

First AION Workshop
at Imperial College London
25-26 March 2019

Imperial College
London

PROPOSAL FOR AION PROJECT WORK PACKAGE STRUCTURE

AION WORKSHOP, MARCH 25, 2019

Oliver Buchmueller, Imperial College London
and

Jon Coleman, Liverpool University

AION – A Staged Programme**

AION-10: Stage 1 [year 1 to 3]

- **1 & 10 m Interferometers & Site Development for 100m Baseline**

AION-100: Stage 2 [year 3 to 6]

- **100m Construction & Commissioning**

AION-KM: Stage 3 [> year 6]

- **Operating AION-100 and planning for 1 km & Beyond**

AION-SPACE: Stage 4 [after AION-KM]

- **Space based version**

**outlined in Big Ideas proposal

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AION Project Work Packages

What is presented here is an evolution of the content described in the QSFP outline case of the AION project:

<http://www.hep.ph.ic.ac.uk/AION2019/documents/AION-WP-QSFT-final.pdf>

It is outcome of our regular bi-weekly AION working group meetings that were introduced following the QSFP meeting in January 2019 in Oxford.

AION10 [Stage 1]: Work Packages in a Nutshell

WP-AI

- Form UK collaboration to design and construct AION1 and AION10 and establish a first UK AION Network by building AION-1 in selected places.
- Prototype AION-10 to demonstrate the technology and to establish UK expertise and leadership in the field.
- Commission AION-10, compare with AION-1 Network and perform synchronised measurement campaigns with MAGIS.
- Connect to UK QTH to develop techniques and technology required to reach performance for realising science goals, in collaboration with developments in the MAGIS consortium.

WP-Physics

- Establish physics programme for AION-1/10 Network.
- Physics exploitation of AION-1/10 Network
- Contribute to work establishing the physics case for AION-100 and beyond.
- Support phenomenology for AION physics case.

WP-AION100

- Work towards AION-100 including design work for AION-100 in a tower or a shaft and establish the physics case.

WP-MAGIS

- Collaborate with MAGIS-100 to contribute to experiment & exploitation
- Build the foundation of a strong and lasting collaboration with US.

AION10 [Stage 1]: Work Packages in a Nutshell

WP-AI

Pathway to technology and expertise and will form a first network of AI's in the UK.

WP-Physics

This will give us physics & phenomenology

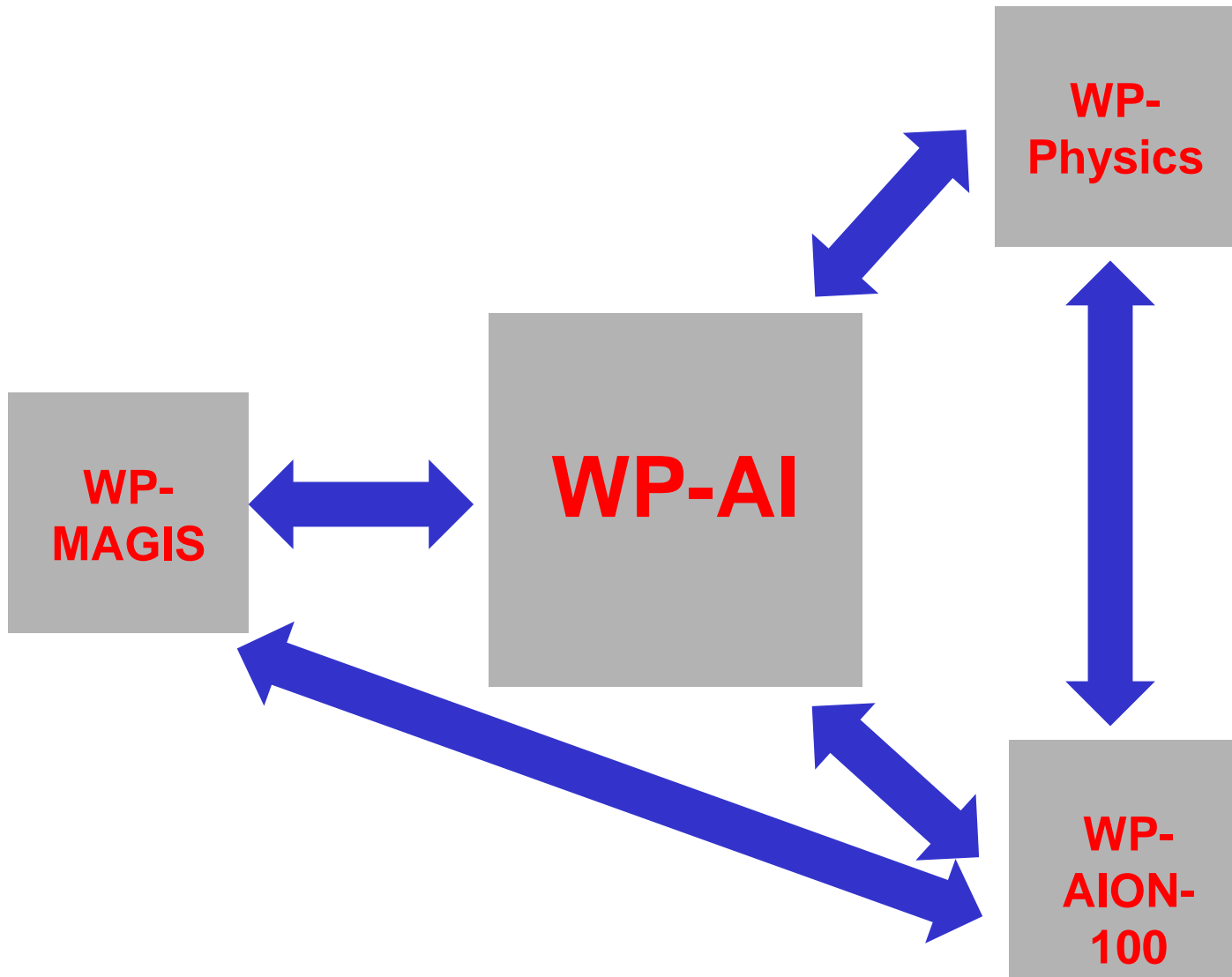
WP-AION100

This will give us the path into the future (next bid)

WP-MAGIS

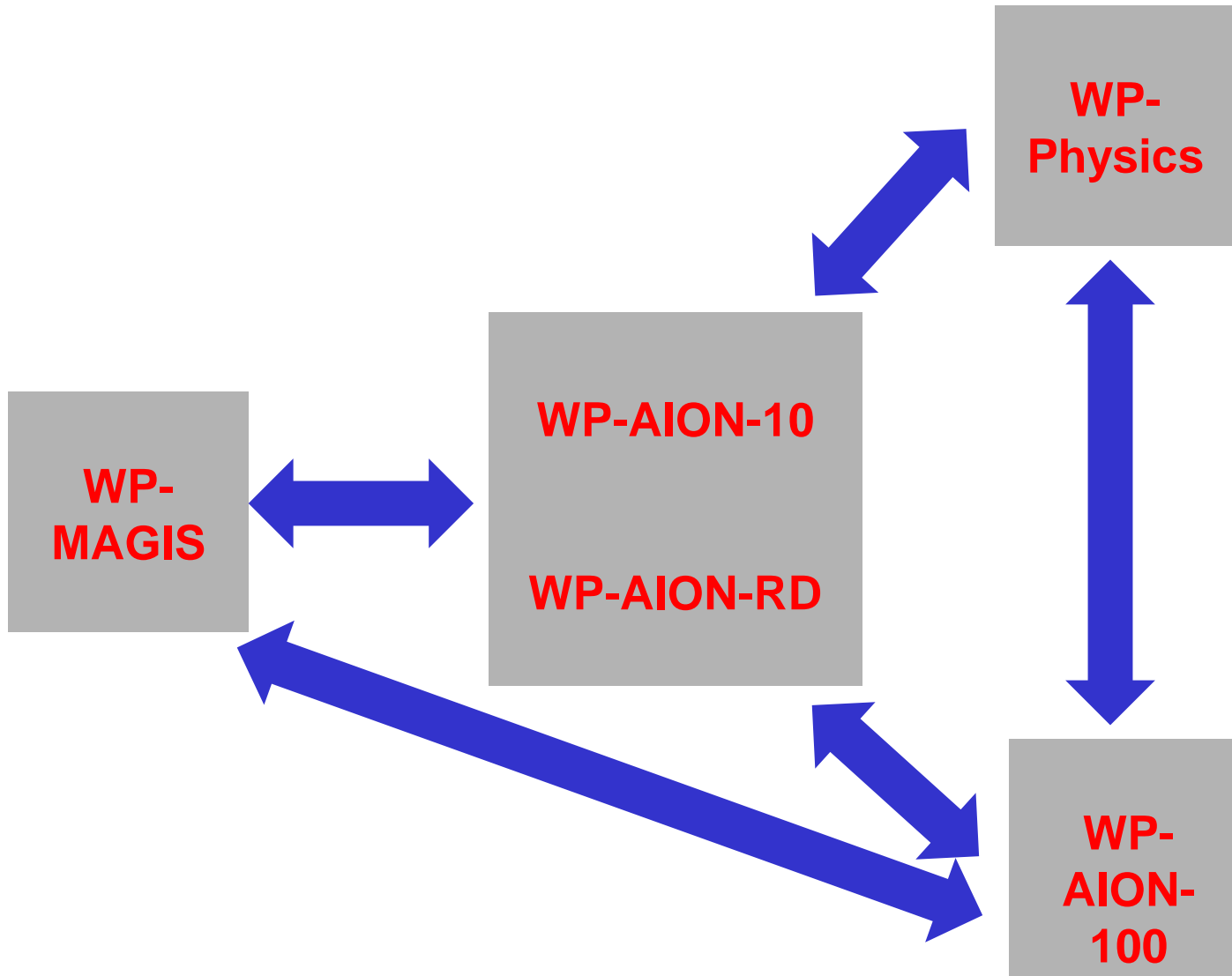
This will give us MAGIS and US Collaboration

AION10 [Stage 1]: Main WP Connections



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O. Buchmueller AION Working Meeting



Presentation of WPs

13:30 → 15:00

AION Work Package Proposal

🕒 1h 30m

Work Packages: Introduction

🕒 15m

Speakers: Jonathon Coleman (Physics Dept, University of Liverpool), Oliver Buchmuller (Imperial College (GB))

WP AION-10

🕒 15m

Speaker: Chris Foot (University of Oxford)

WP AION-Upgrades

🕒 15m

Speaker: Richard Hobson (National Physical Laboratory)

WP AION-100

🕒 15m

Speaker: Pawel Majewski (STFC/RAL)

WP AION-Physics

🕒 15m

Speaker: Oliver Buchmuller (Imperial College (GB))

WP MAGIS100

🕒 15m

Speaker: Jonathon Coleman (Physics Dept, University of Liverpool)