



E&I Summary

Craig Sawyer

STFC Rutherford Appleton Laboratory

4th June 2021

E&I Headlines

- UK needs to reinvigorate E&I R&D efforts now in order to not be left behind
- Build up suite of IP from generic R&D which can be deployed to projects in the future
- Need reliable funding with which to seed non-project specific (generic) detector R&D efforts and create effort which is not tied to projects
- Look to build proto-collaborations to build medium-scale system demonstrators
 - Generic sub-system concepts for long-term projects
 - Roadmap including intermediate outputs which can be deployed for near-term experiments
- Need to maintain access to overseas facilities for testing and understanding how we can get more from existing facilities
- Increase number of dedicated hardware PhDs
- Consolidate efforts to hit threshold (2-3 designer critical mass?)
 - Long term (non-fixed term) design effort is required
 - Short term (fixed term) effort deployed to test/characterisation
 - Design effort not needed to be centrally located but must be coordinated
- Need R&D plans which include smaller-scale detector construction projects along the way
 - Cross-discipline synergy (eg. xray/electron microscopy) can be included in this
- Industrial contacts must be developed, particularly for interconnect
 - Much “next generation” interconnect is not feasible to develop ourselves – wafer fab level processes
 - Interconnect may need to become increasingly centralised given costs – ultra-thin 300mm becoming new standard?
- Offline suggestions to develop regular (at least annually) industrial expos and community meetings