

**XLZD@BOULBY**

**UK SUBSYSTEMS (INTRODUCTION)**

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# WORK PACKAGES

## Preliminary Work Breakdown Structure for Preliminary Activity

- WP0 Management (Araújo + RAL PMO)
- WP1 Xenon acquisition & storage (RAL TBD)
- WP2 Outer Detector (Burdin + Shaw)
- WP3 Cryostat (Majewski + O'Dell)
- WP4 Xenon Detector Elements (Palladino + Araújo)
- WP5 Data Centre & Onsite Computing (Bauer + Costanzo)
- WP6 Radioassay & Clean Manufacture (Dobson + Saakyan)
- WP7 Engineering & Skills (Tovey + RAL TD TBD)
- WP8 Impact and Environment (Hays + Ghag)

In all cases significant teams will be involved in delivering most of these work packages.  
In some cases additional firepower is needed.



# UK SCOPE

## Why have we selected those subsystems?

- Many elements require major engineering and have tight interfaces to the facility; some of these can be “capitalised” and contracted to UK industry
- We can convey up to 3.2m diameter rings down the Boulby shaft (TPC diameter ~3m), but larger items must be “manufactured” underground, in some cases in ultra-clean conditions (e.g. xenon detector elements and cryostat)
- Supplying sufficient people with the right technical skills to design, build and operate the experiment will be hard; we need to develop a pipeline/ecosystem that attracts and retains talent in the local area (engineering, radioassay, computing, impact, environment) – turn a risk into an opportunity
- These plus xenon add to 1/3 of total cost, which is conceivably fundable by the IF
- No reason to spin-up major activities in areas that are already well covered by our international partners