



## Proposed structure and homework

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Proposed structure (from Birmingham meeting)

**UK BID**

<b>WP</b>	<b>Description</b>
<b>1</b>	Active sensor technologies (monolithic, LGADs)
<b>2</b>	Radiation hardness (studies, new materials)
<b>3</b>	Mechanics and cooling (lightweight structures)
<b>4</b>	DAQ (IP blocks, 28 nm)
<b>5</b>	Simulations (TCAD, MC)
<b>6</b>	Tracker demonstrator
<b>7</b>	UK facilities
<b>8</b>	Training

**DRD3**

<b>WG</b>	<b>Description</b>
<b>1</b>	Monolithic CMOS
<b>2</b>	Sensors for tracking & calorimetry
<b>3</b>	Radiation damage & ultrahigh fluence
<b>4</b>	Simulation
<b>5</b>	Characterisation techniques, facilities
<b>6</b>	Non-silicon based detectors
<b>7</b>	Interconnect and device fabrication
<b>8</b>	Dissemination and outreach

## Proposed structure - are we missing anything?

Are there any workpackages or items which don't fall under the headlines above?

- One noticeable point is that this covers only the particle physics community - not astro-particle or astrophysics

There are also overlapping areas with other DRDs

- Notably DRD7 (electronics), DRD6 (calorimetry), DRD4 (PID) and potentially DRD1/2 (gaseous / liquid detectors)

We should get input from these groups in advance of Liverpool, to understand if there are areas which should be covered in the solid-state section of the bid

- Similarly, see what common items we want delivered by other parts of the UK project - common DAQ? Larger DAQ for a tracker demonstrator? Fast links? Silicon photonics?

## Proposed structure - milestones and costing

**Just some examples!**

<b>WP</b>	<b>Description</b>	<b>Milestones</b>
<b>1</b>	Active sensor technologies (monolithic, LGADs)	65 nm CMOS UK demonstrator
		HV-CMOS UK demonstrator
		Curved/thin CMOS sensors
		AC-LGAD sensors
		Standard LGAD development with Te2v/micron
<b>2</b>	Radiation hardness (studies, modelling, new mat.)	Diamond sensor development
		GaN sensor development
		SiC sensor development
		Radiation damage studies in epitaxial silicon
		Radiation damage studies beyond $10^{17}$
<b>3</b>	Mechanics and cooling (lightweight structures)	Infinitely thin support that floats in mid-air
<b>4</b>	DAQ (IP blocks, 28 nm)	
<b>5</b>	Simulations (TCAD, MC)	
<b>6</b>	Tracker demonstrator	
<b>7</b>	UK facilities	
<b>8</b>	Training	

## Proposed structure - milestones and costing

If we write all of the projects that we want to do in the UK, we will end up with a £50M+ program

- The idea would be to develop the milestones within each work package, make an attempt to cost them, and ask groups to indicate whether or not they a) support the work, and b) would like to take part in it
- The hope is that when we sit down in Liverpool to go through what we would like to enter into the UK bid, we know the rough order of magnitude spending profile - personnel and submission costs
- We can then trim down the scope of the project until we fit within the funding envelope
- We would **like volunteers** to help prepare these - please send us an email to volunteer yourself (or someone else), knowing that we will meet again on 26-27 June and will need numbers by then

## Steering committee

There is a steering committee where institutes have representation and is intended to act like a “collaboration board”

- Mid-June we should send a list of WP milestones to the institute representatives to rank the areas where their institute wants to participate
- Sum of areas should normalise to 1, eg: 0.9 HV-CMOS, 0.1 low-mass structures
- Will help guide the Liverpool meeting

<b>Group</b>	<b>Steering committee member</b>
<b>Birmingham</b>	Phil Allport
<b>Bristol</b>	Joel Goldstein
<b>Brunel</b>	Akram Khan
<b>Cambridge</b>	Sarah Williams
<b>Edinburgh</b>	Yanyan Gao
<b>Glasgow</b>	Richard Bates
<b>Imperial</b>	Alex Tapper
<b>Kings</b>	Francesca Di Lodovico
<b>Liverpool</b>	Joost Vossebeld
<b>Manchester</b>	Chris Parkes
<b>Oxford</b>	Daniela Bortoletto
<b>RAL-PPD</b>	Fergus Wilson
<b>Queen Mary</b>	Peter Hobson
<b>RHUL</b>	Jocelyn Monroe
<b>Sheffield</b>	Trevor Vickey
<b>Sussex</b>	Jeff Hartnell
<b>RAL-TD</b>	Marcus French
<b>UCL</b>	Jenny Thomas
<b>Warwick</b>	Yorck Ramachers

# Timescale for bid

