

'Best submissions will have' Guide...

...to IKC SynbiCITE Project Applications

This is a basic guide to what is needed to be included when submitting Proof of Concept (short form) project applications and for Longer Larger (long form) projects to the IKC.

Summary

1. About the IKC - SynbiCITE

SynbiCITE – a **S**ynthetic **B**iology Innovation and **C**ommercialisation Industrial Translation Engine.

SynbiCITE is the UK's national centre to accelerate the commercialisation of synthetic biology; it is centred at and led by Imperial College London by Prof. Richard Kitney and Prof. Paul Freemont, the Centre's Directors, with a goal to create an industry based on Synthetic Biology.

SynbiCITE is an Innovation and Knowledge Centre funded (with £10m) by Technology Strategy Board, the EPSRC and BBSRC with co-funding from the industrial and academic partners to a current total of £24m over the next 5 years.

SynbiCITE treats the UK as a cluster of expertise and brings together 18 University partners with 30+ SMEs and 7 major companies including Shell UK plc, Syngenta, Agilent, Microsoft, Procter & Gamble, GSK and Life Technologies, all offering facilities, expertise and services to enable synthetic biology to become embedded in manufacturing industries.

2. Project Scheme Summary

The IKC offers two scales of project for which submissions will be accepted at any time to be assessed at Project Review Board meetings several times a year. Listed below are the call-off deadlines for 2014 for each of the scales of project.

Submissions should be made as a Word document of the appropriate form along with any appendices (titled and labelled with the project number as 'surname_Version_x.y_ddmmyyyy') also as a Word document to enable us to make the submissions 'blind' for the assessment process.

You might recognize the format and style of the submission process since these are based directly on the Technology Strategy Board competitions and Smart Award submissions questions and application process.

The applications are scored by an independent assessment panel and results conveyed to the applicants before the earliest start date.

Proof of Concept Projects – Using the Short Form Projects application form:

These are intended for shorter proof of concept, feasibility projects

Proof of Concept, demonstration of feasibility:

Project size: up to £50k funding (these projects are 100% funded by the IKC)
Timescale: up to 6 months

First submission deadline: 10th March 2014 for Proof of Concept (using the Short Form) applications
Earliest start date: 1st May 2014

Longer Larger Projects – Using the Long Form Projects application form:

Development of Prototype:

These are intended for longer, larger projects where proof of concept and feasibility has already been demonstrated; it might be that this is taking an existing project to the next stage development of prototype.

Project size: £50k-£1M (these must be collaborative projects and are 50% funded by the IKC)
Guidance for Applicants – IKC Project Submissions: 'Best applications will have...' JLC V5.2 (2014)

Timescale: 6 months – 2 years

First submission deadline: 1st May 2014 for Development of Prototype (using the Long Form) applications

Earliest start date: 1st September 2014

Development of Pilot Scale:

These are intended for longer, larger projects where a demonstrator has been produced, field trials and lead adopter tests have shown demonstrator efficacy and a project is to take the demonstrator to pilot scale production.

Project size: £1M - £5M (these must be collaborative projects and are 30% funded by the IKC)

Timescale: 2 years – 3 years

Second submission deadline: 1st December 2014 for Development of Pilot (using the Long Form) applications

Earliest start date: 1st March 2015

3. Assessment Process Overview

The applications will be assessed and scored by an independent assessor panel which will be part of the Project and Process Review Board. The same assessor panel will assess all applications in any particular round and independent technical experts will be brought in if and when necessary.

The Proof of Concept, demonstration of feasibility projects submitted on the Short Form application (of 5 questions + a required Responsible Innovation/Responsible Research statement from all partners) will be scored out of 50; it is expected that successful projects will score above 40.

The Longer Larger projects, (Development of Prototype and Development of Pilot projects) submitted on the Long Form application (of 10 questions + a required Responsible Innovation/Responsible Research statement from all partners) will be scored out of 100; it is expected that successful projects will score above 80.

The final question on Responsible Innovation is not scored but will form part of the IKCs ongoing collaborative approach to satisfying the need for Responsible Innovation and for Synthetic Biology to be an exemplar in future Responsible Innovation Framework approaches. It is essential that this question is completed – submissions without a considered response to this will be deemed ineligible for funding until this is completed to the satisfaction of the Project and Process Review Board.

After submission it is expected that assessment will be carried out within 3-5 weeks and a panel meeting will agree outcomes as soon as feasible and possible thereafter.

Funding will be agreed dependent on the level of funding sought and the level of funding available at the time.

A research funding contract will then be issued to the successful applicant. Unsuccessful applicants will be given feedback and will be able to resubmit for assessment into future rounds as they are called.

4. The application form

This section explains the structure of the application form and offers guidance on the information to include in each section and the suggested appendices.

Guidance for Applicants – IKC Project Submissions: 'Best applications will have...' JLC V5.2 (2014)

- The structure is as follows:
- Application details
- Summary of proposed project
- Public description of the project
- There are 4 questions on the business proposition
- There are 4 questions on the Project details
- There are 2 questions on the Funding and added value
- **There is an assessed (but not marked) '11th question' on Responsible Research and Innovation practices at the end of the application form**

NB. There are 10 marked questions in all, each question has an equal weighting of 10 marks per question. **NB.** Try to be as concise and clear in your answers; although there is 'unlimited' space to present your answers clarity of purpose and reason will strengthen your application.

NB. The Responsible Innovation question must be answered but is not scored.

NB. Make good use of adding Appendices, maximum length 5 pages.

Summary of proposed project (not scored)	
Question	Guidance
Please provide a short summary of the content and objectives of the project including what is innovative about it for Public dissemination if your project is successful.	This is an opportunity to provide a short summary of the key objectives and focus areas of the project. It is important that this summary is presented in reference to the main outline of the project, with sufficient information to provide a clear understanding of the overall vision of the project and its innovative nature.

Section 1: The business proposition		(10 points per question = 40 points in total)
Question	Guidance	
<p>1. What is the business opportunity that this project addresses?</p> <p>(This part of Qn. 1 for the PoC/Feasibility form)</p>	<p>Outline the business opportunity and what the project team needs to do to successfully address it within the desired timeframe and cost.</p> <p>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.</p> <p>Show that there is a clear, credible business opportunity described and evidenced where:</p> <ul style="list-style-type: none"> • a full understanding of the customer need to be addressed is demonstrated • the proposed solution would be highly attractive to target customers • the proposed solution demonstrates clear and robust linkage between project outcomes and its business opportunity. 	
<p>2. What is the size of the market opportunity that this project might open up?</p> <p>(This part of Qn. 1 for the PoC/Feasibility form)</p>	<p>Describe the size of the market opportunities that this project might open up, including details of:</p> <ul style="list-style-type: none"> • the 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 dominated by a single leading firm?) • the dynamics of the market including quantifying its current size, actual and predicted growth rates • a clear and robust strategy for developing market share • the projected market share for the project outcome, with justification in the light of any potential competitors • the potential to create value-added for the UK and/or the European Economic Area (EEA). <p>Describe and clearly quantify the return on investment that the project could realistically achieve and provide relevant source data references.</p> <p>Where possible, provide independent sources of evidence for your statements about the addressable market for project outcomes and outline your strategy for attracting lead adopters and (in the future) developing market share.</p> <p>For highly innovative projects (see question 6) where the market may be unexplored, explain:</p> <ul style="list-style-type: none"> • what the route to market could or might be • what its size might be • how the project will seek to explore the market potential • what sources you have used to reassure the assessor that there is (or will be) sufficient market demand to justify the investment 	

<p>3. How will the results of the project be exploited and disseminated?</p>	<p>List or describe the potential exploitable outputs of the project such as:</p> <ul style="list-style-type: none"> • products • services • processes • applications • software solutions <p>and show these are credible technically and/or otherwise.</p> <p>Then, describe how these outputs will be exploited including, where applicable, the route to market; protection of intellectual property rights; reconfiguration of the value system; changes to business models and business processes and other methods of exploitation and protection.</p> <p>Show a clear and credible business model to deliver projected returns.</p>
--	---

<p>4. What economic, social and environmental benefits is the project expected to deliver to those inside and outside of the consortium, and over what timescale?</p>	<p>Explicitly identify all benefits that will accrue inside and outside of the consortium or partner's institution/business as a result of the proposed project. Truly sustainable development balances economic growth with social impacts and benefits and the protection of the environment.</p> <p>The sustainability tool, <i>Horizons</i>, is useful for you to use in considering the environmental, political and social drivers for your project: http://horizons.innovateuk.org</p> <p>Economic – This is the real impact the organisation has on its economic environment. This is not simply traditional corporate accounting profit, and can include cost avoidance, so you should highlight any expected 'spill over' benefits external to the project, e.g. benefits to users (intermediaries and end users), suppliers, the broader industrial markets and the UK economy. The application should identify and quantify where possible the benefit to each of the beneficiaries.</p> <p>Social - Quantify any expected social impacts, either positive or negative, on, for example, the quality of life, social inclusion/exclusion, education, public empowerment, health and safety, regulation, diversity, and any expected impact on Government priorities.</p> <p>Environmental – Demonstrate how your project will benefit the natural environment as much as possible or at the least do no harm and curtail environmental impact. For example, this could include careful management of energy consumption and reductions in</p>
---	--

carbon emissions whilst reducing manufacturing and materials waste, rendering waste less toxic before disposing of it in a safe and legal manner (cradle to grave) or re-manufacturing (cradle to cradle).

Section 2: The project details (10 points per question = 40 points in total)	
Question	Guidance
5. What technical approach will be adopted and how will the project be managed?	<p>Describe the main technological challenges and provide an overview of the technical approach to address them. Describe the main areas of work together with their resource and management requirements.</p> <p>In evaluating this the assessors will consider these questions:</p> <ul style="list-style-type: none"> • is the technical approach and methodology appropriate to the needs of the project and are the innovative steps achievable through the proposed approach? • is the project plan sufficient in comparison to the complexity of the project? For example, is there sufficient detail to understand the tasks involved and the resources required? • Is the project broken down into Work Packages that align to costs? • Is the timing of key milestones realistic? <ul style="list-style-type: none"> • • • is there demonstration of sufficient resource commitment and capability (skills, experience and so on – not just technical but project management, financial, commercial and so on) to undertake the project? • are clear management reporting lines identified? • are clear accountabilities identified? <p>Describe any rival technologies and alternative R&D strategies and describe why your proposed approach will offer a better outcome.</p>
6. What is innovative about this project?	<p>Identify the extent to which the project is innovative both commercially and technically.</p> <p>In evaluating this section assessors will consider these questions:</p> <ul style="list-style-type: none"> • does it push boundaries over and beyond current leading-edge world science and technology? • Does it give a step-change in technology or approach? • is it looking to apply existing technologies in new areas? <p>Highlight and explain the timeliness and novelty of the research aspects of the project in an industrial and/or academic context.</p> <p>Describe any evidence you have to substantiate your belief that the intended work is innovative. This could include the results of patent searches, competitor analyses, literature surveys etc. What is the closest currently available alternative and how does your proposed offering differ? If applicable, you should also outline your own background intellectual property rights, as related to the project.</p> <p>Demonstrate wherever possible Freedom to Operate</p>

<p>7. What are the risks (technical, commercial and environmental) to project success? What is the project's risk management strategy?</p>	<p>We recognise that projects of this type are inherently risky, but seeks assurance that the projects it funds have adequate arrangements for managing this risk. Focus, therefore, on the arrangements for managing and mitigating risk as follows:</p> <ul style="list-style-type: none"> • identify the key risks and uncertainties of the project and provide a detailed risk analysis for the project content and approach, including the technical, commercial, managerial and environmental risks as well as other uncertainties (e.g., ethical issues – which should align with the responses in the final question on the Responsible Innovation Framework) associated with the project. The main risks should then be rated as High/Medium/Low (H/M/L) • state how the project would mitigate these key risks. You should address all significant and relevant risks and their mitigation • identify key project management tools and mechanisms that will be implemented to provide confidence that sufficient control will be in place to minimise operational risk and, therefore, promote successful project delivery. This should include the arrangements for managing the project team and its partners. • Create an Appendix with a Risk Table to include the major points that will be outlined in the main body of text and thorough Risk Strategy with mitigations.
<p>8. Does the project team have the right skills and experience and access to facilities to deliver the identified benefits?</p>	<p>Describe the track record of the project team members in undertaking and exploiting the results of research and development projects, to show your capability to develop and exploit the technology.</p> <p>In evaluating this, the assessors will consider whether the project team has the right available mix of skills and experience to deliver the project successfully</p> <ul style="list-style-type: none"> • Create an Organogram showing the management structure and management reporting lines. Add this to an Appendix – ideally the Appendix B with the Project Plan and Risk Table and re-iterate it in Appendix C along with a brief CV (no more than 1/2 page for each collaborator).

Section 3: Funding and added value
(10 points per question = 20 points in total)

Question	Guidance
<p>9. What is the resource and the financial commitment required for the project?</p>	<p>Indicate the anticipated project cost making clear the level of contribution from any project participants and the level of funding required. This information should be provided in a financial summary table.</p> <p>Supporting information and explanation for project costs should be provided in this section of the form. It must be consistent with the category of R&D being undertaken within each Work Package.</p> <p>In evaluating this we will consider the following questions:</p> <ul style="list-style-type: none"> • Is the budget realistic for the scale and complexity of the project? • Does the budget seem realistic and align well with each of the Work Packages? • Is a financial commitment from other sources demonstrated for the balance of the project costs? • Has a realistic budget breakdown been provided that would enable successful completion of the project in the given timescale? • Have any work package breakdowns been described and justified adequately?
<p>10. How does financial and resource support from the IKC add value?</p>	<p>You will need to provide evidence that:</p> <ul style="list-style-type: none"> • successful delivery of your project will increase the total amount of money the project team spends on research & development in the UK, that it will engage more people in this effort or use existing people more and might lead to other R&D spend by collaborators and so on. <p>And either:</p> <ul style="list-style-type: none"> • why the funding is required for the project to be able to proceed <p>or</p> <ul style="list-style-type: none"> • how IKC funding would allow you to undertake the project differently (more quickly, on a larger scale be a head of competitors, etc.) and why this would be beneficial to the UK?

Public description of the project (not scored)	
Question	Guidance
If your application is successful, we will publish the following brief description of your proposal. Provision of this description is necessary but will not be assessed.	<p>To comply with Government practice on openness and transparency of public-funded activities, we have to publish information relating to projects funded by the IKC.</p> <p>You must provide a short description of your proposal in a way that will be comprehensible to the general public.</p> <p>Do not include any commercially confidential information, for example intellectual property or patent details, in this summary.</p>

NB. At the end of the application form is a question on links to the applicant's Responsible Innovation statements or a statement on Responsible Innovation/Responsible Research thinking and practice **MUST be included for the submission to be eligible.**

1. Project appendices

Appendices are very useful to **supplement** the answers to the questions and to include details and references that would otherwise be difficult to include. Don't use the Appendices to answer the questions – use them to support your answers in the main application form.

NB. Appendices may be provided for the PoC/Feasibility applications but are not required.

NB. Appendices are a requirement for the Longer Larger project applications.

Pictures and diagrams can be very useful additions.

NB. Don't use the Appendices as an overflow to the application form.

In order that assessors can open and read the appendices, each appendix must:

- **not be longer than the maximum length specifications** (as listed below)
- be a readable and well described document
- be submitted as a pdf
- be legible at 100% zoom/magnification
- display prominently the 'Project title' as entered on page 1 of the application form – but don't waste valuable information space

NB. If you submit appendices longer than specified below, they will be truncated and the excess discarded.

Appendices may be printed or photocopied in black and white, so don't use colour alone to convey important information.

Appendix	Guidance
Appendix A Up to 5 sides of A4	<p>Use Appendix A to provide additional information to support Section 1 of the application form: The Business Proposition.</p> <p>Include graphics describing the nature of the problem, market dynamics and/or exploitation plans. This is a good opportunity to include any market reports details, evidence of IP and so on, references to possible end-users or lead adopters and so on.</p>
Appendix B Up to 5 sides of A4	<p>Use Appendix B to provide further information to support Section 2 of the application form: The Project Details.</p> <p>NB. It's essential to include:</p> <ol style="list-style-type: none"> 1. A Gantt chart or project plan with well-defined Work Packages, who-does-what and how much each WP costs 2. A risk analysis table with risk mitigations and a defined risk management strategy 3. A project management structure or organogram showing reporting lines and accountabilities. 4. A clear description of the applicant's and partners' Responsible Innovation approach.
Appendix C Up to ½ side of A4 for the applicant, co-workers, each partner and any subcontractor	<p>Use Appendix C to provide details of the specific expertise and track record of each project partner and each subcontractor to address Question 8 of the application form. Academic collaborators may wish to refer to their research standing.</p> <p>This should be concise and punchy, relevant to the project.</p> <p>If you haven't already, you should put in a business Organogram showing project responsibilities, reporting and accountability, management accountability lines and so on.</p>

Specific queries on the form completion and submission can be answered by email to the SynbiCITE Centre Directors via John Collins, john.collins@imperial.ac.uk