

OVERVIEW OF CYCLOPS

WHERE ARE WE AND WHERE ARE WE GOING?

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2 OUR MISSION TO DELIVER

- We are on target to deliver our five objectives and more;
- These are:

3 OUR MISSION TO DELIVER

- Objective 1

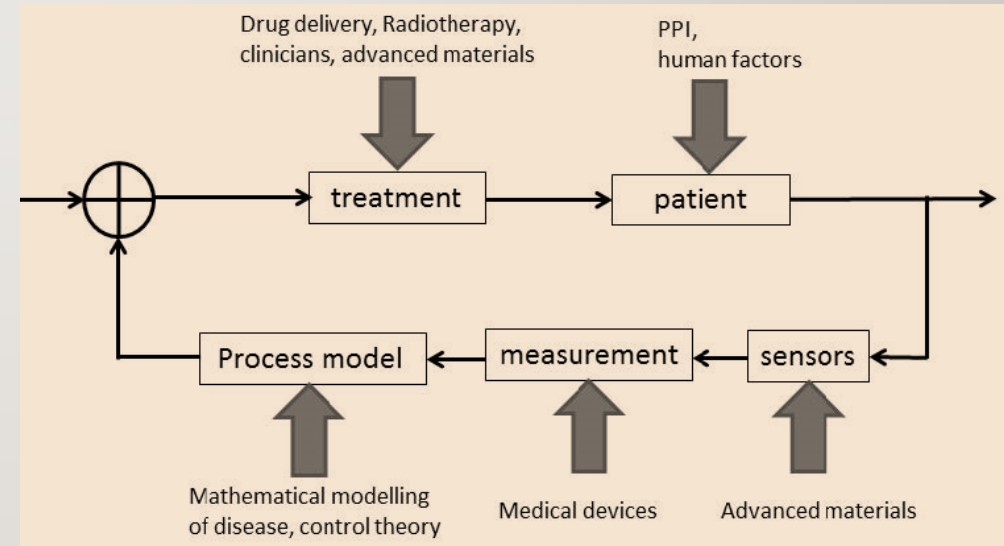
- ✓ 1) create an effective, multidisciplinary and multi-stakeholder network that will aim to develop closed loop control approaches for optimisation of treatment.
 - ✓ 120 stakeholders
 - ✓ 8 broad multidisciplinary areas: sensors & measurement, mathematical modelling, artificial intelligence, clinical, biomaterials, cognitive computing, adoption and translation, and, data processing.
 - ✓ 21+ academic, clinical and industrial organisations.
- ✓ How we achieved this: grand challenge workshops, advertising to biomedical disciplines, and a dedicated website.



4 OUR MISSION TO DELIVER

- Objective 2

- ✓ develop a general framework and roadmap for the application of closed loop control using three exemplar clinical areas (critical care, chronic wound care, cancer treatment)
- ✓ Achieved through grand challenge workshops, clinical scenario brainstorming, position paper and a number of research outputs of the feasibility studies.



5 OUR MISSION TO DELIVER

- Objective III
 - ✓ address gaps in technology and knowledge through eight feasibility studies or secondments
 - ✓ seven feasibility studies and one extension
- Objectives IV & V
- Develop funding applications that address major healthcare challenges
- Raise awareness of potential for using closed loop control to deliver personalised medicine

6 OUR MISSION TO DELIVER

- Seven feasibility studies and one extension
 1. “SPI-CLOPS” (Surface Polymer Imprinted Closed Loop Optical Patient Sensors) for Dose Detection and Prevention of Cancer Resistance.
 2. Closed-loop control for optimising chemotherapy infusion.
 3. Closed loop infection control using biocompatible wound dressings.
 4. Smart Active Footbed for Wound Prevention and Management.
 5. Combining physiological sensing and biomarkers with intelligent support surfaces for closed loop prevention of chronic wounds.
 6. Closed loop drug monitoring and delivery in intensive care.
 7. Investigation of closed-loop ventilation strategies for neonatal ICU patients using computational simulation.

7 OUR MISSION TO DELIVER

- Purpose of this meeting.
 - develop funding applications that address major healthcare challenges
 - raise awareness of potential for using closed loop control to deliver personalised medicine.
 - develop ideas on how to sustain the network
- In the next few hours we will
 - Hear from our funder on factors which might shape this meeting,
 - Get update on each project before Steve leads us into how we might develop future funding applications.

8 FORMAT

- Day has been divided into 4 parts
 - Part 1 - Opening (EPSRC funding opportunities);
 - Part 2 - Updates, new gaps and next steps (discussion of feasibility studies);
 - Part 3 - Cross-cutting ideas (what next?);
 - Part 4 - Evening event in downstairs microbrewery & restaurant (what next? Continue)

9 TODAY

- Constructive comments, please speak up.
- Opportunity to engage with experienced successful academics
- Development of individual or coordinated projects?
- Sustainability of network – feedback?
- Enjoy