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12th WP15 meeting

**Thin Film for Superconducting RF (TF-SRF)
on 12th December 2019**

**Oleg Malyshev
WP15 coordinator**

Agenda

Focus on two main activities:

- Quadrupole resonator (QPR)
- Development and characterising of new SC coatings on small samples

Schedule of milestones and deliverables

		Year 1				Year 2				Year 3				Year 4			
Task	Description	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	1 st WP meeting.	M1															
2	Evaluation of cleaning process for surface preparation for Cu and Nb substrate for Nb coating - (INFN).		M2		D1												
2-4	Evaluation of system 1 & 2 (e.g. NbN and Nb ₃ Sn coating) - STFC					M3			D2								
2-4	Evaluation of system 3 (e.g. MgB ₂ and SIS multilayer coating)									M4			D3				
1-4	Final report.																D4

now

List of milestones and deliverables

Typ e	Deliv ery date	Lead benefi ciary	Related task/ responsible	Description	Status
M1	m1	STFC	<i>Task 15.1</i>	1st WP meeting. Analysing outcome from EuCARD2 and current state of the field, finalising a detailed plan for WP	Completed
M2	m6	INFN	<i>Task 15.2</i>	First sample substrates cleaned at INFN for depositing at partners (Report to StCom)	Completed
D1	m12	INFN	<i>Task 15.2</i>	Evaluation of cleaning process. Report defining an optimum cleaning and polishing procedure for surface preparation for Cu and Nb substrate for Nb coating minimising the substrate effect on the final film properties.	Completed
M3	m14	STFC	Task 15.3, 15.4	First samples exchanged (system 1 and 2) and deposited at partners (Report to StCom)	Completed
D2	m24	STFC	Task 15.3, 15.4	Evaluation of systems 1 and 2. Report on deposition, surface and structural analysis, DC and RF superconductivity evaluation of systems 1 and 2 (e.g. NbN and Nb ₃ Sn) and Superconductor-Insulator-Superconductor (SIS) multilayer coating	Completed
M4	m26	HZB	Task 15.3, 15.4	First samples exchanged (system 3 and SIS) and deposited at partners (Report to StCom)	Completed
D3	M36 31/03/ 2020	HZB	Task 15.3, 15.4	Evaluation of system 3. Report on deposition, surface and structural analysis, DC and RF superconductivity evaluation of system 3 (e.g. NbTiN or MgB ₂) and SIS multilayer coating	Started?
D4	M46 31/03/ 2020	STFC	Task 15.3, 15.4	Final report on thin film technology [46] Report summarizing the results on the evaluation of cleaning and coating procedures for highest Q ₀ and E _a	

Preparation of the 4th Delivery Report

4th Delivery Report:

Evaluation of system 3. Report on deposition, surface and structural analysis, DC and RF superconductivity evaluation of system 3 (e.g. NbTiN or MgB₂) and SIS multilayer coating

Schedule:

- 01/03/2020: Start drafting the contributions – WP leaders to coordinate.
- 15/3/2020: All contributions sent to Oliver.
- **31/3: Final draft sent to SC for comments.**
- 15/03: Feedback from SC received by WP15
- 30/4: Deadline for a final submission.

Preparation of the 2nd Periodic Report

Time to start preparation of the **2nd Periodic Report** covering M18 to M36 (November 2018 – April 2020).

Schedule:

- 30.11.2019: Template ready, to be presented to WP coordinators at the December SC meeting.
- 15-28.2.2020 : templates sent to all WP coordinators.
- **31.3 : deadline for Task leaders to send their part to WP Coordinators**
- **30.4 : deadline for WP Coordinators to send their chapter to CERN**
- 30.5 : first complete draft ready.
- 15.6 : final draft sent to SC for comments.
- 30.6 : deadline for submission.

Publications

From 7 publications in September 2018 to 42 publications in April 2019.

- ✓ Article (22)
- ✓ Report (7)
- ✓ Conferencepaper (4)
- ✓ Technicalnote (4)
- ✓ Other (2)
- ✓ Thesis (2)

The screenshot shows the Zenodo interface for the ARIES community. At the top, there is a search bar and navigation links for 'Upload' and 'Communities'. The user profile 'daniela.maria.antonio@cern.ch' is visible. The main content area is titled 'ARIES' and 'Recent uploads'. It lists several publications with their dates, categories (Technical note, Journal article, Conference paper), and 'Open Access' status. Each entry includes a brief description and a 'View' button. The sidebar on the right contains a 'New upload' button, a 'Want your upload to appear in this community?' section with instructions, a community logo for ARIES, and a 'Curated by: ARIES' section with a 'Curator policy' link. The footer of the sidebar mentions funding from the European Union's Horizon 2020 Research and Innovation programme.



3rd ARIES Annual Meeting

20-24 April 2020 at IST Congress Center, Lisbon, Portugal

- Monday and Tuesday WP parallel sessions.
 - Monday – afternoon WP15 meeting?
 - Tuesday – morning WP15 meeting
 - Tuesday afternoon ARIES-II meeting?
 - A technical visit could be organised (Tuesday afternoon?).

- Plenary sessions:
 - Wednesday 22 April, afternoon, 4 hours
 - Thursday 23 April, morning and afternoon, 8 hours
 - Friday 24 April, morning and afternoon, 6 hours (end at 16:00).

2 highlight talks for each JRA:

We should give 2 x 20 min talks:

- WP15 overview progress – me
- QPR RF tests of samples deposited within WP15 – Oliver

Future WP15 meetings

- 13th ARIES WP15 meeting:
 - Vidyo meeting in early February
 - The TESLA Technology Collaboration on 4-7 Feb in Germany.
- 14th ARIES WP15 meeting will take place during the 3rd ARIES annual meeting on 20-12 April in Lisbon
- 15th ARIES WP15 meeting could take place during IPAC'20 on 10-15 May in Caen, France

ARIES-II

- All our bids accepted and received a high score.
- WP9 will be formed in tasks (one task for each proposed bid):
 - Strategy, Development and prototype
- Tasks will be more in focus than in ARIES-I (where WPs are in focus)

TIMELINE:

- Call opened (for accepted bids) **28 November 2019**
- **Meeting at CERN on 9th January 2020 for all WP and Task leaders**
- Deadline for submission **17 March 2020**
- Result of EC evaluation 17 August 2020
- Consortium Agreement preparation Oct. 2020 – Mar. 2021
- Project start: **1 May 2021** (at end of ARIES)
- Duration 4 years (2021 – 2025)

Evaluation process

- Committee of 17 members, chaired by MV, including 4 industry representatives
- Each proposal was evaluated by 3 people, without relation to the labs of the proposers (for dev. and prot., one evaluator was from industry).
- Score:
- In each category (strategy – prototype – development), proposals were divided in 3 groups:
 - **RED**: <40 (<42 for prototypes) – to be **rejected** (52/101) – about 50%
 - **GREEN**: >46 (>48 for prototypes) – to be **accepted** (22/101) – about 25%
 - **YELLOW**: $40 < x < 46$, $41 < x < 48$ for prototypes – to be **discussed** (26/101) – about 25%
 - New criterie: coherence with the priorities of the community