Organised by WP4
- ~50 kEUR per project
- First call ~November
- We should be ready
- Call documents still to be approved
- But will look something like.....



# Main aspect of the procedure

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The proposal shall present (in max # pages?):

- Background and aim of the project
- Technical summary
- Business Plan
- Work plan and Risk analysis
- Resources
- Project Deliverables
- Collaboration agreements

# Main aspect of the procedure

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- 1 single set of documents will drive the procedure.
- The documents will be widely distributed and published on a dedicated page of ARIES website.
- The project proposals shall be submitted according to a fixed template, and specified timeline.
- The proposals shall have a max num of pages and include a business plan (fixed num page for this?)
- The evaluation/ selection of proposal is carried out by a panel (EvPa) appointed by IAB, chaired by WP14 leader.
- The EvPa is choosed among WP leaders and can include external advisors.
- The EvPa will propose projects for award to GB decision

# The evaluation / selection

- Evaluation is carried out according criteria of **excellence** (i.e. innovation potential), **impact** (i.e. create potential new market opportunities), **implementation** (i.e. credibility of the methodology).
- Scores are 3/5 minimum per criteria with a minimum cumulative threshold of 9.
- Interpretation of scores are provided in a table as guideline

0	The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.
1 - Poor	The criterion is inadequately addressed, or there are serious inherent weaknesses.
2 - Fair	The proposal broadly addresses the criterion, but there are significant weaknesses.
3 - Good	The proposal addresses the criterion well, but a number of shortcomings are present.
4 - Very Good	The proposal addresses the criterion very well, but a small number of shortcomings are present.
5 - Excellent	The proposal successfully addresses all relevant aspects of the criterion.