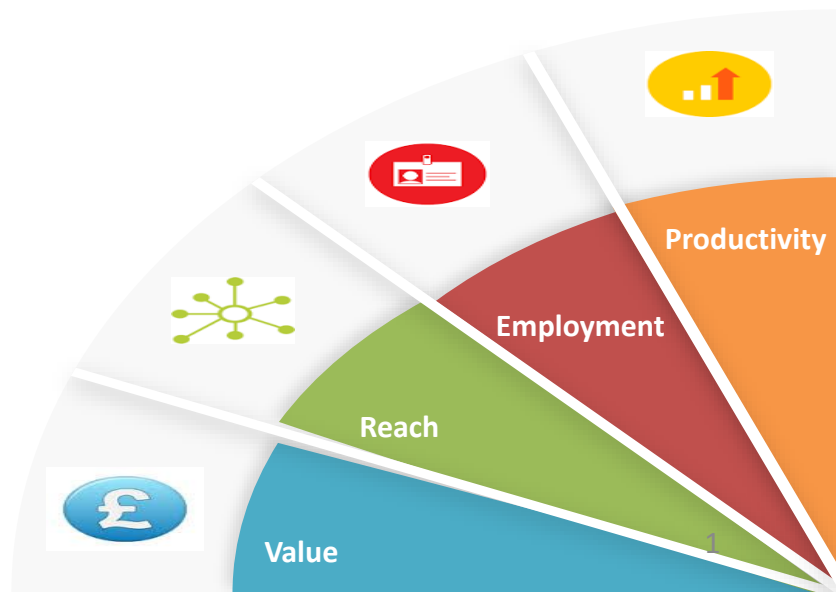


# Securing a Healthy Future for Chem/Bio Analytical Measurement Science (AMS) in the UK



**ANALYTICAL  
CHEMISTRY  
TRUST FUND**


Registered Charity No: 268893




# AMS in the UK

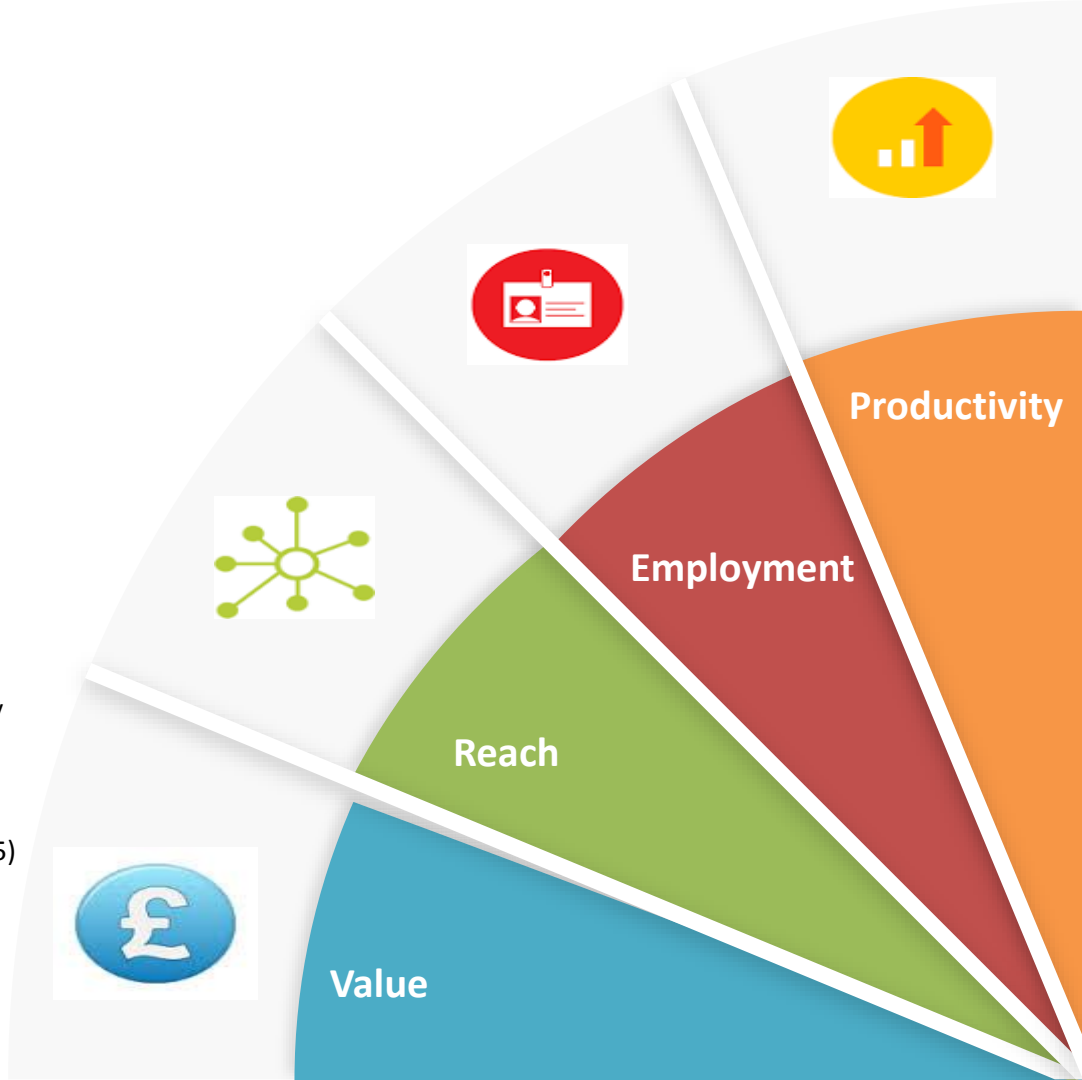
*The strengths*

 **Value**  
Contributes billions to UK GNP

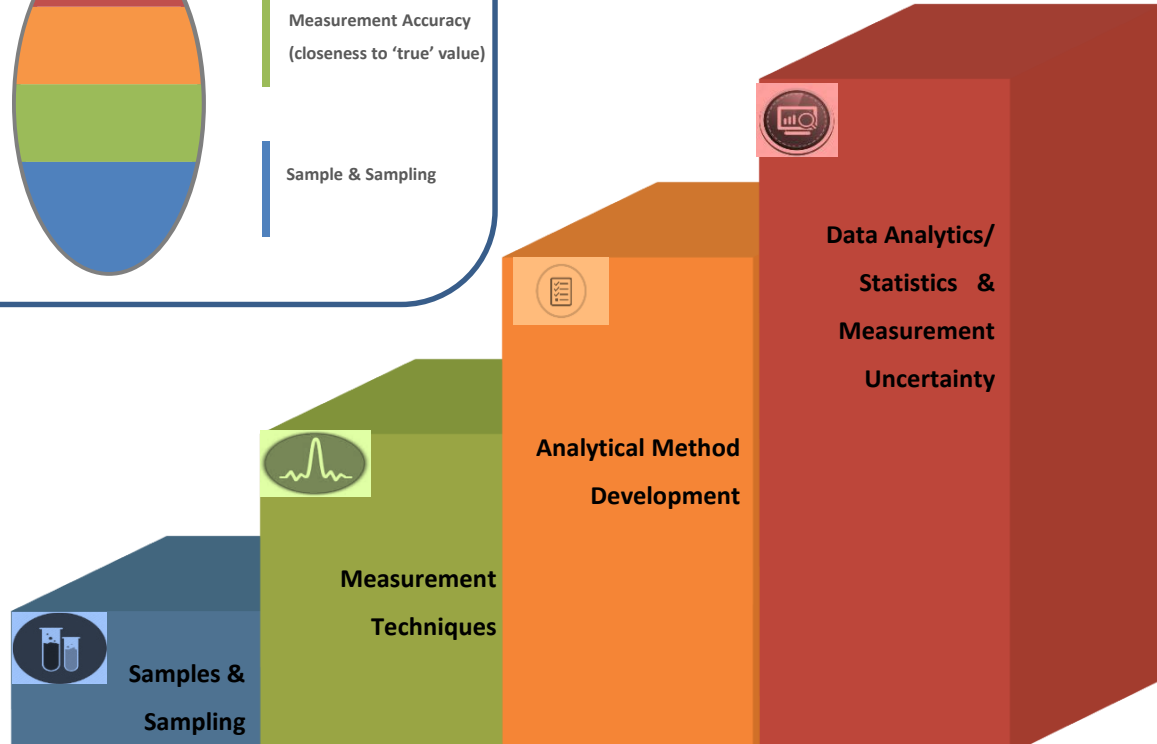
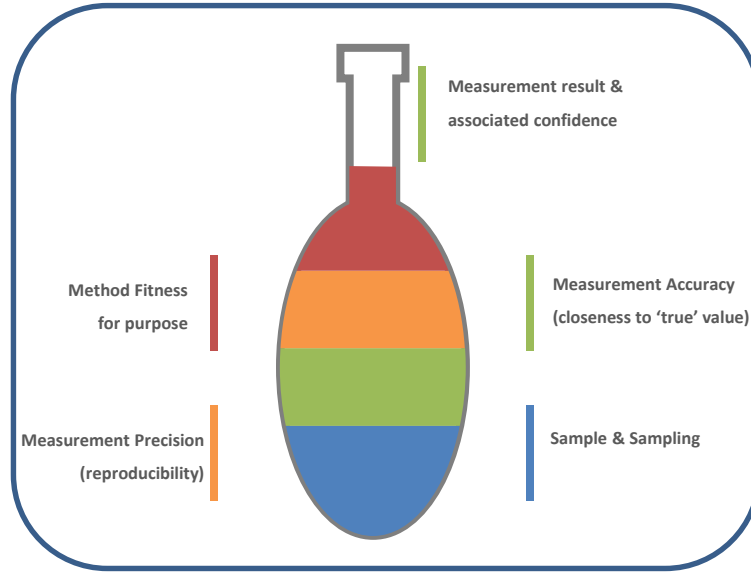
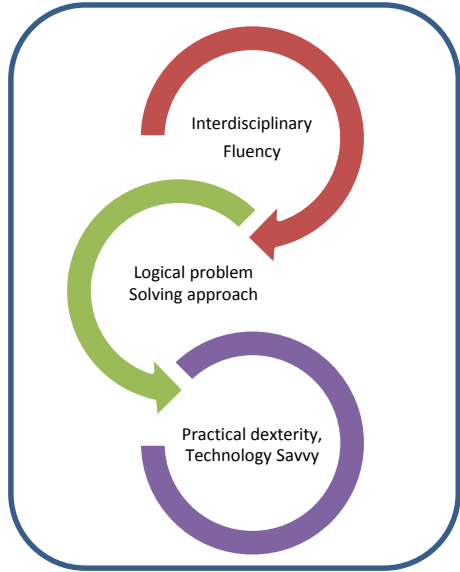
 **Reach**  
AMS touches every UK citizen & crosses all scientific disciplinary boundaries

 **Contribution to UK Employment**  
~22% of chemistry graduates were employed in AMS roles (2015)

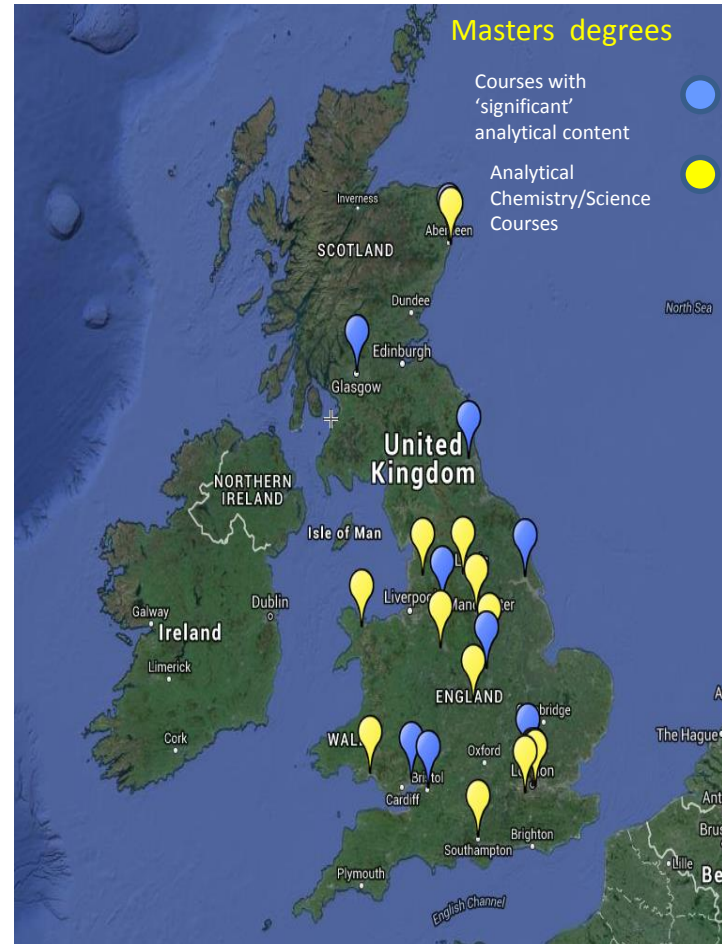
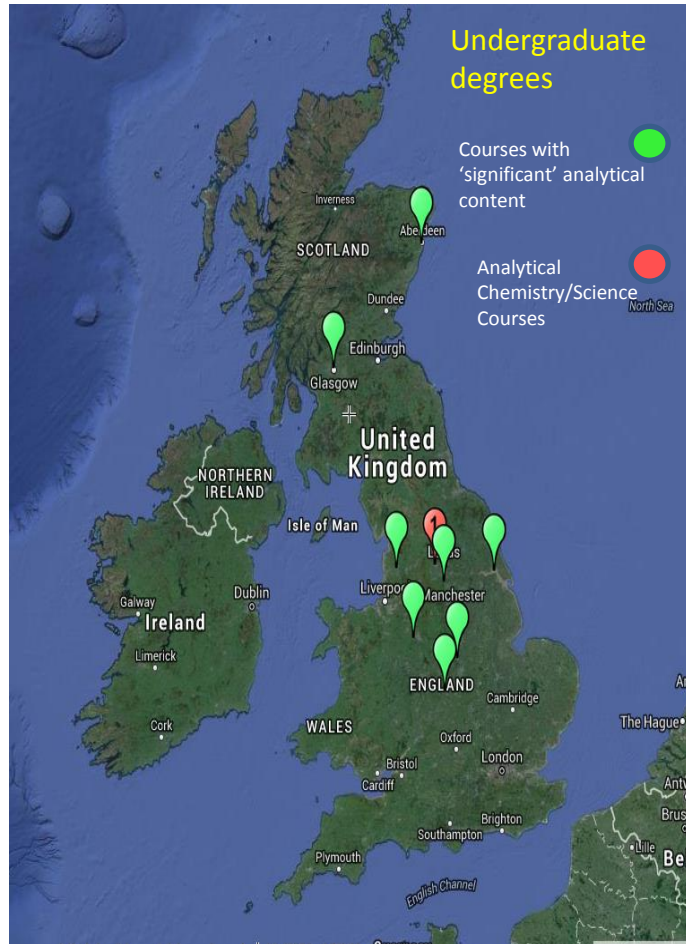
 **Contribution to UK Productivity**  
Tens of thousands of AMS labs helping to support the development and quality of UK products



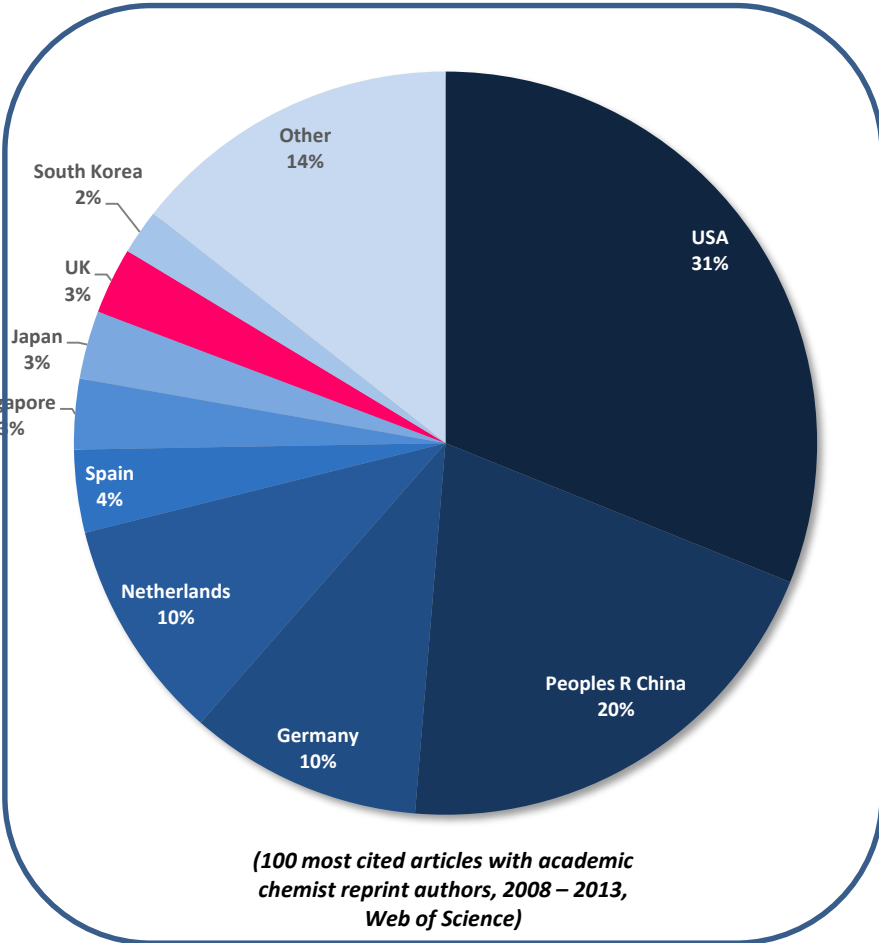
# AMS Skills



# Where are AMS graduates coming from?



# UK - AMS Research & Innovation



## Recommendations from the 2015 EPSRC Review of Analytical Science

*The profile of Analytical Science needs to be raised within academia...*

*There is a need for a cultural adjustment in universities to ensure that analytical science is properly represented in training at both undergraduate, Masters and PhD levels.*

*Fellowships in Analytical Science are already welcomed at both early and established career stages. This should continue... In addition there is a need for more 'Analytical Chairs' ...*

*Industry and instrument development company's involvement in the future of a healthy Analytical Science research strategy is vitally important...*

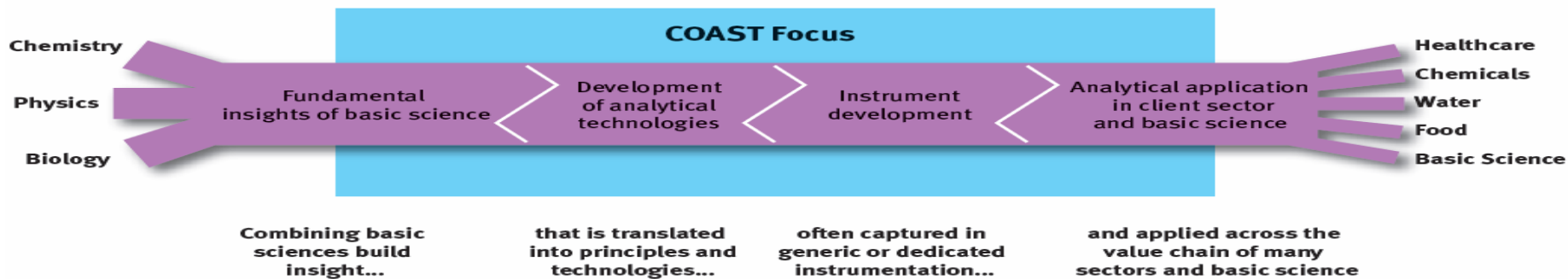
*...should look onto the feasibility of forming an Integrated Knowledge Centre for Analytical Science, which would target commercialisation of emerging analytical technologies through creating early stage critical mass in an area of disruptive technology*



# COmprehensive Analytical Science & Technology (COAST)

**COAST** is the Dutch public-private partnership for analytical science and technology

- To ensure availability of the newest analytical technologies in the Topsectors, thus driving innovation and contributing to society and economy
- To ensure high quality in human capital in analytical sciences at BSc, MSc and PhD level
- To facilitate access to high-end instrumentation

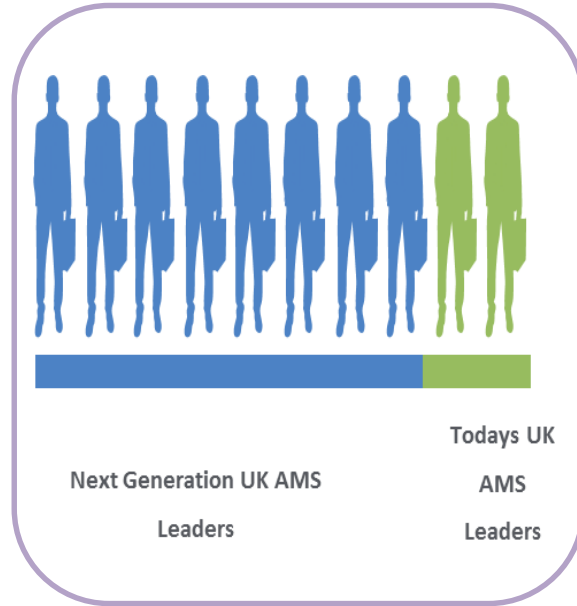


# UKCAMs

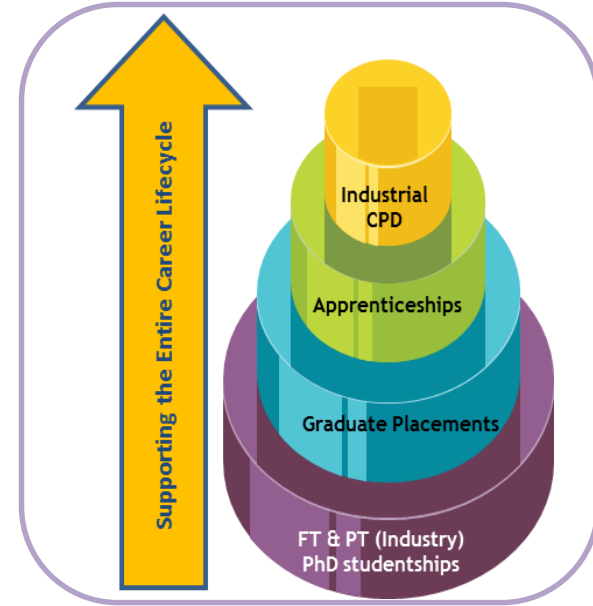
The UK Centre for AMS (UKCAMs) project is an industrially led project – *aiming to connect and invest in existing AMS Chem/Bio community strengths* to deliver on :



**Increasing UK Industrial Cross Sector Productivity in Point of Use AMS Technologies**

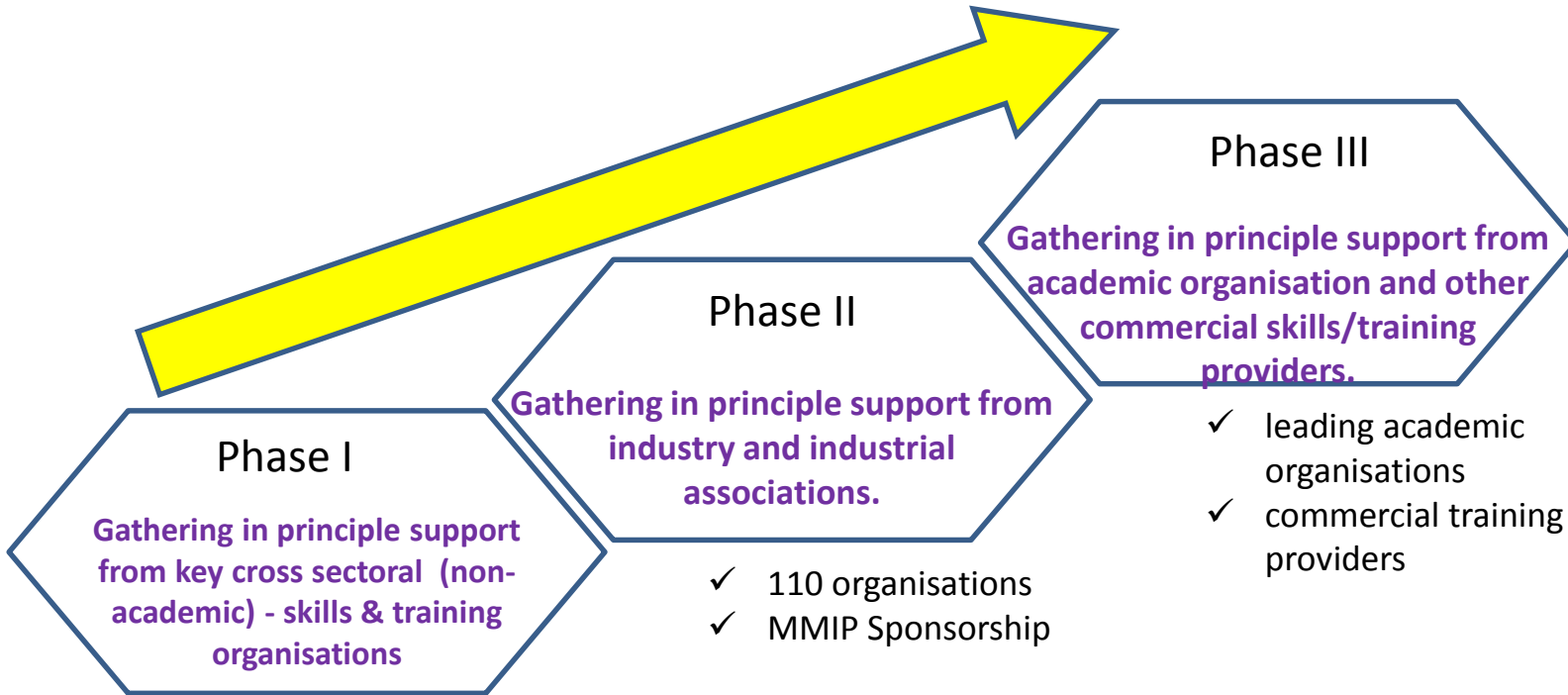


**Strengthening our UK Leading Edge in AMS Research & Innovation**



**Growing our UK AMS Skillsbase**

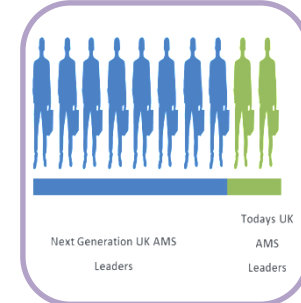
# UKCAMs - building the business case...



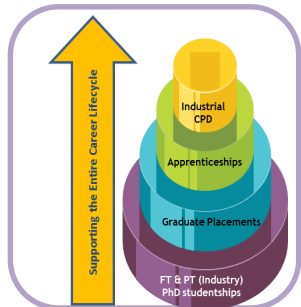
✓ *Multiple in principle support commitments – mandate – ‘get industry buy-in’.*



**Industrial AMS Productivity**



**AMS Research & Innovation**



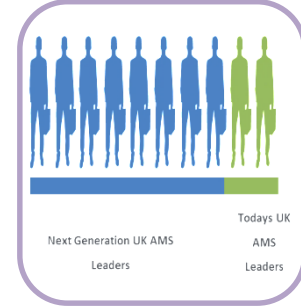
**AMS Career Lifecycle**



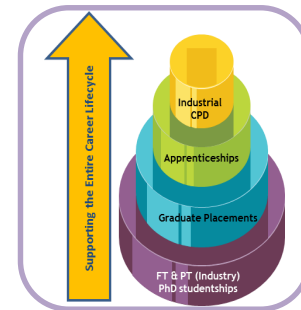
# Qu 1: What are the Future AMS Challenges ?



Industrial AMS Productivity



AMS Research & Innovation



AMS Career Lifecycle

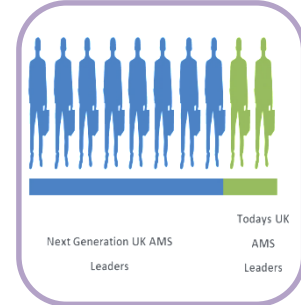
1. Challenges with personalised medicine (*e.g. monitoring narrow therapeutic windows of drugs / anaesthetics ; biomarker i.d. of biomarkers etc*)
2. Miniaturisation /Microfluidics / Portability
3. Development and adoption of robust sensor & photonics technologies
4. Data analytics (*e.g. rapid visualisation & accurate interpretation of large data sets*)
5. Reproducibility in pre-clinical research
6. All of the above
7. Other

# Qu 2: What are the hurdles to delivering solutions to these challenges in the UK ?

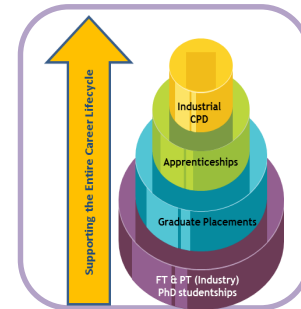
- A. Research and innovation funding
- B. UK Skillsbase
- C. Shrunken UK AMS instrument manufacturer base
- D. Recognition of the importance/potential impact of AMS for future UK productivity
- E. Lack of national coherent strategy or community focus for biochemical AMS
- F. All of the above
- G. Other



Industrial AMS Productivity



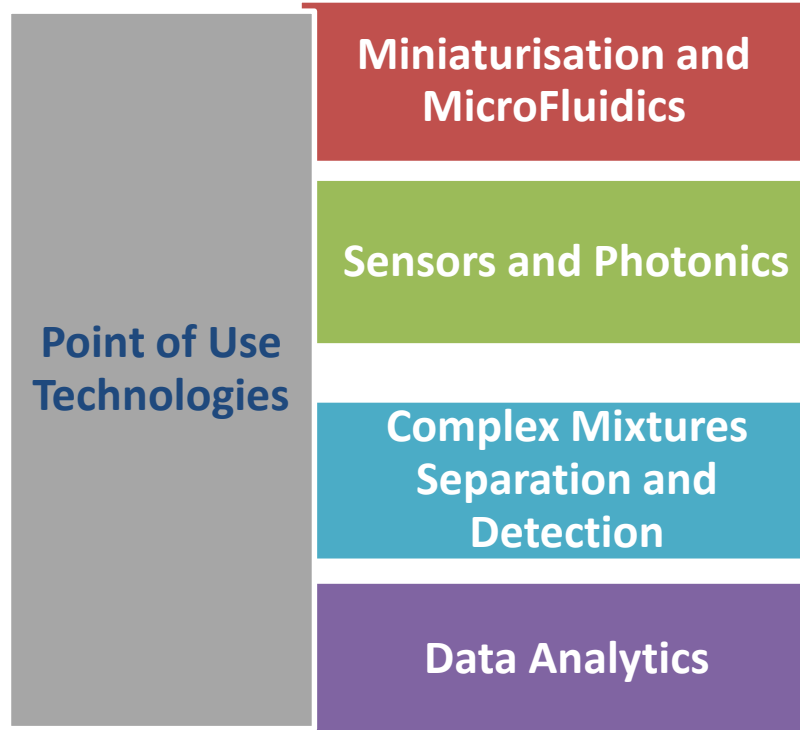
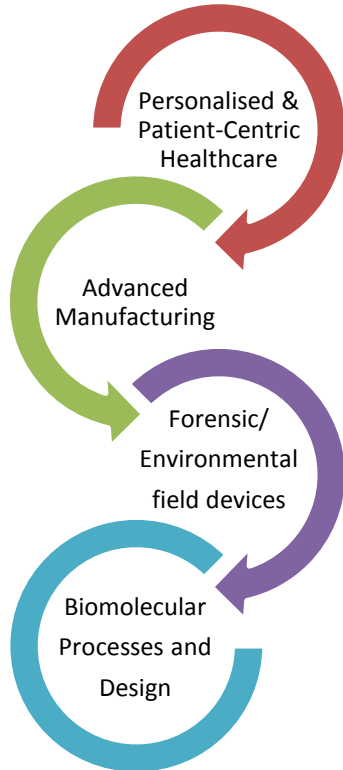
AMS Research & Innovation



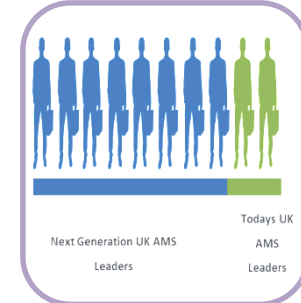
AMS Career Lifecycle

# UKCAMs - Themes

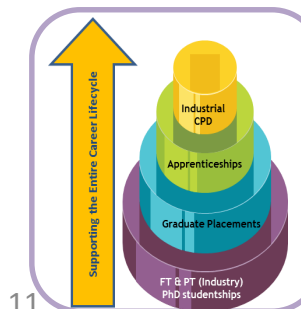
Feedback to date indicates 'Point of Use Technologies' currently resonates most highly across sectors



Industrial AMS Productivity



AMS Research & Innovation



AMS Career Lifecycle