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# Guesswork on the future MAPS programme

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# The official status

- The STFC Delivery Plan was released on 11 Dec
  - It contained two sentences buried within the document: “We will cease investment in the International Linear Collider. We do not see a practicable path towards the realisation of this facility as currently conceived on a reasonable timescale.”
  - There was then an odd statement to CERN Council on 14 Dec: “I would emphasise that that doesn't mean that we're stopping our investment in accelerator R&D and detector R&D, but the programme will be significantly reduced and will not be focussed on the project known as the International Linear Collider, but that doesn't mean that we won't be involved in future collider projects.”
- Since that time, we have heard nothing directly from STFC
  - Hence we do not know officially what funding will be withdrawn or when
  - This means we cannot plan today what we should be doing over the next few weeks/months without some uncertainty
- The following is my best guesswork about likely scenarios
  - We will only be able to make a definitive plan when we are given a real budget and schedule from STFC; maybe in early Feb?

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# Original plans for FY08/09

- If this had never happened, then for Apr08-Mar09, we had ~£490k
  - Equipment ~ £200k
  - Effort ~ £270k (Univs ~ £85k, PPD ~ £105k, SDG ~ £80k)
  - Travel ~ £20k
- The equipment spend was divided up as
  - Cost of second sensor run ~ £115k
  - EUDET beam test PCB design and fabrication ~ £65k
  - Miscellaneous, including test PCBs ~ £20k
- The outline schedule was
  - Submit design for second-round sensors by Aug08
  - Fabricate second-round sensors by Oct08
  - Test as for first-round through to May09
  - EUDET beam test in full ECAL structure Sep09
- If granted use of unspent Working Allowance by Oversight Committee
  - Extend some posts into FY09/10 for EUDET beam test

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# My guess at the most likely scenario

- STFC will give us six months notice of withdrawal of grant
  - Even this is not definite; there is confusion and no precedent
  - This would possibly happen end Jan so the six months is to end Jul
  - This means we have four months of FY08/09, i.e. 1/3 of the year
- STFC give us 1/3 of what we expected for FY08/09
  - We would probably not be required to spend it by end Jul
  - This would be for CALICE-UK as a whole, not just MAPS
  - It is not clear what the response of each workpackage will be
  - Each needs to come up with a plan (closure or continuation) and a cost
  - We then need to allocate the funds to each of the workpackages
- STFC would consider “generic detector R&D” proposals in future
  - We could submit proposal(s), realistically to start in FY09/10 for 2-3 years
  - However, it is not obvious such a proposal would be easily approved
  - Any workpackage wanting to do this would need to survive at a minimal level during FY08/09 or else stop and start

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# What do we do with MAPS?

- We should not assume each workpackage gets 1/3 of what it expected
  - But it would probably not be a bad approximation
  - Let's use it as a working assumption
  - We would then have ~£160k to spend
- The most critical decisions are
  - Whether we make a second sensor or not in FY08/09
  - Whether we will submit a proposal to follow on
- We cannot make a large sensor as originally planned
  - We could make another sensor of the same size as the existing one
  - This would be in a shuttle run and around £50k
  - We need Jamie to design it and people to test it
- For the proposal
  - Continuity of effort is clearly a big problem
  - An EUDET beam test would have to be put into this; difficult as not generic but ILC-specific

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# Some opinions

- I would think the highest priority is to get publications
  - We need to establish the UK lead on deep p-well process
- There is a danger of overstressing ourselves
  - We have not tested the current sensor anywhere near fully
  - We may not converge to publishable results on any sensor if we take on too much without enough effort available
- We cannot guarantee any future proposal being approved
  - We should not do anything this year which only makes sense if there is future funding
- I cannot see any realistic way we can participate in the EUDET beam test

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# Some options

- Option 1: We do not make another sensor this year
  - We use the money for effort to continue testing the existing sensor
  - We make sure we produce paper(s) on this
  - The project stops within ~six months
  - Any future proposal would need to restart after a dead period
- Option 2: We make another sensor
  - There is minimal money left for effort; not enough to complete current sensor tests as well as new sensor tests
  - This requires second sensor to need less design than originally planned; fixes to current design and pin-compatible layout to reuse PCBs
  - Effectively needs future proposal to get effort for publications