

Invitation to Quote

**Invitation to Quote (ITQ) on behalf of the Department for Business,
Energy & Industrial Strategy**

Subject: BEIS 2.4% R&D Target Macroeconomic Modelling

Sourcing Reference Number: CR18105



UK Shared Business Services Ltd (UK SBS)
www.uksbs.co.uk

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Section 1 – About UK Shared Business Services

Putting the business into shared services

UK Shared Business Services Ltd (UK SBS) brings a commercial attitude to the public sector; helping our Contracting Authorities improve efficiency, generate savings and modernise.

It is our vision to become the leading service provider for the Contracting Authorities of shared business services in the UK public sector, continuously reducing cost and improving quality of business services for Government and the public sector.

Our broad range of expert services is shared by our Contracting Authorities. This allows Contracting Authorities the freedom to focus resources on core activities; innovating and transforming their own organisations.

Core services include Procurement, Finance, Grants Admissions, Human Resources, Payroll, ISS, and Property Asset Management all underpinned by our Service Delivery and Contact Centre teams.

UK SBS is a people rather than task focused business. It's what makes us different to the traditional transactional shared services centre. What is more, being a not-for-profit organisation owned by the Department for Business, Energy & Industrial Strategy (BEIS), UK SBS' goals are aligned with the public sector and delivering best value for the UK taxpayer.

UK Shared Business Services Ltd changed its name from RCUK Shared Services Centre Ltd in March 2013.

Our Customers

Growing from a foundation of supporting the Research Councils, 2012/13 saw Business, Energy and Industrial Strategy (BEIS) transition their procurement to UK SBS and Crown Commercial Services (CCS – previously Government Procurement Service) agree a Memorandum of Understanding with UK SBS to deliver two major procurement categories (construction and research) across Government.

UK SBS currently manages £700m expenditure for its Contracting Authorities.

Our Contracting Authorities who have access to our services and Contracts are detailed [here](#).

Section 2 – About the Contracting Authority

Department for Business, Energy & Industrial Strategy (BEIS)

The Department for Business, Energy and Industrial Strategy (BEIS) was created as a result of a merger between the Department of Energy and Climate Change (DECC) and the Department for Business, Innovation and Skills (BIS), as part of the Machinery of Government (MoG) changes in July 2016.

The Department is responsible for:

- developing and delivering a comprehensive industrial strategy and leading the government's relationship with business;
- ensuring that the country has secure energy supplies that are reliable, affordable and clean;
- ensuring the UK remains at the leading edge of science, research and innovation; and
- tackling climate change.

BEIS is a ministerial department, supported by 46 agencies and public bodies.

We have around 2,500 staff working for BEIS. Our partner organisations include 9 executive agencies employing around 14,500 staff.

<http://www.beis.gov.uk>

Section 3 - Working with the Contracting Authority.

In this section you will find details of your Procurement contact point and the timescales relating to this opportunity.

Section 3 – Contact details		
3.1	Contracting Authority Name and address	Department for Business, Energy, Industrial Strategy, 1 Victoria Street, London, SW1H 0ET United Kingdom
3.2	Buyer name	Jack Noden
3.3	Buyer contact details	Research@uksbs.co.uk
3.4	Estimated value of the Opportunity	£30,000.00 - £50,000.00 (excluding VAT)
3.5	Process for the submission of clarifications and Bids	All correspondence shall be submitted within the Emptoris e-sourcing tool. Guidance Notes to support the use of Emptoris is available here. Please note submission of a Bid to any email address including the Buyer <u>will</u> result in the Bid <u>not</u> being considered.

Section 3 - Timescales		
3.6	Date of Issue of Contract Advert and location of original Advert	02/08/2018 Contracts Finder
3.7	Latest date/time ITQ clarification questions shall be received through Emptoris messaging system	09/08/2018 11.00 am BST
3.8	Latest date/time ITQ clarification answers should be sent to all Bidders by the Buyer through Emptoris	10/08/2018
3.9	Latest date/time ITQ Bid shall be submitted through Emptoris	16/08/2018 14.00 pm BST
3.10	Date Bidders should be available for Interviews	30/08/2018 & 31/08/2018
3.11	Anticipated notification date of successful and unsuccessful Bids	05/09/2018
3.12	Anticipated Award date	05/09/2018
3.13	Anticipated Contract Start date	10/09/2018
3.14	Anticipated Contract End date	01/01/2019
3.15	Bid Validity Period	60 Days

Section 4 – Specification

1. Background

The government's ambitious, modern Industrial Strategy sets out a long term plan to boost the productivity and earning power of people throughout the UK. It sets out how we are building a Britain fit for the future – how we will help businesses create better, higher-paying jobs in every part of the United Kingdom with investment in the skills, industries and infrastructure of the future. The Industrial Strategy will boost productivity and earning power across the country by focusing on the five foundations of productivity: Ideas, People, Infrastructure, Business Environment and Places.

As part of the ideas foundation of the Industrial Strategy, Government have committed to reach 2.4 per cent of GDP investment in R&D by 2027 and to reach 3 per cent of GDP in the longer term, placing us in the top quartile of OECD countries. Increasing investment in R&D to 2.4% of GDP in a decade is ambitious and will require concerted effort by the government and business.

The White Paper is a significant milestone but not the end point. It sets out a clear long-term ambition and framework with a series of policies supporting it. HMG will be working with industry over the coming months to develop a roadmap for meeting this target.

To support the roadmap, it is important to further our understanding of the impact of R&D on wider benefits to the UK. Endogenous growth theory suggests, and empirical evidence shows, that R&D acts as a positive stimulus to productivity and therefore to GDP.

This research will aim to improve the understanding of the macroeconomic effects of achieving the 2.4% R&D target in 2027, such as, in terms of impact on:

- GDP
- GDP per capita
- Aggregate productivity, i.e. GDP per hour worked
- Sectors GVA, GVA per capita and per hour worked
- Places GVA, GVA per capita and per hour worked

Resulting evidence is intended to feed into the evidence base underpinning the roadmap for reaching the 2.4% R&D target.

2. Aims and Objectives of the Project

The Industrial Strategy White Paper committed to 2.4% of GDP investment in R&D by 2027 and 3% in the longer term. This research could prove crucial to understanding the benefit of achieving the target, whilst achieving value for money. Outputs will aim to illustrate what the UK economy could look like in 2027 and beyond.

The research will focus on the wider benefits of R&D, such as in terms of impact on GDP and productivity. In the area of research and innovation, there is significant theoretical and empirical evidence suggesting R&D acts as a positive stimulus to productivity and therefore to GDP. However, research has never quantified the positive impact of R&D expenditure on the UK's macroeconomy.

The aims of this study are to:

1. Develop new evidence and provide estimates for the impact of R&D expenditure on macroeconomic variables such as UK GDP and GDP growth (across a range of scenarios and time periods, at aggregate and with sectoral/place breakdowns)
2. Expand BEIS's evidence base on the benefits and costs of additional R&D expenditure from both the public and private sector
3. Produce estimates which adhere to BEIS QA process

This research will improve the evidence base for the Industrial Strategy 2.4% R&D target roadmap.

Key research questions

We expect the research to address the following research question:

Estimate the impact of R&D on GDP, GDP per capita, productivity, sectors and places over a range of around 10-15 scenarios.

These scenarios could include:

- a range of public R&D expenditure trajectories, varying in quantum, location, universities versus business funding, and by business sector
- impact on GDP beyond 2027 of achieving the 2.4% and long term 3% target

As a minimum, the model outputs would include impact on:

- GDP (as both a proportional increase in GDP and absolute increase in GDP)
- GDP per capita
- Productivity (GDP per hour worked)
- Regional GVA impact
- Sectoral GVA impact

We would also require an explanation of how the model results arise, e.g. why some scenarios give higher productivity than others.

3. Suggested Methodology

Contractors should propose their own methodologies to achieve the aims and objectives of the project. We would expect them to own or have access to a macroeconomic model, perhaps a Computable General Equilibrium model with endogenous growth. The model will capture the key premise of endogenous growth theory, where R&D or 'ideas' boost GDP. Endogenous Growth Models generally use R&D as an input to create knowledge capital which then boosts GDP.

The model will capture or 'simulate' all key interactions between households, firms and government in the economy, and also capture how sectors, and hopefully regions, of the economy interact over time. This will enable BEIS to estimate the 'net' effect of R&D's impact on the economy. Examples of other models based on this premise include HMRC's CGE (Computable General Equilibrium Model), which "*uses data on the structure of the*

economy along with a set of equations based on economic theory to estimate the effects of fiscal policies on the economy”¹.

There is an extensive literature on macroeconomic modelling. Annex A shows a summary of some of the literature on estimating the impact of R&D on GDP.

The model would be required to run out to 2030 at least, and ideally to 2040. Input assumptions will need to be agreed for the 10-15 scenarios, the model will be run to produce results. Some iteration may be required (by the Contractor, liaising with BEIS) in terms of adjusting assumptions in order to achieve scenarios that both achieve the R&D target and produce credible GDP outputs.

Input assumptions, both general and specific to individual scenarios, will be agreed with BEIS in the early stages of the project. BEIS have standard assumptions to use in relation to generic direct and spillover returns to R&D investment, and also with regard to how public R&D funding can leverage private R&D funding.

Scenarios are likely to vary according to the level and breakdown of public R&D funding across grants and tax credits, business versus universities and across sectors and places.

BEIS expect bidders who apply to be able to complete model runs during the time specified and to be flexible to running a range of scenarios. Outputs will adhere to BEIS QA practice.

We would welcome bidders' alternative and innovative suggestions for methodology providing that they also meet the project aims and objectives.

Bidders are expected to demonstrate relevant R&D and innovation policy area knowledge, and strong expertise in using the econometric model included in the bid. This might include previous experience modelling the effect of macroeconomic shocks on GDP.

Tenders should outline which data sources they would envisage analysing and how they would use them. This could include the following datasets, however bidders may like to explore other datasets:

ONS R&D Datasets for historic R&D data

- UK Gross domestic expenditure on research and development (GERD)

Estimates of research and development funded by business enterprise, higher education, government, which includes research councils and private non-profit organisations.

- UK Business enterprise research and development (BERD)

Spending and numbers employed on research and development in the UK broken down by product group (the sector relating to R&D area), sector (the sector relating to the main business area of the firm), and civil and defence businesses.

¹ HMRC's CGE model documentation (2013),
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263652/CGE_model_doc_131204_new.pdf

4. Deliverables

The project is expected to proceed as follows:

- **Reviewing the range of scenarios it may be possible to model** This will form part of a continuous process of the contract. BEIS will retain the option to include further runs of the model after initial runs have been agreed to account for the growing evidence base on R&D and scope for new assumptions which could inform modelling. BEIS will provide standard assumptions relating to leverage of private R&D investment, and rates of return for R&D. Other assumptions will be agreed at the outset of the project.
- **Regular contact with BEIS contract managers** We expect contractors to share scenarios to be run with BEIS, and to have in place regular catch-ups to discuss project progress. A BEIS project manager will be in detailed consultation with the team throughout the project, and a steering group will guide the project to producing quality outputs which fit the brief.
- **Agreeing with BEIS the assumptions to be used for each model run** Given assumptions will be a key driver to model outputs, we expect BEIS to retain key decision-making power in the assumptions used.
- **Running the model** Contractors will be required to have a strong grounding in running the model, and in modelling macroeconomic shocks to GDP. Models will be run and results reported back to BEIS.
- **Report writing** Data analysis will conclude with a short publishable report, summarising the approach, scenarios considered, assumptions used, results, and conclusions. All tables and figures in the report need to be provided to BEIS in an excel sheet with data included.
 - All model run output sheets (excel or otherwise) to be provided to BEIS for reference.
 - All assumptions to be logged and provided in the BEIS QA format.
- **Communications pack** A slide pack and presentation summarising methodology, key findings, results, and any weaknesses/ risks to estimates

All models are expected to be compliant with BEIS QA practice.

All contractors are to ensure the following are included in the costings for this project:

- As a minimum, the model outputs would include impact on:
 - GDP (as both a proportional increase in GDP and absolute increase in GDP)
 - GDP per capita
 - Productivity (GDP per hour worked)
 - Regional GVA impact
 - Sectoral GVA impact
 - Root causes of increased GDP
- A final report summarising assumptions, results, and conclusions
 - Fully documented software code, used for regressions analysis, and all underlying data (with complete reference).
 - All tables and figures in the report need to be in an excel sheet with data included
- Presentation of methodology and results to BEIS analysts and policy officials
- Summary poster/infographic

Publication

The final report for this research / evaluation project must be formatted according to BEIS publication guidelines, therefore within the Research paper series template and adhering to BEIS accessibility requirements for all publications on GOV.UK. The publication template will be provided by the project manager. Please ensure you note the following in terms of accessibility:

Checklist for Word accessibility

Word documents supplied to BEIS will be assessed for accessibility upon receipt. Documents which do not meet one or more of the following checkpoints will be returned to you for re-working at your own cost.

- document reads logically when reflowed or rendered by text-to-speech software
- language is set to English (in File > Properties > Advanced)
- structural elements of document are properly tagged (headings, titles, lists etc.)
- all images/figures have either alternative text or an appropriate caption
- tables are correctly tagged to represent the table structure
- text is left aligned, not justified
- document avoids excessive use of capitalised, underlined or italicised text
- hyperlinks are spelt out (e.g. in a footnote or endnote)

Datasets to support those to be published in the final report must be provided in an accessible format (CVS, Excel) on submission of the report.

Terms and Conditions

Bidders are to note that any requested modifications to the Contracting Authority Terms and Conditions on the grounds of statutory and legal matters only, shall be raised as a formal clarification during the permitted clarification period.

Section 5 – Evaluation model

The evaluation model below shall be used for this ITQ, which will be determined to two decimal places.

Where a question is 'for information only' it will not be scored.

The evaluation team may comprise staff from UK SBS and the Contracting Authority and any specific external stakeholders the Contracting Authority deems required. After evaluation the scores will be finalised by performing a calculation to identify (at question level) the mean average of all evaluators (Example – a question is scored by three evaluators and judged as scoring 5, 5 and 6. These scores will be added together and divided by the number of evaluators to produce the final score of 5.33 ($5+5+6 = 16 \div 3 = 5.33$))

Pass / fail criteria		
Questionnaire	Q No.	Question subject
Commercial	SEL1.2	Employment breaches/ Equality
Commercial	FOI1.1	Freedom of Information Exemptions
Commercial	AW1.1	Form of Bid
Commercial	AW1.3	Certificate of Bona Fide Bid
Commercial	AW3.1	Validation check
Commercial	SEL3.11	Compliance to Section 54 of the Modern Slavery Act
Commercial	SEL3.13	General Data Protection Regulations (GDPR)
Commercial	AW4.1	Contract Terms Part 1
Commercial	AW4.2	Contract Terms Part 2
Quality	AW6.1	Compliance to the Specification
Quality	AW6.2	Variable Bids
-	-	Invitation to Quote – received on time within e-sourcing tool

Scoring criteria			
Evaluation Justification Statement			
In consideration of this particular requirement the Contracting Authority has decided to evaluate Potential Providers by adopting the weightings/scoring mechanism detailed within this ITQ. The Contracting Authority considers these weightings to be in line with existing best practice for a requirement of this type.			
Questionnaire	Q No.	Question subject	Maximum Marks
Price	AW5.2	Price	10%
Quality	PROJ1.1	Approach	35%
Quality	PROJ1.2	Staff to Deliver	5%
Quality	PROJ1.3	Risk Management	5%
Quality	PROJ1.4	Understanding the Environment	5%

Quality	PROJ1.5	Project Plan and Timescales	5%
Quality	PROJ1.6	Interview	35%

Evaluation of criteria

Non-Price elements

Each question will be judged on a score from 0 to 100, which shall be subjected to a multiplier to reflect the percentage of the evaluation criteria allocated to that question.

Where an evaluation criterion is worth 20% then the 0-100 score achieved will be multiplied by 20%.

Example if a Bidder scores 60 from the available 100 points this will equate to 12% by using the following calculation:

$$\text{Score} = \{\text{weighting percentage}\} \times \{\text{bidder's score}\} = 20\% \times 60 = 12$$

The same logic will be applied to groups of questions which equate to a single evaluation criterion.

The 0-100 score shall be based on (unless otherwise stated within the question):

0	The Question is not answered or the response is completely unacceptable.
10	Extremely poor response – they have completely missed the point of the question.
20	Very poor response and not wholly acceptable. Requires major revision to the response to make it acceptable. Only partially answers the requirement, with major deficiencies and little relevant detail proposed.
40	Poor response only partially satisfying the selection question requirements with deficiencies apparent. Some useful evidence provided but response falls well short of expectations. Low probability of being a capable supplier.
60	Response is acceptable but remains basic and could have been expanded upon. Response is sufficient but does not inspire.
80	Good response which describes their capabilities in detail which provides high levels of assurance consistent with a quality provider. The response includes a full description of techniques and measurements currently employed.
100	Response is exceptional and clearly demonstrates they are capable of meeting the requirement. No significant weaknesses noted. The response is compelling in its description of techniques and measurements currently employed, providing full assurance consistent with a quality provider.

All questions will be scored based on the above mechanism. Please be aware that the final score returned may be different as there may be multiple evaluators and their individual scores will be averaged (mean) to determine your final score.

Example

Evaluator 1 scored your bid as 60

Evaluator 2 scored your bid as 60

Evaluator 3 scored your bid as 40

Evaluator 4 scored your bid as 40

Your final score will $(60+60+40+40) \div 4 = 50$

Price elements will be judged on the following criteria.

The lowest price for a response which meets the pass criteria shall score 100.

All other bids shall be scored on a pro rata basis in relation to the lowest price. The score is then subject to a multiplier to reflect the percentage value of the price criterion.

For example - Bid 1 £100,000 scores 100.

Bid 2 £120,000 differential of £20,000 or 20% remove 20% from price scores 80

Bid 3 £150,000 differential £50,000 remove 50% from price scores 50.

Bid 4 £175,000 differential £75,000 remove 75% from price scores 25.

Bid 5 £200,000 differential £100,000 remove 100% from price scores 0.

Bid 6 £300,000 differential £200,000 remove 100% from price scores 0.

Where the scoring criterion is worth 50% then the 0-100 score achieved will be multiplied by 50.

In the example if a supplier scores 80 from the available 100 points this will equate to 40% by using the following calculation: $\text{Score/Total Points multiplied by 50}$ ($80/100 \times 50 = 40$)

The lowest score possible is 0 even if the price submitted is more than 100% greater than the lowest price.

Section 6 – Evaluation questionnaire

Bidders should note that the evaluation questionnaire is located within the **e-sourcing questionnaire**.

Guidance on completion of the questionnaire is available at <http://www.ukpbs.co.uk/services/procure/Pages/supplier.aspx>

PLEASE NOTE THE QUESTIONS ARE NOT NUMBERED SEQUENTIALLY

Section 7 – General Information

What makes a good bid – some simple do's 😊

DO:

- 7.1 Do comply with Procurement document instructions. Failure to do so may lead to disqualification.
- 7.2 Do provide the Bid on time, and in the required format. Remember that the date/time given for a response is the last date that it can be accepted; we are legally bound to disqualify late submissions. Responses received after the date indicated in the ITQ shall not be considered by the Contracting Authority, unless the Bidder can justify that the reason for the delay, is solely attributable to the Contracting Authority
- 7.3 Do ensure you have read all the training materials to utilise e-sourcing tool prior to responding to this Bid. If you send your Bid by email or post it will be rejected.
- 7.4 Do use Microsoft Word, PowerPoint Excel 97-03 or compatible formats, or PDF unless agreed in writing by the Buyer. If you use another file format without our written permission we may reject your Bid.
- 7.5 Do ensure you utilise the Emptoris messaging system to raise any clarifications to our ITQ. You should note that we will release the answer to the question to all Bidders and where we suspect the question contains confidential information we may modify the content of the question to protect the anonymity of the Bidder or their proposed solution
- 7.6 Do answer the question, it is not enough simply to cross-reference to a 'policy', web page or another part of your Bid, the evaluation team have limited time to assess bids and if they can't find the answer, they can't score it.
- 7.7 Do consider who the Contracting Authority is and what they want – a generic answer does not necessarily meet every Contracting Authority's needs.
- 7.8 Do reference your documents correctly, specifically where supporting documentation is requested e.g. referencing the question/s they apply to.
- 7.9 Do provide clear, concise and ideally generic contact details; telephone numbers, e-mails and fax details.
- 7.10 Do complete all questions in the questionnaire or we may reject your Bid.
- 7.11 Do ensure that the Response and any documents accompanying it are in the English Language, the Contracting Authority reserve the right to disqualify any full or part responses that are not in English.
- 7.12 Do check and recheck your Bid before dispatch.

What makes a good bid – some simple do not's

DO NOT

- 7.13 Do not cut and paste from a previous document and forget to change the previous details such as the previous buyer's name.
- 7.14 Do not attach 'glossy' brochures that have not been requested, they will not be read unless we have asked for them. Only send what has been requested and only send supplementary information if we have offered the opportunity so to do.
- 7.15 Do not share the Procurement documents, they are confidential and should not be shared with anyone without the Buyers written permission.
- 7.16 Do not seek to influence the procurement process by requesting meetings or contacting UK SBS or the Contracting Authority to discuss your Bid. If your Bid requires clarification the Buyer will contact you. All information secured outside of formal Buyer communications shall have no Legal standing or worth and should not be relied upon.
- 7.17 Do not contact any UK SBS staff or the Contracting Authority staff without the Buyers written permission or we may reject your Bid.
- 7.18 Do not collude to fix or adjust the price or withdraw your Bid with another Party as we will reject your Bid.
- 7.19 Do not offer UK SBS or the Contracting Authority staff any inducement or we will reject your Bid.
- 7.20 Do not seek changes to the Bid after responses have been submitted and the deadline for Bids to be submitted has passed.
- 7.21 Do not cross reference answers to external websites or other parts of your Bid, the cross references and website links will not be considered.
- 7.22 Do not exceed word counts, the additional words will not be considered.
- 7.23 Do not make your Bid conditional on acceptance of your own Terms of Contract, as your Bid will be rejected.
- 7.24 Do not unless explicitly requested by the Contracting Authority either in the procurement documents or via a formal clarification from the Contracting Authority send your response by any way other than via e-sourcing tool. Responses received by any other method than requested will not be considered for the opportunity.

Some additional guidance notes

- 7.25 All enquiries with respect to access to the e-sourcing tool and problems with functionality within the tool must be submitted to Crown Commercial Service (previously Government Procurement Service), Telephone 0345 010 3503.
- 7.26 Bidders will be specifically advised where attachments are permissible to support a question response within the e-sourcing tool. Where they are not permissible any attachments submitted will not be considered as part of the evaluation process.
- 7.27 Question numbering is not sequential and all questions which require submission are included in the Section 6 Evaluation Questionnaire.
- 7.28 Any Contract offered may not guarantee any volume of work or any exclusivity of supply.
- 7.29 We do not guarantee to award any Contract as a result of this procurement
- 7.30 All documents issued or received in relation to this procurement shall be the property of the Contracting Authority. / UKSBS.
- 7.31 We can amend any part of the procurement documents at any time prior to the latest date / time Bids shall be submitted through Emptoris.
- 7.32 If you are a Consortium you must provide details of the Consortiums structure.
- 7.33 Bidders will be expected to comply with the Freedom of Information Act 2000 or your Bid will be rejected.
- 7.34 Bidders should note the Government's transparency agenda requires your Bid and any Contract entered into to be published on a designated, publicly searchable web site. By submitting a response to this ITQ Bidders are agreeing that their Bid and Contract may be made public
- 7.35 Your bid will be valid for 60 days or your Bid will be rejected.
- 7.36 Bidders may only amend the contract terms during the clarification period only, only if you can demonstrate there is a legal or statutory reason why you cannot accept them. If you request changes to the Contract terms without such grounds and the Contracting Authority fail to accept your legal or statutory reason is reasonably justified we may reject your Bid.
- 7.37 We will let you know the outcome of your Bid evaluation and where requested will provide a written debrief of the relative strengths and weaknesses of your Bid.
- 7.38 If you fail mandatory pass / fail criteria we will reject your Bid.
- 7.39 Bidders are required to use IE8, IE9, Chrome or Firefox in order to access the functionality of the Emptoris e-sourcing tool.
- 7.40 Bidders should note that if they are successful with their proposal the Contracting Authority reserves the right to ask additional compliancy checks prior to the award of any Contract. In the event of a Bidder failing to meet one of the compliancy checks

the Contracting Authority may decline to proceed with the award of the Contract to the successful Bidder.

- 7.41 All timescales are set using a 24 hour clock and are based on British Summer Time or Greenwich Mean Time, depending on which applies at the point when Date and Time Bids shall be submitted through Emptoris.
- 7.42 All Central Government Departments and their Executive Agencies and Non Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further, the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement - including ensuring value for money and related aspects of good procurement practice.

For these purposes, the Contracting Authority may disclose within Government any of the Bidders documentation/information (including any that the Bidder considers to be confidential and/or commercially sensitive such as specific bid information) submitted by the Bidder to the Contracting Authority during this Procurement. The information will not be disclosed outside Government. Bidders taking part in this ITQ consent to these terms as part of the competition process.

- 7.43 The Government introduced its new Government Security Classifications (GSC) classification scheme on the 2nd April 2014 to replace the current Government Protective Marking System (GPMS). A key aspect of this is the reduction in the number of security classifications used. All Bidders are encouraged to make themselves aware of the changes and identify any potential impacts in their Bid, as the protective marking and applicable protection of any material passed to, or generated by, you during the procurement process or pursuant to any Contract awarded to you as a result of this tender process will be subject to the new GSC. The link below to the Gov.uk website provides information on the new GSC:

<https://www.gov.uk/government/publications/government-security-classifications>

The Contracting Authority reserves the right to amend any security related term or condition of the draft contract accompanying this ITQ to reflect any changes introduced by the GSC. In particular where this ITQ is accompanied by any instructions on safeguarding classified information (e.g. a Security Aspects Letter) as a result of any changes stemming from the new GSC, whether in respect of the applicable protective marking scheme, specific protective markings given, the aspects to which any protective marking applies or otherwise. This may relate to the instructions on safeguarding classified information (e.g. a Security Aspects Letter) as they apply to the procurement as they apply to the procurement process and/or any contracts awarded to you as a result of the procurement process.

USEFUL INFORMATION LINKS

- [Emptoris Training Guide](#)
- [Emptoris e-sourcing tool](#)
- [Contracts Finder](#)
- [Equalities Act introduction](#)
- [Bribery Act introduction](#)
- [Freedom of information Act](#)

Annex A – Brief overview of the existing recent literature on the impact of R&D expenditure on GDP.

Study/ paper	Methodology and data	Finding	Comments on relevance
<p>PWC (2017), The Economic Impact of Artificial Intelligence on the UK Economy</p> <p>https://www.pwc.co.uk/economic-services/assets/ai-uk-report-v2.pdf</p>	<p>Macroeconomic modelling of the impact of AI on UK GDP.</p>	<p>UK GDP will be up to 10.3% higher in 2030 as a result of AI – the equivalent of an additional £232bn.</p>	<p>Macroeconomic modelling has similarities to method expected to be taken in research project.</p> <p>Quantifies impact of R&D activity on GDP (albeit limited to AI).</p>
<p>Frontier Economics (2014), Rates of return to investment in science and innovation</p> <p>https://www.frontier-economics.com/documents/2014/07/rates-of-return-to-investment-in-science-and-innovation.pdf</p>	<p>Uses recent literature, econometric analysis and case studies to provide evidence on the rates of return to investments in science and innovation.</p>	<p>Uses recent literature to state that the social rate of return to public R&D is ~20% (based on Haskel et al. (2014)) and the social rate of return to private R&D is ~50% (based on industry-level analysis).</p>	<p>Does not give a clear result, rather provides supporting evidence from various sources.</p> <p>Does not quantify impact on GDP.</p>
<p>Blanco, Gu, Prieger (2015), The Impact of Research and Development on Economic Growth and Productivity in the U.S. States</p> <p>https://onlinelibrary.wiley.com/doi/abs/10.1002/soej.12107</p>	<p>The analysis uses a panel dataset covering 50 US states and the District of Columbia for the period 1963-2007.</p>	<p>The report estimates the impact of R&D on TFP and output in the private sector at the state level.</p> <p>The R&D elasticity in a state averages 0.056 to 0.143, implying total (i.e. over multiple years) returns to state GDP from R&D spending of 82% to 211%.</p>	<p>Attempts to quantify returns to GDP of R&D investment. Study is limited to total R&D expenditure performed by private industry.</p> <p>Attempts to quantify spillover effects on other states.</p>
<p>Gumus and Celikay (2015), R&D Expenditure and Economic Growth: New Empirical Evidence</p>	<p>This article provides an empirical analysis of the relationship between research and development</p>	<p>R&D expenditure has a positive and significant effect on economic growth for all countries in the long run.</p>	<p>Quantifies impact of R&D expenditure on GDP growth in both the short term and long term. However, results based on data from</p>

<p>https://www.researchgate.net/publication/280736294_RD_Expenditure_and_Economic_Growth_New_Empirical_Evidence</p>	<p>(R&D) expenditures and economic growth, and determines whether this relationship differs with respect to the degree of development.</p> <p>Study uses data from 52 countries from 1996 to 2010 and employs a dynamic panel data model.</p>	<p>When per capita R&D expenditures increase by 1 per cent (when using all countries in regression) GDP per capita rises by 0.44% in the short term and by 0.98% in the long term.</p> <p>For developed countries only, a 1% increase in R&D expenditure leads to a 0.56% increase in GDP per capita in the short term and 1% in the long term.</p>	<p>multiple countries and not necessarily applicable to UK.</p> <p>Econometric model gives high-level estimates of GDP impacts without exploring root causes and regional/sectoral impacts.</p>
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