IFAST WP9 INNOVATIVE SUPERCONDUCTING CAVITIES

- Project will start on **1 May 2021** (at end of ARIES)
  - Duration: 4 years (2021 – 2025)
- IFAST open steering committee meeting – 3rd March 2021
  - WP coordinators and task leaders invited (zoom meeting)
- IFAST kick-off meeting – early May 2021
  - All participants are invited (zoom meeting)

- WP9 Innovative superconducting cavities
  - Is everything ready?
  - Is anything missing?

IFAST WP9

- **TASK 9.1**: Coordination and strategy for innovative superconducting accelerating cavities
  - *CEA, INFN, HZB, UKRI, USI, JLAB MEPHI, PTI.*
- **TASK 9.2**: Innovative SC accelerating cavity prototype
  - *INFN, PICCOLI, UKRI, USI, CEA, IEE, HZB, PTI*
- **TASK 9.3** : Optimisation of process parameters and target development for SRF cavity coating with A15 material
  - *UKRI, INFN, USI, HZB*
- **TASK 9.4**: Surface engineering by atomic layer deposition (ALD)
  - *CEA, CNRS, MEPHI*
- **TASK 9.5**: Improvement of mechanical and superconducting properties of RF resonator by laser radiation
  - *RTU, UKRI, INFN, IEE, HZB*
- **TASK 9.6**: Optimization of flat SRF thin films production procedure
  - *HZB, INFN, UKRI, USI, CEA*

IFAST WP9 Deliverables	
D9.1: Thin-Film SRF roadmap report. *Summaries of the results obtained within the workpackage and prospective inspired from WP advances as well as discussions at TF-SRF 2022.*	M35
D9.2: RF test on coated resonant cavity. *Resonant cavity coated and tested with an alternative material to Niobium with a Q0 > 109 at 4.2 K and 1.3 GHz.*	M46
D9.3: First 6 GHz cavity coated and characterised. *Results from the morphological and SC characterisation of first coated cavity with an alternative material to Niobium.*	M36
D9.4: Deposition of superconducting multilayers on cavities. *1.3 and 3 GHz Nb and Cu cavities coated and tested with multilayers.*	M46
D9.5: 1.3 GHz Nb-coated cavity irradiated by laser in Ar atmosphere and RF tested. *Increasing of the field of magnetic flux entry in Nb coated 1.3 GHz cavity irradiated by laser in argon atmosphere. Standard RF testing.*	M45
D9.6: Test of thin-film samples. *Four thin film samples reprocessed by 4 different techniques and tested with QPR.*	M46

IFAST WP9

- What we need for a smooth transition from ARIES to IFAST?

- Do we need to meet and discuss the WP9 programme before the kick-off meeting on 1st May 2021?
  - Task leaders?
  - Whole team?