# **LhARA Transformative Healthcare Technologies second call**

# ***Outline proposal, case for support***

***5 pages***

## **A. Research Vision and Ambition**

* ***Vision of full LhARA initiative;***
* ***LhARA as demonstrator.***

## **B. National Importance**

* ***Clinical impact***
* ***Technological impact***
* ***Industrial impact***
* ***Scientific impact***

## **C. Application co-creation**

* ***Consortium***
* ***Technical status; requirements (i.e. end-station, dose-deposition imaging, impact assessment)***
* ***LhARA initiative:***
  + **Full programme; now to full implementation**
  + **(Full) 5-yr programme outline**
* ***THT Phase 1 proposal:***
  + **End station “pre-CDR”: Co-ord: Tony & Ruth (?)**
    - Requirements, outline engineering;
    - Advanced robotics;
    - Automatic 3D positioning;
    - Instrumentation, diagnostics and feedback systems
  + **Dose-deposition imaging: Co-ord: Jeff (& Paul) (?)**
    - Review of options, evaluation to be carried out in 9-15 month period
    - “Proto-acoustic” imaging:
      * Principle, state of the art, requirements for development
    - Proposal for proof-of-principle system
  + **Evaluation of benefits that will accrue from the LhARA initiative:**

**Co-ord: Pat Price (?)**

* + - Concrete, measurable benefits; i.e. in £k and/or “adjusted patient life years”;
    - Optimisation of LhARA specification and/or R&D programme to maximise quantifiable benefits
  + **Deliverables:**
    - Pre-CDR: CCAP TN and, possibly, publication
    - Proposal for proof-of-principle “proto-acoustic” imaging experiment and, possibly, publication
    - Benefits analysis: included in pre-CDR or stand-alone TN and, possibly, publication
    - Phase 2 proposal
* ***Stakeholder engagement plan:***
  + **PPI – summary of strategy being prepared by GJ and HH (to be discussed at SG);**
  + **Clinician – summary of strategy to be developed (StuG to be discussed at SG)**
  + **Industry – summary of strategy to be developed (F.Jamieson\_S.Towe to be developed)**
  + **UKRI – EPSRC, MRC, STFC; i.e. development of programme, co-ownership of risk**
* ***Governance framework:***
  + **E.g. STFC co-fund; stakeholder analysis; oversight;**