Preparing a Competitive Proposal

Cranfield UNIVERSITY

Windo Hutabarat, Research Fellow in Manufacturing Informatics

itish Council Jakarta, 9 June 2016

BRITISH COUNCIL

Newton Fund

www.cranfield.ac.uk

Cranfield University

- Exclusively postgraduate university in technology and management
- Aims at creating and transforming technology into practical solutions
- Graduates the second highest number of postgraduates in manufacturing in the UK HIGHER EDUCATION STATISTICS AGENCY
- Positioned second in the UK in Aeronautical, Mechanical, Chemical and Manufacturing Engineering research power REF2014 Research Excellence Framework

Recent Successes

AHDB

Jane Rickson, Professor of Soil Erosion and Conservation and Steve Hallett, Principal Research Fellow in Environmental Informatics

"Development of a Horticultural Soil Management Information System (SMIS)

BBSRC
bioscience for the future

Leon Terry, Director of Agrifood

BBSRC Innovate UK Partner Funding "Season extension of UK asparagus using dynamically controlled atmosphere"

Naresh Magan, Professor of Applied Mycology

BBSRC Research Grant "Decision support systems for minimising mould spoilage and mycotoxins in stored cereals"

EPSRC
Pioneering research and skills

Ralph Tatam

Platform Grant renewal "Engineering Photonics: Sensor and Instrumentation Development & Application".

Co-investigators: Peter Foote, Seamus Higson, Steve James, Tom Charrett, Helen Ford, Jane Hodgkinson, Nick Lawson, Alex Skordos

Innovate UK
Technology Strategy Board

Jacqueline Hannam, Senior Research Fellow, Pedology

KTP with British Sugar, co-funded by BBSRC and Defra.

Ministry of Defence

Jackie Akhavan, Director of Education, Head of the Centre for Defence Chemistry/Licia Dossi, Research Fellow

"Binders for Design"

Jackie Akhavan, Director of Education, Head of the Centre for Defence Chemistry/Chris Stennett Group Leader - Explosives Science Group

"Advance Cook-off Experiments"

NERC
SCIENCE OF THE ENVIRONMENT

Steve Hallett, Principal Research Fellow in Soil Resource Informatics

NERC CDT "Data, Risk and Environmental Analytical Methods (DREAM)"

RESEARCH COUNCILS UK

Block Grant 2015/2016

RCUK have confirmed the 2015 / 2016 Block Grant allocation for open access. Cranfield's allocation has steadily increased from £86,698 in 2013/14 to £116,399 in 2015/16, to see the announcement in full please **visit the website**.

Manufacturing Informatics Centre

Cranfield UNIVERSITY

- Focuses on the development and application of novel informatics techniques for manufacturing technologies, processes and systems

- Centre size
  - Annual turnover : ~£2 million
  - Number of researchers: ~50

EPSRC
Engineering and Physical Sciences Research Council

Innovate UK
Technology Strategy Board

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION
HORIZON 2020

Workshop Overview

I. Setting the Scene
   - Introductions
   - Newton Fund presentation

II. Research in the UK
   - UK research ecosystem
   - Proposals, proposals

III. Knowledge in Practice
   - A remote talk by a past Newton Fund winner
   - Actions towards your proposal submission

Windo's proposal-writing experience

Started as a research fellow in Cranfield since 2008.
Started writing proposals in 2010.

- Rejected proposals (submitted and rejected):
  - As lead author: 5 (Innovate UK)
  - As co-author: 5 (FP7, H2020, Innovate UK, EPSRC)
- Failed proposals (substantial writing effort, not submitted):
  - As lead author: 1 (Innovate UK)
  - As co-author: 2 (Newton Fund - India)
- Successful proposals (submitted and funded):
  - As lead author: 3 (Innovate UK and EPSRC)
  - As co-author: 4 (Innovate UK, EPSRC, RAeng)
- Pending proposals (submitted and awaiting decision):
  - As co-author: 2 (EPSRC)
- Proposal under preparation:
  - As lead author: 2 (Innovate UK)
  - As co-author: 3 (Innovate UK)

Windo's proposal-writing experience

The three successful proposals won £2.2m worth of research projects, out of which £1.3m was government grant and £0.9m companies' contribution.

- *Towards Zero Prototyping of Factory Layouts and Operations Using Novel Gaming and Immersive Technologies* (£0.8m total cost: £0.6m grant, £0.2m companies' contribution)
  - 2014–2016, with GE and Lanner Ltd, Innovate UK competition
  - Enhancing discrete event simulation using immersive technologies and 3D imaging to radically boost the impact of manufacturing simulation in prototyping shop-floor processes.
- *Using Gaming Technology to Digitise Complex Manufacturing Process Knowledge* (£0.8m total cost, £0.4m grant, £0.4m companies' contribution)
  - 2012–2015, with Airbus UK and Aertec UK, Innovate UK competition
  - Application of serious gaming, motion capture, and immersive environment for training shop floor workers.
- *Kinect™-based Platform for Engaging Older Population in the Assessment of Purpose-built Facilities and Services* (£0.6m total, £0.3m grant, £0.3m companies' contribution)
  - 2012–2014, with Housing 21 and EnginSoft UK, Innovate UK competition
  - Application of Kinect™ in the housing and care of older people in assisted living schemes.

First exercise

Take three sheets each and using a small felt tip pen draw a picture on each sheet (2 minutes each picture)

Please do not use any words. Only pictures.

- **Yourself with your research interest**
- **Your favourite thing about the UK**
- **The results of your research after you've been given £1m every year for ten years**

Objectives of the day

Agree ⟷ Disagree

I understand how UK research and innovation is funded	
I am aware of opportunities from UK grant providers that are relevant for me	
I have UK partners that I want to collaborate with	
I know how to write a competitive proposal to a UK grant provider	
I have plans to submit a proposal(s) for UK funding in the next year	

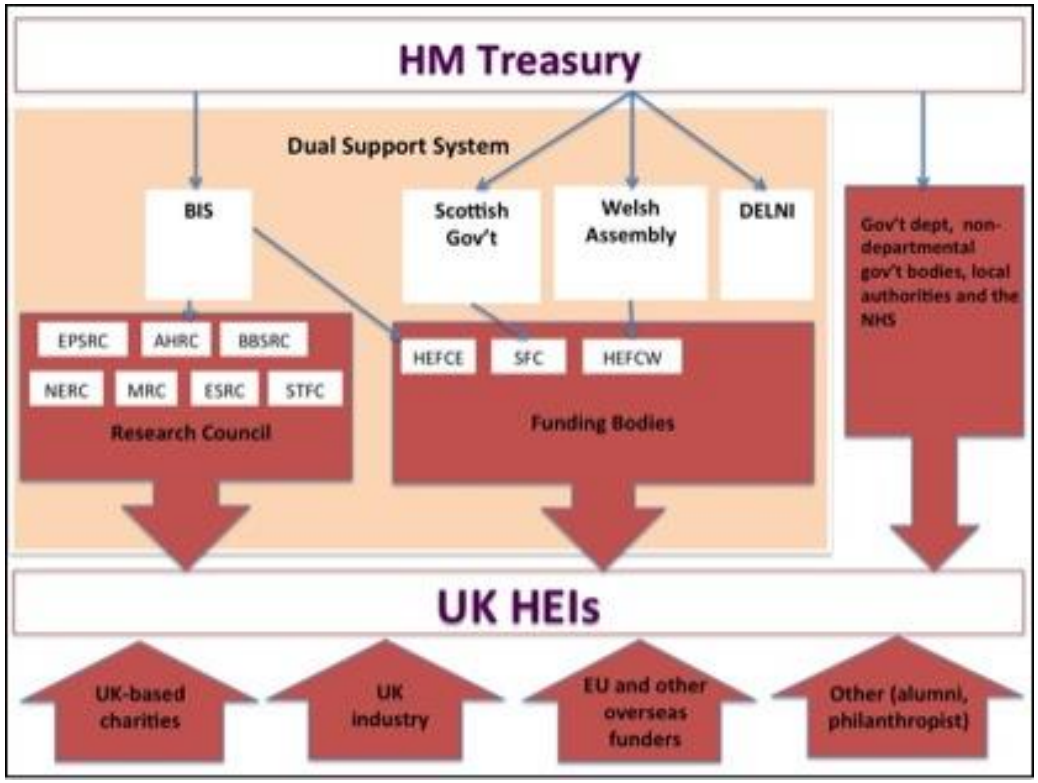
Rules of the day

- I will use English, but please let me know if it gets in the way
- Please interrupt me anytime if there is anything that is unclear
- Please ask questions anytime
- Please have fun

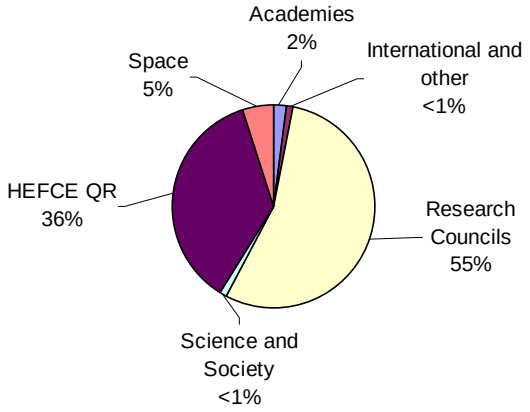
Newton Fund Presentation

Cranfield UNIVERSITY

UK Research Landscape



Science Resource budget maintained in cash terms with broadly the same balance between areas (Total ~ £4.6 bn)



Dual support funding

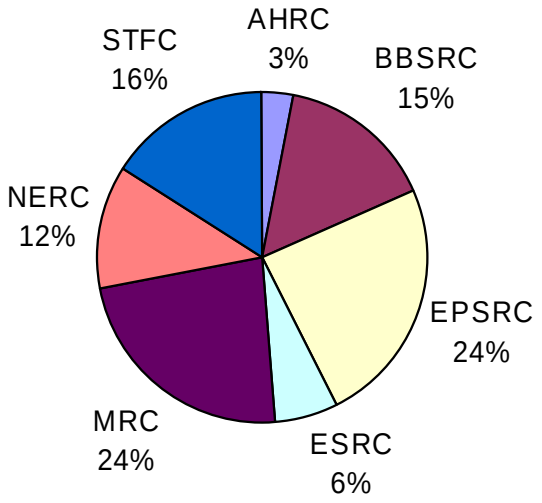
- Block grants to universities
  - Funded by Higher Education Funding Council for England (HEFCE) (and sister organisations in Scotland & Wales)
  - Made to universities primarily on peer review of past performance
- Research grants
  - Funded by the Research Councils to eligible organisations, individuals, or teams based on proposals submitted by researchers which are subject to peer review
  - Directed mode – covers proposals for funding in priority areas set by the Research Councils
  - Responsive mode – all areas within a Council's remit, usually outside the priority areas

Research Councils

- Research Councils
  - Arts and Humanities (AHRC)
  - Biotechnology and Biological Sciences (BBSRC)
  - Engineering and Physical Sciences (EPSRC)
  - Economic and Social Research (ESRC)
  - Medical Research (MRC)
  - Natural Environment (NERC)
  - Science and Technology Facilities (STFC)

- Research Councils UK (RCUK) – strategic partnerships between all 7 RCs

Total Expenditure by Council

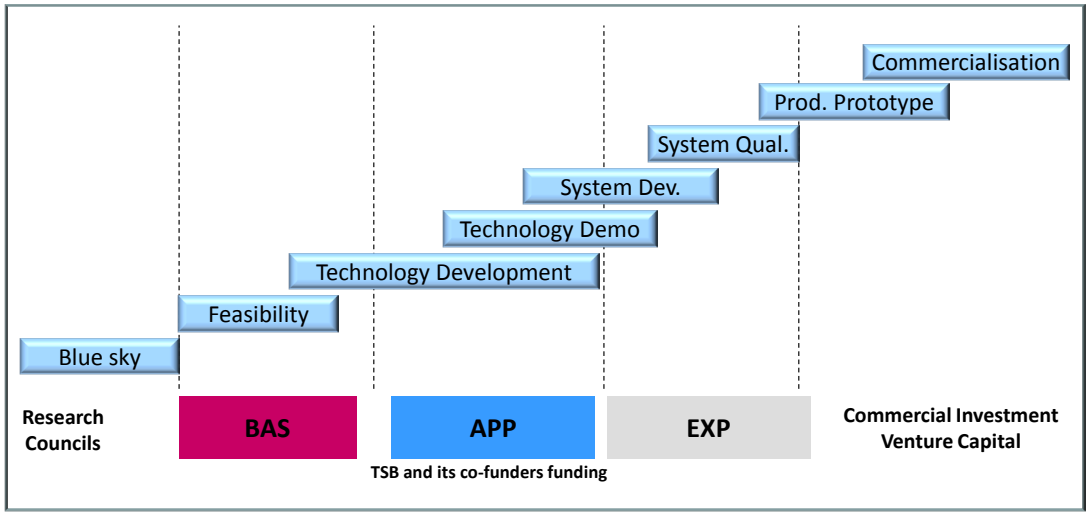


Innovate UK

- UK's innovation agency funded by BIS

- Funds, supports and connects innovative British businesses through a mix of people and programmes to accelerate sustainable economic growth

Types of Project



Innovate UK

Innovate UK
Technology Strategy Board

Our 5 key aims

1. Accelerating the journey from concept to commercialisation
2. Connecting the innovation landscape
3. Turning government action into business opportunity
4. Investing in priority theme areas based on potential
5. Continuously improving our capability

A Typical UK Research Academic Grant-seeking Process

1 Identify a funding opportunity

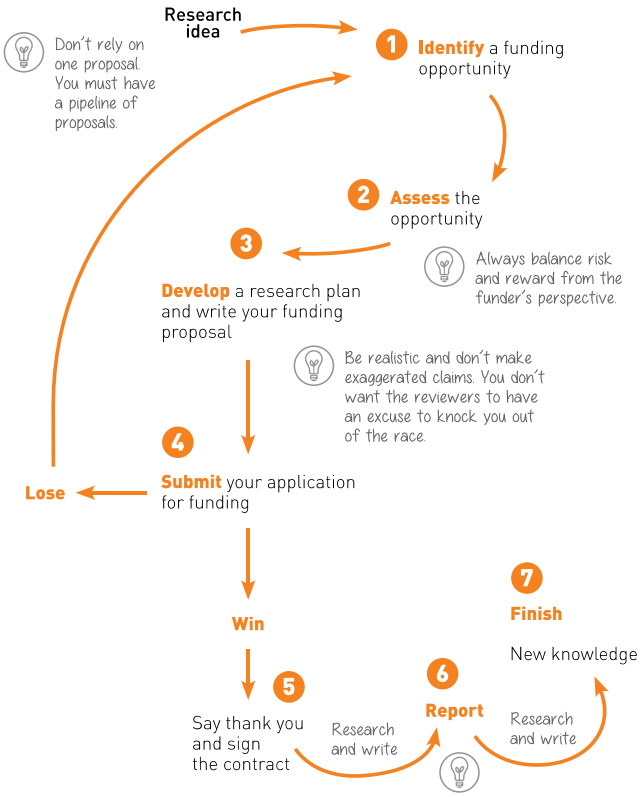
- Use a funding database, such as *Research Professional*
- Consult the research management office at your institution
- Monitor the websites of potential donors and institutions
- Interact with colleagues both locally and globally on email, in seminars and conferences, and seek out opportunities for partnership
- Scan relevant journals and magazines
- Ask foreign embassies if they provide information on research funded by their countries

2 Assess the opportunities you find

- Filter research grants and eliminate any that don't really fit with your research priorities
- Where there is a good fit, find out more about the donor's objectives via their website
- Make a checklist of what the donor requires and another list of your needs; then compare the two lists and check if there is enough overlap
- Find out if the funder accepts unsolicited proposals, or responds only to applications they receive after issuing a specific call

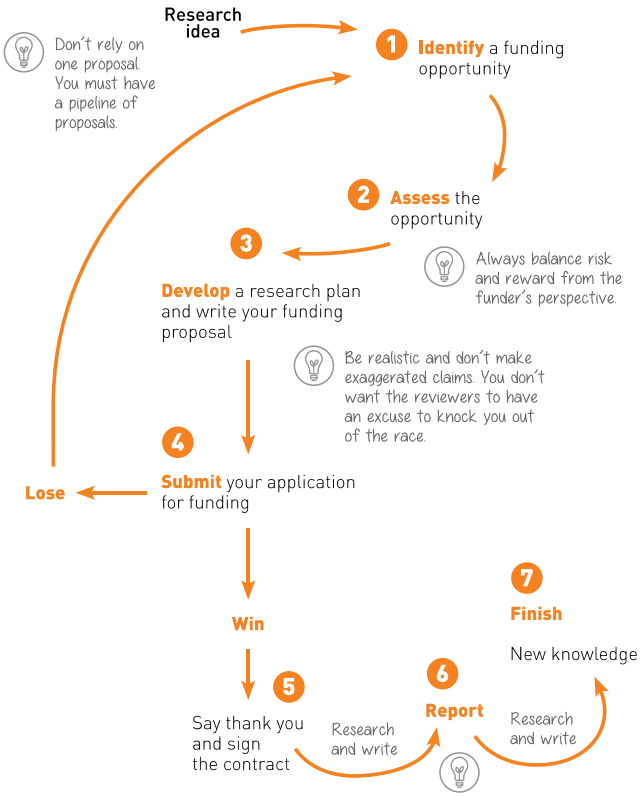
3 Develop an appropriate application

- Write a rough draft of your proposal, including the problem/s you are addressing, your objective, your methodology or process, budget, likely impact, etc.
- Include only the information that the donor asks for
- Consult colleagues and mentors about your concept and budget, and the general feasibility of your research project, as well whether the application is well written
- Match your language to the language that the funder uses, then cut, prune and omit needless words; revise, revise, and revise the application again, improving it each time, until it is the best you can make it
- Have someone else check your spelling and grammar



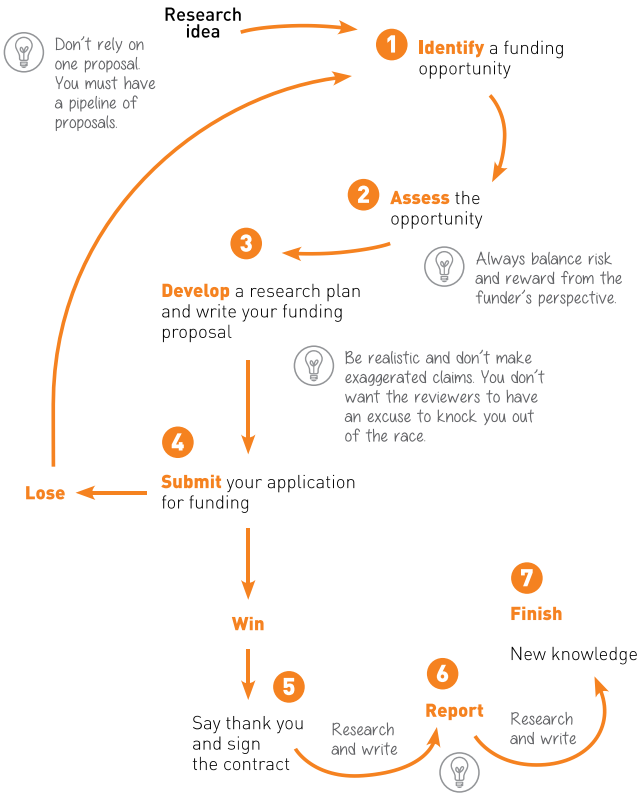
4 Submit your application

- Submit the application using the means that the donor requests (online or hard copy)
- Never submit late without first checking if late applications will even be considered
- Inform anyone you have listed as a referee that you have included them
- Thank everyone who helped you



5 Follow up

- If you are successful, first thank the funder
- If you aren't successful, start again from point 1
- Reflect on the process and make sure you learn from what went well and what didn't go so well so that you can make sure that it all goes more smoothly next time



6 Research and write

- Conduct your research, and remember to include the writing of research reports in the schedule

Common proposal elements

1. Cover page
2. Resume (abbreviated CV) with research activities and outputs to date
3. Proposal
4. Budget
5. Letters of support

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- Concise yet convincing overview of the needs you want to address with the project
- Brief description of the overall context
- Use facts, examples, and statistics to support your statements

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- What you will do to address the identified needs
- Aim (or goals) are concepts or ideal situations that are not necessarily measurable
- Objectives are specific, tangible, and measurable outcomes that should be achieved within a specified period of time

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- How, when, and by whom the project's objectives are going to be achieved
- Be very clear, specific, and realistic

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- How you are going to measure your success or failure in reaching the stated objectives
- Provide outline of the instruments that will be used for the evaluation, who will do it, when they will do it, and how the reporting would be done

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- What can go wrong with the attainment of specific objectives
- Operational, technological, management, personnel, etc
- Strategies to mitigate the risks
- Who will manage the risks

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- Duration of the project
- Total project costs
- Any already available income

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- Personnel
- Travel and subsistence
- Equipment
- Overhead costs (rent, telephone, etc)
- Dissemination of project materials

Proposal contents

1. Needs statement
2. Aim and objectives
3. Methodology and timetable
4. Evaluation
5. Risk management
6. Budget Summary
7. Detailed Budget
8. Future Funding Plans

- Financial resources needed to continue the project once it ended
- How you will secure these resources

Language tips

- Write clearly and use the funder's language
- Interchangeable words:
  - objective / mission / target / research question / purpose / intention / goal
  - problem / need / context / issue / situation
  - purpose / objective / mission / goal / outcome / vision / target
  - activities / actions / project plan / research methods
  - inputs / resources / nances / capital investment
  - indirect costs / overhead costs / administrative costs / facility costs
  - results / outputs / products
  - impact / influence / uptake

Language difficulties

Academic Writing versus Grant Writing: Contrasting Perspectives

Academic Writing	Grant Writing
Scholarly pursuit:	**Sponsor goals:**
Individual passion	*Service attitude*
Past oriented:	**Future oriented:**
Work that has been done	*Work that should be done*
Theme-centered:	**Project-centered:**
Theory and thesis	*Objectives and activities*
Expository rhetoric:	**Persuasive rhetoric:**
Explaining to reader	*"Selling" the reader*
Impersonal tone:	**Personal tone:**
Objective, dispassionate	*Conveys excitement*
Individualistic:	**Team-focused:**
Primarily a solo activity	*Feedback needed*
Few length constraints:	**Strict length constraints:**
Verbosity rewarded	*Brevity rewarded*
Specialized terminology:	**Accessible language:**
"Insider jargon"	*Easily understood*

Clarity

- A detached fragment of the terrestrial lithosphere, whether of igneous, sedimentary, or metamorphic origin, and whether acquiring its approximation to sphericity through hydraulic action or other attrition, when continuously maintained in motion by reason of the instrumentality of gravitational forces constantly acting to lower its center of gravity, thus resulting in a rotational movement around its temporary axis and with its velocity accelerated by any increase in the angle of declivity, is, because of abrasive action produced by the incessant but irregular contact between its periphery and the contiguous terrain, effectively prevented from accumulating on its external surface any appreciable modicum of the cryptogamous vegetation normally propagated in umbrageous situations under the optimum conditions of undeviating atmospheric humidity, solar radiation, quiescence, and comparative sequestration from erosive agencies.

- A rolling stone gathers no moss.

Common pitfalls

1. Non-interesting title and abstract
   - Reviewers are usually not experts in your field and have little time
2. Failing to read the small print
   - Do a close reading, and then check your understanding
3. Problems with electronic submission
   - Prepare in Word, then copy-paste
   - Servers get inundated at the last minutes, so submit earlier
4. Last-minute applications
   - Take time to write and ensure enough time for proofreading
5. Confusion over costing
   - Get help from finance people
6. Failing to ask questions
   - Build good relationships with funding agencies

Technology Strategy Board

Driving Innovation

Technology-inspired innovation

COMPETITION FOR COLLABORATIVE R&D FUNDING

OCTOBER 2011

Scope of “Technology Inspired” (1)

- **The 5 areas covered by our core technology strategies**
  - **Advanced Materials**
  - **Biosciences**
  - **Electronics, Photonics and Electrical Systems**
  - **Information and Communications Technology**
  - **Nanotechnology**

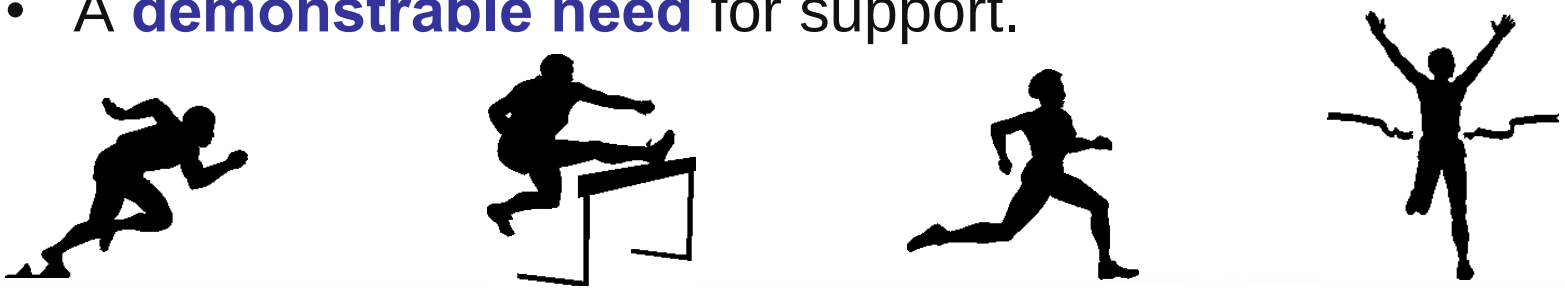
  These areas are more fully described in later slides
- **Exceptions (out of scope)**
  - **Specific technology areas covered by other Technology Strategy Board competitions which have been, or will be, opened during 2011.**
  - **These exceptions are discussed in a later slide**
- **All projects are required to contain a significant element of technology innovation**

Scope of “Technology Inspired” (2)

- This competition will focus on projects where recent technological discoveries or breakthroughs have inspired innovation in a context of significant technology risk, demanding highly skilled, multi-disciplinary resources, working in a collaborative project team
- Encourage innovation in new enabling technologies that have the potential to span different disciplines and may not be directly driven by society’s challenges. An example is innovations that lead to new technology platforms, or ‘springboards’, from which the potential commercial benefits could be realised across multiple applications
- The scope includes taking a known technology into new application areas where significant technical challenges need to be overcome
- Projects will generally be at the applied research stage leading to (and possibly including some) experimental development

The “Ideal Project”

- A **clear commercial opportunity** to open up or exploit a significant growth market.
- A **technical challenge** that requires the creation of an **industrially driven consortium** and innovative and risky research and development to solve.
- A **realistic project** with deliverables and applications that are innovative, commercially exploitable and of wider benefit.
- A **demonstrable need** for support.



Innovate UK
Technology Strategy Board

Section 1:

The business proposition	
Question 1	What is the business opportunity that this project addresses?
Question 2	What is the size of the market opportunity that this project might open up?
Question 3	How will the results of the project be exploited and disseminated?
Question 4	What economic, social and environmental benefits are the project expected to deliver to those inside and outside of the consortium and over what timescale?

All questions are equally weighted (10 marks per question)

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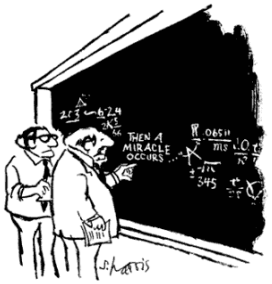

"I think you should be more explicit here in step two."

Section 2:

The Project details	
Question 5	What technical approach will be adopted and how will the project be managed?
Question 6	What is innovative about the project?
Question 7	What are the risks (technical, commercial and environmental) to project success? What is the project's risk management strategy?
Question 8	Does the consortium have the right skills and experience and access to facilities to deliver the intended benefits?

All questions are equally weighted (10 marks per question)

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Section 3:

Funding and added value

Question 9	What is the financial commitment required for the project?
Question 10	How does the financial support from the Innovate UK and its funding partners add value?

All questions are equally weighted (10 marks per question)

Technology Strategy Board

Driving Innovation

GUIDANCE FOR APPLICANTS

Valid for Technology Strategy Board Collaborative Research and Development Competition:

Technology-inspired innovation

October 2011

Innovate UK
Technology Strategy Board

Gateway Question: Scope

How well does the project fit the competition?

Scope Gateway question	
Question	**Guidance**
Gateway question: Scope - How does this application align with the specific competition scope? Specifically this asks you to explain how the project will develop novel flexible manufacturing technologies sufficiently to reduce the risk of implementation and to explain how the consortium, and in particular the end user, will adapt their business models to implement the flexible manufacturing system developed during this project and how it will provide the benefits they envisage.	All applications must align with the specific competition scope criteria as described in the relevant competition Brief. **Note:** To demonstrate alignment, you need to show that a clear majority of the project's objectives and activities are aligned with the specific competition. In forming their judgment on this, the assessors will also consider whether the application addresses the research objectives and topics it claims to. It is important, therefore, for you to understand fully the background, challenge and scope of the competition, as outlined in the Competition Brief.

Key points:

- "must align"
- "clear majority of the project's objectives and activities"

Don't write yourself out of scope...!

This part of the application is **not marked**

Gateway Question: Scope

Please refer to the Guidance for Applicants for details of the specific information required for this gateway question. Note that if your application does not meet the specific requirements of this question your application will be rejected.

How does this application align with the specific competition scope?

This proposal applies a novel approach to lev
in gaming interface (Kinect™) to aerospace c
[ENABLING TECHNOLOGY] The proposed inn
accuracy of current digital analysis tools when dealing with manufacturing processes involving
deformable materials. A cadre of highly skilled workers currently provides such a capability. The
innovation will be an underpinning platform t
manufacturing processes that currently depe
'app-store' dissemination approach that allov
[MULTI-DISCIPLINARY SPAN] The demonstrat
that relies on deformable raw materials; this
Further development will allow application to
such as manufacturing of garments, footwear
[TAKING KNOWN TECHNOLOGY INTO NEW A
that has been successfully packaged into a commercial-off-the-shelf commodity item. This project will take Kinect™, for the first time, into manufacturing. This proposal is very timely because Microsoft Kinect™ was released in October 2010 and its Software Development Kit (SDK) was released in 2011.
[ALIGNMENT WITH TECHNOLOGY AREA] The proposed area of innovation is predominantly Information and Communications Technology (ICT). The application domain of this project is the Advanced Materials area, in particular composite manufacturing processes. The proposed innovation fits the ICT scope because it presents a radically new software-based approach to develop composite analysis ICT systems that enable 'right-first-time' manufacturing to be realised rapidly, cost-effectively and reliably. The project will deliver a system demonstrator that complements and integrates with existing software tools. It will capture and reuse human knowledge of the complex manual manufacturing processes, thereby increasing the accuracy of analysis of the processes that use deformable materials, such as laminate fibres.

All projects must contain a significant element of enabling technology innovation.

We are especially keen to encourage innovation in new enabling technologies that have the potential to span different disciplines and may not be directly driven by society's challenges. An example is

Section 1: The Business Proposition	(10 points per question = 40 points in total)
Question	**Guidance**
1. What is the business opportunity that this project addresses?	You should outline the business opportunity and what the consortium needs to do to successfully address it within the desired timeframe and cost. You should describe the nature of the problems or issues facing you and/or your potential customers and how the intended outputs of the project will address these problems and issues.
2. What is the size of the market opportunity that this project might open up?	You should describe the size of the market opportunities that this project might open up, including details of: □ Current nature of the specific market(s) at which the project is targeted (e.g. is it characterised by price Competition amongst commoditised suppliers? Is it

Section 1 - The Business Proposition

Please refer to the Guidance for Applicants documents for details of the specific questions to be addressed by you within each of these sections.

[1. OPPORTUNITY] In recent years, many ICT advances have been pioneered in the gaming domain. One such new advance is Microsoft Kinect™, which is a cheap integrated sensing device that can continuously capture the 3D image of a scene and extract human activities therein. This proposal aims to exploit the opportunities available through deploying Kinect™ on the manufacturing shop floor to capture the activities of highly skilled manual workers who deal with deformable materials. These workers have internalised complex manual process knowledge relating to these materials, which is expressed through decision-making and fine motor skills that are difficult to quantify. The proposed Knowledge Capture System (KCS) will non-intrusively learn from these workers, thus transferring their knowledge, for the first time, into the digital domain. The captured knowledge allows the creation of Knowledge-Based Analytical (KBA) tools that assess design features, suggest manufacturing improvements and aid training. This proposal focuses on the EADS UK growth area of composite manufacturing, where a need for this type of capability has long been identified -- but never solved.

Q1 - What is the business opportunity that this project addresses?

Average score for this section (out of 10): 7.40

An exciting opportunity to use existing games technology to improve a manufacturing process. The data captured will be used in KBA tool to assess manufacturing feature and suggest manufacturing improvements. .

There is a clear business case for automated techniques to aid manufacturing processes involving complex manipulation of deformable materials, as in composite manufacture. Leveraging recent advances in depth sensing as represented by the Kinect is a good idea and there is clear scope for developing significant enabling technologies. However the specific technology to be developed in this project is not entirely clear, hence reducing the strength of the application. .

The opportunity lays in being first to market with capturing and then on selling skilled worker physical knowledge although this is not simply stated. Whilst the capture solution will gather physical movement of the worker it is also not clear how the knowledge of the worker in translating a materials problem into the physical movement will be captured. i.e. there needs to be capture of the problem state as well as solution. No identification of customer need although plausibly there. .

Applicant has a clear understanding of the business opportunity and the problems to be overcome and the project seems well aligned with those needs. .

The business opportunity could be more robustly stated in terms of the manufacturing process improvements that could be expected by adoption this approach. The concept seems clear, but it is less apparent whether this will end up as a manufacturing process analysis / development tool, or as part of the manufacturing process itself. .

[1. BUSINESS OPPORTUNITY] {Outline} This project is the first to market a toolkit capable of capturing, digitising and reusing the manufacturing shop-floor activities of highly skilled workers who deal with deformable materials. The target domain is the manufacture of complex aerospace composites structures. This project takes advantage of ICT opportunities arising from the recent advances in capturing human skeleton kinematics for the gaming domain. One such new advance is Microsoft Kinect™, which is a cheap integrated sensing device that can continuously capture the 3D image of a scene and extract human activities therein. {Addressing the Opportunity} The consortium will: (i) create a Knowledge Capture (KC) system to non-intrusively learn from the skilled workers, thus transferring their knowledge, for the first time, into the digital domain, (ii) devise a standardised form of digitised motion knowledge, or Knowledge Package (KP), which can be transferred, traded and plugged into compatible systems, (iii) create a Knowledge Reuse (KR) system that can assess design features, suggest manufacturing improvements and aid training, (iv) create an app-space web service where companies can buy pre-packaged KPs or sell their proprietary KPs, and (v) exploit the deliverables by forming a start-up company, henceforth called the 'Newco'. {Nature of the Problem} The state-of-the-art simulation tools for composites design and manufacturing cannot deal with the complex implications of even simple design features, such as shape tapering and sectional step changes. This leads to manufactured parts that are far from realising the design intent and have many defects. The current process for achieving the design intent therefore involves multiple expensive iterations of manufacturing a part. {Intended Outputs} Our vision is to exploit the opportunities available through deploying Kinect™ on the manufacturing shop-floor to capture and reuse expert knowledge to significantly enhance the accuracy of analysis tools, with an aim to achieve 'right-first-time' transition from design to manufacture. This will accelerate the development of new products and increase the efficiency of manufacturing processes by reducing resource waste from rework.

COMMERCIAL IN CONFIDENCE

Technology Strategy Board
Driving Innovation

Mr S Astwood
EADS UK Ltd
CSDC Building
20A1 South Office Airbus UK
Golf Course Lane
Bristol
BS99 7AR

File Ref: 101251
Application number: 16841-120193
Date 31 May 2012

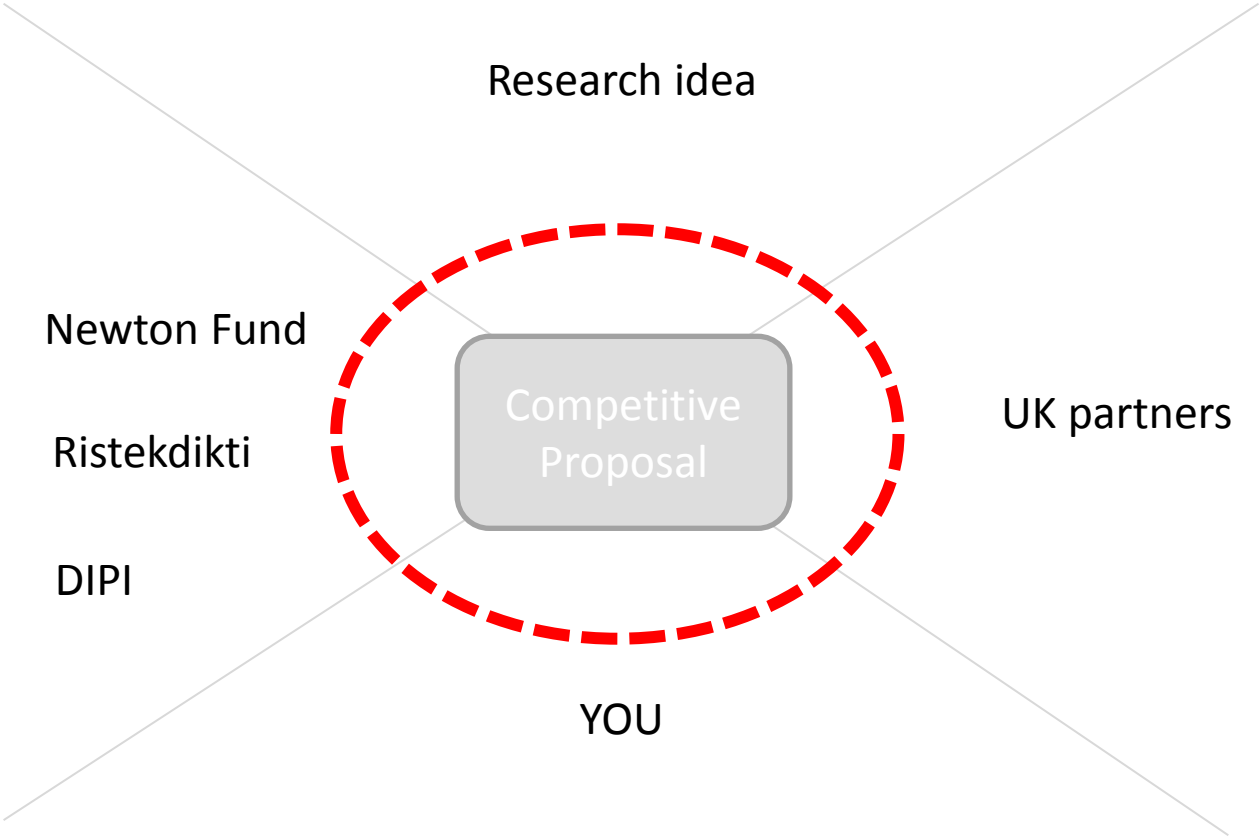
Dear Mr Astwood

Technology Strategy Board: Technology Inspired CR&D - ICT
Project Title: Using Gaming Technology to Digitise Complex Manufacturing Process Knowledge

I am pleased to inform you that subject to the terms and conditions of this letter the Technology Strategy Board, an Executive Non-Departmental Public Body created under the Science and Technology Act 1965 and established by Royal Charter (English Company Number RC000818) whose registered office is at North Star House, North Star Avenue, Swindon,

Exercise

- Please work in your group to identify specific barriers and challenges that you've found in preparing a Newton Fund proposal



Exercise
Plan for your grant proposal

- Please spend 5 minutes with the group to fill out the Action Brainstorming sheet, brainstorming about actions and behaviours that would help you in dealing with the barriers and challenges you discovered earlier

Planning and preparation

- Please spend 15 minutes creating an action plan for yourself submitting a proposal

- Who
  - Who is responsible for writing?
  - Who is responsible for budgeting?

- When
  - Diarise the deadline
  - Make time to write

Preparing a Competitive Proposal

Cranfield UNIVERSITY

Windo Hutabarat, Research Fellow in Manufacturing Informatics

itish Council Jakarta, 9 June 2016

BRITISH COUNCIL

Newton Fund

www.cranfield.ac.uk