DPS SCHEDULE 4: LETTER OF APPOINTMENT AND CONTRACT TERMS

Part 1: Letter of Appointment

Dear Sirs

Letter of Appointment

This letter of Appointment is issued in accordance with the provisions of the DPS Agreement (RM6018) between CCS and the Supplier dated 11th February 2019.

Capitalised terms and expressions used in this letter have the same meanings as in the Contract Terms unless the context otherwise requires.

Order Number:	TBC Post Award
From:	The Department for Transport ("Customer")
To:	Oxera Consulting LLP ("Supplier")

Effective Date:	15th March 2019
Expiry Date:	End date of Initial Period - 15th July 2019 With an option to extend on a monthly basis for up to a period of three (3) months, to be reviewed on a monthly basis. Minimum written notice to Supplier in respect of extension – One (1) month

Services required:	Set out in Section 2, Part B (Specification) of the DPS Agreement and refined by: · the Customer's Project Specification attached at Annex A and the Supplier's Proposal attached at Annex B; and the Supplier's Pricing Schedule Annex C.

Key Individuals:	For the Supplier: [redacted] – Project Director [redacted] - Project Manager [redacted] - Behavioural experiments [redacted] - Auction design [redacted] - Aviation and stakeholder research [redacted] – Lab Manager [redacted] - Support across tasks

	[redacted] - Director [redacted] - Partner [redacted] - Academic For the Customer: [redacted], Economic Adviser [redacted], Head of Regional Airports [redacted], Commercial Policy Lead
[Guarantor(s)]	N/A

Contract Charges (including any applicable discount(s), but excluding VAT):	The contract charges will not exceed £199,390.00 (Ex VAT) in line with Annex C. Payment can only be made following satisfactory delivery of pre-agreed certified products and deliverables. The payment structure for this project is as follows: Upon written sign-off from the Authority of Milestone 2 (finalised specification of experiments), payment of 25% of the total Contract Value shall be made. Upon written sign-off from the Authority of Milestone 3 (preparation of relevant material), payment of 10% of the total Contract Value shall be made. Upon written sign-off from the Authority of Milestone 4 (presentation of initial findings), payment of 40% of the total Contract Value shall be made. Upon completion of Milestone 6 (final report of findings), payment of 25% of the total Contract Value shall be made. Payments shall be processed through the submission of invoices to the Authority. Each invoice shall include a detailed elemental breakdown of work completed and the associated costs before payment is made. Paper invoices shall only be sent to the Authority's Shared Service Centre (address below) upon agreement with the Project Lead. At the same time, electronic copies shall be sent to the Project Lead by email.
Insurance Requirements	In line with Framework Terms and Conditions
Customer billing address for invoicing:	Invoices shall be submitted to: Shared Service Arvato, 5 Sandringham Park Swansea Vale Swansea SA7 0EA

Alternative and/or additional provisions (including	N/A

Schedule 6 (Additional clauses)):	

FORMATION OF CONTRACT

BY SIGNING AND RETURNING THIS LETTER OF APPOINTMENT (which may be done by electronic means) the Supplier agrees to enter a Contract with the Customer to provide the Services in accordance with the terms of this letter and the Contract Terms.

The Parties hereby acknowledge and agree that they have read this letter and the Contract Terms.

The Parties hereby acknowledge and agree that this Contract shall be formed when the Customer acknowledges (which may be done by electronic means) the receipt of the signed copy of this letter from the Supplier within two (2) Working Days from such receipt

For and on behalf of the Supplier:
Name and Title: [redacted], Partner
Signature: [redacted]
Date: 22 March 2019

For and on behalf of the Customer:
Name and Title: [redacted] Commercial Lead
Signature: [redacted]
Date: 28 March 2019

ANNEX A

Customer Project Specification

1. Definitions

Expression or Acronym	Definition
Slot	An 'airport slot' is the permission to use a bundle of airport facilities (runway, stands, terminals) for landing or take-off of an air service at a specific date and time.
DfT/Department	Department for Transport
AC	Airport Commission
NPS	National Policy Statement
NWR	Heathrow North West Runway
ACL	Airport Coordination Limited
New entrant	An airline that would have fewer than five slots at the airport on the day if pool slots requested were allocated to the airline.
ATM	Air Transport Movement

2. Scope of Requirement

2.1. The scope of this requirement is to undertake analysis on how different allocation methods will affect the distribution of slots between airlines, and its effect on competition, routes and prices. This research will be in the context of expansion at Heathrow Airport in the form of the North West Runway, though it will need to consider how airline anticipation of additional slot holdings at Heathrow may affect their slot holdings at other London airports. It is anticipated that the building of the North West Runway will lead to the release of an additional 260,000 ATMs, compared with the existing cap of 480,000 ATMs.

2.2. The research shall not include recommendations on the preferred allocation method. It shall be limited to providing insights on how well the outcome of different allocation methods achieves the four objectives (4.3.1-4) set out by Government, and on any potentially unintended consequences (both positive and negative) arising from the allocation method.

2.3. The research shall include a series of 'simulations' or behavioural experiments to consider how airlines may react to the release of a substantial number of new slots at an expanded Heathrow. Whilst the Authority would like Potential Bidders to provide the methodology of how these experiments will be run, the following paragraphs include suggestions on how the games can be designed.

2.4. Each team may have one or two participants, each representing a single airline. The Authority assume roughly 10-15 airlines shall be represented with the spread of airlines being representative of the airlines who fly (or may wish to fly) from an expanded Heathrow.

2.5. The Authority expect the exercise shall cover a period of 20 years in total to fully understand airline behaviour and its impact over the longer term. Whilst in reality slots are allocated twice a year for the winter and summer seasons, allocations may need to be combined (e.g. biennially) or on a ‘peak week’ to reduce the length of the exercise.

2.6. The Authority expect there to be an element of interaction between teams in order for them to share information to negotiate a price for slots that are sold or traded.

3. The Requirement

3.1. The requirement is to set up and run a series of 'games' or behavioural experiments to consider how airlines may react to the release of a substantial number of new slots at an expanded Heathrow. The study shall use economic experiments where participants shall simulate the slot trading behaviour of airlines under different models of slot allocation. The Authority requires the Supplier to report on the insights derived from the simulation process.

3.2. The Authority requires the delivery of four main tasks as part of the requirement:

3.2.1. (Task One) Conducting research on airlines, to ascertain the likely interest in flying to/from Heathrow Airport, financing and balance sheet constraints, likely business models, all of which shall be relevant for the behavioural experiment (as referred to in the next task in paragraph 7.2.2);

3.2.2. (Task Two) Arranging two rounds of a behavioural experiment, including collating and developing any relevant preparatory material for experiment participants, suggesting and finalising a series of relevant metrics and outputs for use when analysing the results, developing a tool to analyse outputs, and establishing a structure for the experiments and a set of rules to ensure robust outputs;

3.2.3. (Task Three) Conducting the series of experiments, including making any logistical arrangements, and inviting appropriate participants (beyond those provided by the Authority); and

3.2.4. (Task Four) Reporting on the results of the experiments, including providing the raw outputs from the experiments, conclusions about how well different models of allocation deliver against the four government objectives (4.3.1-4), and lessons learned on the actual slot allocation.

3.2.5. Task one - For task one bids should include in their proposal, details on the types of research Potential Bidders would expect to conduct. Potential Bidders shall also explain the relevance of such research for the purposes of the experiment and the aim of the requirement. At the inception meeting, the Authority shall give final approval on the types of research to be conducted as part of task one.

3.2.6. Task two - Task two shall involve doing detailed design work of the behavioural experiments, including developing inputs and outputs of the behavioural experiment. Potential Bidders should include in their proposal, details on the types of material they expect to produce for experiment participants and initial suggestions for metrics for use when analysing results. Potential Bidders shall also include initial ideas for the design of the experiment.

3.3. The Authority expects that the Supplier shall need to collate a certain amount of information and data, either to provide to participants, or to run the experiment. The Authority expects that the information shall include the following, though again are open to alternative approaches:

3.4. A measure of efficiency in order to assess the likely efficiency impacts of different slot allocation scenarios. For simplicity, this could be average fare per seat vs average cost per seat.

3.5. A measure of the level of competition in the slot market, the current number of market players and their market engagement (categorised by airline type such as low cost carriers, long haul carrier), the current ownership of slots (categorised by slot type such as peak, off peak and inter-peak)

3.6. Financial information to allow participants to develop a bidding strategy, such as the expected revenue or income from owning and using slots and/or an estimate of expected economic rent from holding a slot. This could be estimated with the use of historical data on slots previously sold through the secondary market by slot type.

3.7. The Authority shall review the material developed and the detailed specification of the experiment before proceeding to task three

3.8. Task three - The experiments shall need suitably skilled participants (e.g. business school students, academics, industry experts, etc.), who are either already familiar with the economic and commercial realities of the airline concerned, or briefed by the Contractor such that they become familiar. The exercise will take place in a lab environment suitable for running social and economic experiments.

3.9. The following four scenarios shall be run in the experiments at a minimum:

3.9.1. Scenario 1: Baseline scenario of existing allocation rules, with Authority guidance provided to 'slot co-ordinator' on how competing bids should be prioritised.

3.9.2. Scenario 2: Broadening the definition of new entrants, disallowing secondary slot sales for first 5 years (rather than current two years for new entrants and one year for others), and removal of grandfather rights for newly allocated slots.

3.9.3. Scenario 3: Reservation of 15% of additional slots specifically for domestic connections.

3.9.4. Scenario 4: Auctioning of slots on a periodical basis (say every 5-7 years)

3.10. Potential Bidders may wish to run additional scenarios, such as the reservation / allocation of slots for specific purposes. Bids should separately include estimates for running the additional scenarios, though this will be for information only so that bids can be compared like for like.

3.11. It is likely that due to operational constraints, additional capacity at Heathrow would phased in over a period of time, affecting the bidding behaviour of competing airlines. Therefore the experiment should establish a likely phasing schedule for new slot capacity, drawing on industry knowledge and/or material from the airport operator.

3.12. Potential Bidders shall include initial proposals for the logistics of the behavioural experiments, including choice of location (and indicative costs) and suggestions of potential participants.

3.13. Task four - The outputs of the investigation shall include the following:

3.13.1. A summary report providing details on the outcome of the experiments; the implications for the Government's objectives for slot allocation; and any insights derived from the process on potential unintended impacts from the slot allocation process.

3.13.2. A methodology note highlighting assumptions made in setting up the game; the level of assurance of the outputs; and potential uncertainties and weaknesses in the approach taken.

3.14. Reports from the experiments under each scenario, providing details on which airlines receive individual slots, which routes they choose to fly, how the allocation of slots varies over the years, payments made in the secondary market and other relevant metrics from the experiments.

3.15. In addition to the implications of different slot allocation processes on the delivery of significant new capacity at Heathrow, the Authority requires comment on implications of these methods for other UK airports. This shall include the applicability of conclusions on the potential future expansion of other constrained airports in the London system, and non-London airports where slot capacity can be constrained at peak times.

3.16. Throughout the investigation the Authority requires the Supplier to have discussions with:

3.16.1. ACL, the slot co-ordinator to ensure they have an accurate understanding of existing slot allocation rules;

3.16.2. Sector analysts who may have insights into airline intentions at Heathrow Airport.

3.16.3. Any experts the Authority makes available to the Supplier, to advise on the application of the different scenarios and likely airline bidding strategies.

4. Key Milestones and Deliverables

4.1. The Supplier shall note the following project milestones that the Authority will measure the delivery against:

Milestone/Deliverable	Description	Timeframe or Delivery Date
1	Project Initiation meeting. Authority to agree specification of task one	Week one (following contract award)
2	Draft specification of behavioural experiments (task two) and preparation of research material (task one)	Week three
3	Finalise specification of experiments. Authority to agree specification (task two).	Week five
4	Preparation of relevant material (task two)	Week seven
5	Authority to sign off relevant material (task three). Begin first round of experiments	Week eight
6	Review experiments. Authority to agree tweaks to experiment design.	Week eleven
7	Finalise running of experiments	Week thirteen
8	Present initial findings including Q&A. Authority to provide feedback on findings of most interest.	Week fifteen
9	Draft report	Week sixteen

10	Authority to review the report	Week seventeen
11	Finalise report	Week eighteen

5. Authority's Responsibilities

5.1. The Authority shall be responsible for providing contacts within Government Departments, the Civil Aviation Authority, ACL and the Competition and Markets Authority that the Supplier shall work with. It will be up to the Suppler to determine the need for, and level of, external involvement.

5.2. The Authority shall also provide regular feedback on material, and shall respond to queries within two working days of being lodged. The Authority shall also review and provide comments on the draft report within five working days of being sent a copy.

6. Management Information/Reporting

6.1. Throughout the Contract, the Supplier shall maintain regular contact with the Authority on progress against the plan set out at the project initiation meeting. The Supplier will be required to update the Contract Manager at least once a week by email or phone on progress against the deliverables.

6.2. Given the complexity of the requirement and the potentially different approaches around how it can be met, the Authority requires regular engagement on the proposed approach to make sure it meets the aims of the requirement.

6.3. The Authority shall measure the quality of the Supplier's delivery through weekly contact with the Authority's Project Manager. The Project Manager shall guide and scrutinise the approach taken by the Supplier.

6.4. The final report shall include an Executive Summary of no more than five pages. Technical material shall be contained in annexes. The report shall be comprehensible to a non-expert audience, with terminology and acronyms explained.

6.5. Technical annexes may be used to provide supplementary information where appropriate. Where quantitative analysis has been conducted, spread sheets explaining the analysis and how estimates have been calculated shall be submitted as well.

6.6. While the Supplier will be responsible for proofreading the final report, the Authority retains responsibility for the final sign-off of the report.

7. Continuous Improvement

7.1. The Supplier will be expected to continually improve the way in which the required Services are to be delivered throughout the Contract duration.

7.2. Changes to the way in which the Services are to be delivered must be brought to the Authority's attention and agreed prior to any changes being implemented.

8. Quality

8.1. The text of any reports and notes shall be written to Plain English standards. The report and supporting documentation shall be reviewed and signed off by a senior member of the Potential Bidder's team.

8.2. Any tables and graphs used in written or presentation material should be produced in line with the GSS guidance for producers, found at https://gss.civilservice.gov.uk/wp-content/uploads/2018/03/Effective-Tables-and-Charts-in-official-statistics-Edition-2.1-February-2018-4.pdf.

8.3. All reports produced for the Department for Transport should be produced in line with Government accessibility guidelines. Further details can be found at https://www.gov.uk/service-manual/helping-people-to-use-your-service/making-your-service-accessible-an-introduction

8.4. Spread sheets should be created in line with spread sheet modelling best practise, either to the Supplier's internal standards (which should be specified in the bid) or to standards agreed with the Authority.

8.5. The Authority may request an expert to peer review the approach proposed by the Supplier, and to advise on the design of the exercise. The Supplier will be required to engage with the peer reviewer and respond to any feedback provided.

9. PRICE

9.1. The total cost for the work will not exceed £200,000.00 (Ex VAT)

10. Staff and Customer Service

10.1. The Potential Bidder shall ensure and demonstrate that they have the expertise, capability and capacity to undertake this work as set out in Section 7. The team engaged on this project must be flexible, adaptable and responsive to changing circumstances, ensuring ample availability of personnel working on this project.

10.2. The Authority requires the Supplier in order to consistently deliver a quality service to all parties.

10.3. Contractor's staff assigned to the Contract shall have the relevant qualifications and experience to deliver the Contract.

10.4. The Supplier shall ensure that staff understand the Authority's vision and objectives and will provide excellent customer service to the Authority throughout the duration of the Contract.

10.5. The Supplier shall acknowledge any queries within 24 hours and will respond within 3 working days.

10.6. The Supplier will acknowledge any complaints and escalations within 24 hours and these shall be resolved within 4 working days.

11. Service Levels and Performance

11.1. This shall give the Authority assurance that the work is progressing on track to the Key Milestones, that the right depth and quality is being investigated, and that the products that the Supplier generates are robust and fit for purpose.

11.2. Additionally, the Authority will measure the quality of the Supplier's delivery by:

KPI/SLA	Service Area	KPI/SLA description	Target
1	Delivery Timescales	All milestones shall be completed on time and within budget	100%
2	Account Management	Queries shall be acknowledged within 24 hours and responded to within 3 working days.	100%
3	Quality	All reports produced for the	100%

		Department for Transport should be produced in line with Government accessibility guidelines as found here: https://www.gov.uk/service-manual/helping-people-to-use-your-service/making-your-service-accessible-an-introduction	

11.3. In the event of poor performance through the failure to deliver KPIs to time and of appropriate quality, the Authority shall meet with the Supplier to understand the root causes of the issue. The Supplier shall formulate a Performance Improvement Plan to rectify these issues and meet the requirements in this statement.

11.4. If poor performance continues, following formal written warnings, early termination of the Contract will also be considered.

12. Security and Confidentiality requirements

12.1. The Supplier is expected to work with and protect potentially confidential and commercially sensitive data and must demonstrate their preparedness to do so by ensuring that all staff assigned to the project sign non-disclosure agreements for the duration of the project.

12.2. No Government level security clearances are required for this Contract.

13. Payment and Invoicing

13.1. Payment can only be made following satisfactory delivery of pre-agreed certified products and deliverables.

13.2. The payment structure for this project is as follows:

13.3. Upon written sign-off from the Authority of Milestone 2 (finalised specification of experiments), payment of 25% of the total Contract Value shall be made.

13.4. Upon written sign-off from the Authority of Milestone 3 (preparation of relevant material), payment of 10% of the total Contract Value shall be made.

13.5. Upon written sign-off from the Authority of Milestone 4 (presentation of initial findings), payment of 40% of the total Contract Value shall be made.

13.6. Upon completion of Milestone 6 (final report of findings), payment of 25% of the total Contract Value shall be made.

13.7. Payments shall be processed through the submission of invoices to the Authority. Each invoice shall include a detailed elemental breakdown of work completed and the associated costs before payment is made.

13.8. Paper invoices shall only be sent to the Authority's Shared Service Centre (address below) upon agreement with the Project Lead. At the same time, electronic copies shall be sent to the Project Lead by email.

13.9. Invoices shall be submitted to: Shared Service Arvato, 5 Sandringham Park Swansea Vale Swansea SA7 0EA

14. Contract Management

14.1. Potential Bidders should include details that will impact on the Supplier regarding their attendance and/or responsibilities in relation to contract review meetings or progress reporting.

14.2. Attendance at Contract Review meetings shall be at the Supplier's own expense.

15. Location

15.1. The services shall be carried out either at the Supplier's premises or at the lab.

15.2. Some aspects of the project will require meetings at the Authority's offices:

15.2.1. Great Minster House, 33 Horseferry Road, London, SW1P 4DR.

ANNEX B

Supplier Proposal

1. Methodology (Task 1)

1.1. The research conducted under Task 1 will serve three key purposes. First, the research on current slot allocation rules, auction theory and airlines' slot preferences will help identify the rules for the experiments in treatments 1 to 3, and the most appropriate auction format for the fourth treatment. Second, the research should allow the Supplier to design the experiment in such a way as to ensure that participants behave in a similar way to how airlines would behave in a real slot allocation scenario. Third, the research will enable the Supplier to measure whether the outcome of the different slot allocation scenarios satisfies the DfT's objectives.

2. Setting up the structure of the experiments

2.1. Three of the treatments are largely based on the existing slot allocation mechanism, with changes to administrative rules (e.g. new entrant rule). In order to ensure that the experiments mimic the existing allocation mechanism as closely as possible, the Supplier will obtain further information on the current rules for allocating slots and the considerations of the slot coordinator in assigning slots. The Supplier will rely on documents detailing the allocation rules from the ACL and to hold discussions with the ACL.

2.2. The design of the auction in the fourth treatment is crucial as it influences behaviour and outcomes. The Supplier will undertake a literature review to select the auction design that is best suited to slot allocation at Heathrow, and which is feasible for the experiment. The Supplier will review previous papers on auction design in airport slot allocations, including the CMA's recent report, as well as recent experimental economics evidence. The Supplier will complement these findings with the Supplier existing knowledge in order to run the experiment using the most appropriate auction format.

3. Reflecting airlines' behaviour

3.1. In order to ensure that the results of the experiments can be generalised to a real-world slot allocation mechanism at Heathrow, research on the following elements is required.

3.2. Range of airline interests. It is important to understand the range of potential airlines in order to incorporate a representative set of airlines in the experiment. The Supplier will gather information on airlines that already hold slots at Heathrow and potential new entrants. Another indicator that could be helpful in understanding airlines' interests in acquiring these slots is failed applications in previous Heathrow slot requests. This research will be conducted using publicly available information such as annual reports and shareholder presentations, as well as through discussions with a mix of different airlines, sector analysts, the CAA and the ACL. □

3.3. Airlines' constraints. The research on airlines' constraints should provide an indication of the total amount an airline is able to pay for slots. In terms of financial constraints, the Supplier expect to obtain key financial metrics from the airlines' financial statements. Another constraint for airlines may be the number of aircraft at their disposal or on order, although this will depend on the relative timing of the allocation of slots and the availability of new aircraft. The findings relating to airline constraints will be important in determining the airlines' objectives, which will be communicated to the experiment participants to ensure that they are able to accurately represent the different airlines. □

3.4. Airlines' slot preferences. In setting out airlines' objective functions the Supplier will take account of airlines' slot preferences (which will differ depending on the airline). In order to understand airlines' preferences for particular slots and communicate this to participants, the Supplier will need information on a number of factors, such as:

3.4.1. airlines' existing pattern of slot holdings at Heathrow Airport. For example, if an airline operates connecting flights through Heathrow, then its existing slot portfolio will be relevant to determining its preferences for additional slots; □

3.4.2. airlines' slot requirements, such as whether an airline's business model requires a certain number of slots per day in order to be able to (profitably) operate; □

3.4.3. □the profitability of operating different slots, based on the cost and revenue of operating particular types of aircraft, at different times of day, etc. □Airlines' slot preferences will also affect secondary trading in the experiment. For example, if an airline needs at least three landing/take-off slots a day at an airport in order to be able to profitably operate, an airline winning only one slot on a given day will either want to sell that slot in the secondary stage, or buy two more slots. The Supplier will obtain information on airline slot preferences from both the expertise and data held within the ACL, and stakeholder interviews. □

3.5. □Airlines' bidding strategies. Bidding strategies may relate to obtaining the desired slots as well as to frustrating other airlines in achieving their objectives. The information on bidding strategies, which the Supplier will obtain based on research and discussions with stakeholders, will inform the auction design and could be incorporated into the objective functions that are communicated to participants. □Research on airlines' likely use of slots □the Suppier have set out a number of metrics that will be used to assess whether an allocation mechanism achieves the Customer's desired objectives (see Task 4). The metrics include elements such as average cost per seat, and number of slots used for domestic and long-haul flights. To inform these metrics the Supplier will need information on how the airlines will use the slots—e.g. what type of aircraft airlines are likely to use, and therefore the average number of seats that will be available per slot. □Conducting the research □For information that is publicly available, the Supplier will coordinate with their internal Research team to obtain the relevant data. The Supplier has a dedicated Research team has access to a portfolio of research tools and is specialised in collecting data from terminals such as Factiva and Bloomberg. □In order to collect information from external stakeholders, the Supplier will establish a list of key contacts with the DfT at project commencement. Before contacting external organisations, the Supplier will draft an overview of the information to be shared and the questions, and will send this to the Customer for approval. Upon receiving this approval, the Supplier will proceed to contact the list of key contacts by email in the first instance. To allow organisations sufficient time to prepare and gather information, the Supplier will initiate this task shortly after project commencement. The Supplier will seek to hold face-to-face meetings with stakeholders where possible. □The Supplier will ensure that their deliverables are high-quality and in line with the requirements by only using data or information from robust sources, and ensuring that all their outputs are signed off by a senior member of staff. □

4. Methodology (Tasks 2 and 3)

4.1. The design of a robust behavioural experiment requires judgements over a number of important trade-offs. The Supplier's advice on the design of this experiment is based on their academic expertise and practical experience of running experiments. The key trade- offs include the following.

4.2. Simplicity vs realism. In general, behavioural experiments are seen to have greater external validity (i.e. real-world application) if they are more realistic. However, this must be balanced against the need for simplicity—it is vital that the participants fully understand the experimental design, their role and the incentives. Overly complex designs that more closely mimic the real world risk a level of complexity that can undermine the robustness of the experiment. Given the inherent complexity of slot allocation at Heathrow, the Supplier's advise designing this experiment to be simpler than the actual slot allocation scenario.

4.3. Robustness vs number of dimensions to be tested. Rigorous experiments accurately estimate the impact of different factors through testing one dimension at a time, ensuring that different effects cannot be conflated. Thus, each additional treatment should only vary (from another treatment) in terms of one dimension— otherwise there would be considerable uncertainty over which factor is driving the results. Therefore, the Supplier advises that this experiment tests one dimension per additional treatment (i.e. four treatments can test three dimensions, comparing to the control treatment). On this basis, the Supplier recommends a change to one of the scenarios specified in the DfT's ITT (discussed further below). □

4.4. Observing optimal strategies vs observing strategies that adapt. Allowing participants to learn and refine their strategies over repeated rounds is likely to result in each participant moving towards their optimal strategy over time. However, if there are differences in the experiment over repeated rounds, then participants may find it more difficult to find their optimal strategy unless there are sufficient rounds. Given limitations on the number of rounds that can feasibly be run in one lab experiment (e.g. due to limits on participants' attention), the Supplier advises that each round is independent of (and identical to) previous rounds. □

5. Tasks 2 and 3 plan

5.1. The project plan for Tasks 2 and 3 is shown in the figure below. Following Task 1, the Supplier will design the experiment with close involvement from the Customer to ensure the experiment meets its requirements. The Supplier will programme the experiment and run a pilot on each treatment. The pilot will test that the participants understand the experiment and that the design and data collection works as planned. After the pilot there will be an opportunity for adjustments to the experiment, which the Supplier will discuss with the Customer.

5.2. Following any adjustments, the Supplier will run the experiment 10 times for each treatment in order to gain a sample size large enough to make statistically robust inferences. Each 'run' will consist of multiple 'rounds' of the slot allocation, such that each run will provide several observations on efficiency, competition and the other outcomes. The Supplier will then analyse the resulting data to understand the impact of the treatments on the outcome metrics. Each round in each run will form one observation for the purpose of data analysis.

6. Experiment plan/Structure

6.1. The high-level experiment structure is shown in the figure below. This follows academic best practice, with clear preparatory materials provided, followed by the treatments and then individual questions of the participants. The preparatory materials and treatments are outlined in further detail below.

6.2. The individual questions will ask participants to reveal characteristics (e.g. age) and preferences (e.g. risk aversion) that will be used to test whether the sample is balanced across treatments. The experiment will end with the participants receiving payment.

7. High-level structure of experiment - Preparatory materials for participants

7.1. At the start of the experiment, the Supplier will give each participant materials explaining the format of the experiment and their role, assuming no prior knowledge of experiments or airports. These materials will be created using the insights from Task 1, ensuring that the experiment is well designed in order to deliver meaningful results. The materials will include information on:

7.1.1. The structure of the experiment, including the timing and high-level explanation of ethical and data protection standards, as well as the fact that participants will be taking decisions anonymously and their payoff will not be revealed to other participants; □

7.1.2. The general scenario, of slot allocation at a large airport in the context of the opening of a new runway; □

7.1.3. The participant's role, as a specific airline, and that airline's objective function and budget constraint. The Supplier will explain that each participant is a different airline, and may face different costs or benefits from the slots; □

7.1.4. The nature of the interactions (e.g. how many rounds, secondary trading);

7.1.5. The incentives, to ensure that participants are motivated. □Participants will have all the relevant information at the outset and will not be surprised by any aspect of the experiment.

7.1.6. The Supplier will follow a number of high-level principles in creating materials for participants: □

7.1.6.1. □Using easily understandable language, avoiding unusual terms and keeping sentences short; □

7.1.6.2. Giving illustrative examples, for example: 'If the slot is worth 5 points to you, and you buy it for 2 points, then the you will earn 3 points';

7.1.6.3. Ensuring participants take time to understand the scenario by asking them control questions to test they understand the impact of their choices, for example: 'If a slot is worth 5 points, and you buy it for 2 points, how much will you earn?' □The Supplier will include the instructions and information in a written format, but will also spend some time going through it verbally at the beginning of the experiment to ensure that participants with different learning styles fully understand the experiment. The Supplier will enhance the transparency for participants by making it clear that they are all undertaking the same tasks.

8. The sample

8.1. The Supplier will use university students for this experiment, who consider to be sophisticated enough to understand the experiment. CeDEx has a volunteer subject database of university students with over 3,000 registered participants. The database maintains a continuous flow of new participants, with fresh students every semester. Participants will be recruited and randomly assigned to treatments via the ORSEE programme (as is best practice in experimental economics).

8.2. The Supplier does not propose to use industry experts because the experiment should have a similar sample across treatments, which would involve finding many similar experts. Further, the use of industry experts could undermine the external validity of the experiments as experts may see the experiment as part of a larger 'game' where they can influence the Customer's decision-making, creating very different incentives and behaviours.

9. Allocation of slots

9.1. Four treatments will test three dimensions of experiment design against the control treatment. Further treatments, which may be instructive, are specified in section 1.8, but are not included as part of the budget.

10. General scenario (the same across all treatments)

10.1. Given the need for participants to fully understand the context and their decisions, the Supplier will simplify the slot allocation scenario in the following ways, each of which would be held constant between treatments.

10.2. Several types of airlines, with multiple airlines of certain types (e.g. covering small and large airlines, incumbents and new entrants, full-service and low-cost carriers). □

10.3. Airlines in total, sufficient for multiple airlines of certain types to be represented. □

10.4. One participant per airline. The Supplier is interested in the actions taken by each airline, not on how participants make a decision within each airline, the Supplier do not consider that □multiple participants per airline are required. The experiment should be simple enough for one participant to understand and behave in accordance with the incentives. □

10.5. □Each participant will be rewarded for their effort by basing their pay-off on the results of the experiment. The pay-off structure will be aligned to the incentives of their airline, as explored in Task 1. □

10.6. Each airline will have a defined incentive function over the slots and a budget constraint (to restrict bidding). This will include preferences over long haul, short haul or domestic flights, and a 'budget' of available aircraft (e.g. small, medium, large). Participants will also be rewarded for unspent budget. The incentive function (and thus participant reward) will remain the same across treatments. □

10.7. A limited number of slots per allocation/auction, in order to reduce the number of bid combinations and length of auction process. The appropriate number of slots will be determined after Task 1. □

10.8. Each 'run' will have the same number of rounds, in order to ensure comparability of behaviour across treatments. The number of rounds will be limited by the complexity of the allocation/auction design and the length of time it will take participants to complete it. It is likely to be 3–6 rounds per run, which will cover 20 years in total.

10.9. Each round will be identical to the previous round, with no phasing in of slots. This will ensure that participants have the best opportunity to find their optimal strategy without the scenario changing each round.

10.10. Each round will be independent of all previous rounds. Again, this will ensure that participants can find their optimal strategy without the scenario changing over time.

10.11. Each round will include secondary trading after the allocation/auction.

11. Treatments

11.1. The figure below shows the four proposed treatments in the experiment, and how they relate to each other (given that each treatment should vary in only one dimension from another treatment).

11.2. The control treatment will be based on the current system of slot allocation at Heathrow. In each round the participants will be required to submit their requirements ('bids'), after which the slot-coordinator will allocate the slots to airlines. This will be followed by secondary trading. Given each run of the treatment must be under identical conditions, the role of the slot-coordinator must be played by an algorithm following pre-programmed rules. The design of this algorithm will be based on the findings of Task 1.

12. Slot-coordinator, with different definition of new entrant (Treatment 2)

12.1. Treatment 2 will test one change from the control treatment in terms of the rules that the slot-coordinator follows. In this respect what the Supplier is proposing is different from the DfT's ITT, which listed several changes under scenario 2. However, for the reasons explained above, only one dimension can change between treatments. The Supplier proposes that the change occurs regarding the definition of new entrant, as it is a key element of the current procedure that has been critiqued.

13. Slot-coordinator, with 15% reserved for domestic flights (Treatment 3)

13.1. Treatment 3 will again test one change from the control treatment in terms of the rules that the slot-coordinator follows. In this case the Supplier will test the impact of reserving a certain proportion of slots for domestic flights (e.g. 15%).

14. Auction, with existing allocation rules (Treatment 4)

14.1. Treatment 4 will test the outcome of slot allocation when an auction is used. An auction for airport slots could be a viable alternative to the current approach, as it can achieve an efficient outcome if well designed. The design of the auction is crucial as it influences behaviour and outcomes. The Supplier will do a literature review of the extensive theoretical and experimental literature in Task 1.

14.2. The Supplier will consider a design similar to spectrum auctions may be appropriate as some of the issues that can arise when auctioning airport slots can also occur when auctioning spectrum. For example, the value of one slot depends on what other slots are also held by the airline. In order that Treatment 4 changes only one dimension from the control treatment (i.e. from coordination to auction), the Supplier proposes that the existing slot-coordinator rules are followed as closely as possible (e.g. reservations of slots for new entrants).

14.3. The Supplier will auction all the slots simultaneously (rather than sequentially), with the slots divided into several categories (e.g. peak and off-peak times). Depending on the appropriate auction design, there may be one or two stages to the auction (which would then be followed by an opportunity for secondary trading). A two-stage auction would first auction 'generic' slots, followed by auctioning 'specific' slots within each generic category.

15. Logistics

15.1. The lab experiments will be conducted at the University of Nottingham in the Centre for Decision Research and Experimental Economics (CeDEx). CeDEx operates two state- of-the-art experimental labs—one in the School of Economics (capacity for 32 participants) and one in the Business School (capacity for 40 participants). Either would be suitable for this project. The labs are designed to ensure that participants cannot communicate with each other during the experiment, with screens around each desk. Each participant has their own computer terminal. Each experiment will be overseen by two staff in the lab—the CeDEx lab manager and an assistant.

16. Programming and data collection

16.1. The Supplier anticipates that the experiment programming will be done in zTree or Lioness, depending on the precise design. Lioness was developed at the University of Nottingham and has unique features for large experiments with subject interaction; while zTree is the most commonly used software for economic experiments worldwide. Either program allows for best-practice data collection at both participant-level and group-level.

17. Timing

17.1. The Supplier will design the experiment for Treatments 1, 2 and 3 to last one hour in total, and the Supplier will run three groups at a time in the lab. However, the Supplier anticipates that Treatment 4 will last two hours (as the auction process may be more time-consuming). The Supplier will also run three groups at a time for Treatment 4.

18. Ethical approval

18.1. The Supplier will conduct this project according to the highest ethical standards, in line with the University of Nottingham's Code of Research Conduct and Research Ethics. The project will undergo ethical review from the Nottingham School of Economics Research Ethics Committee.

19. Additional treatments (conducted at extra cost)

19.1. If the Customer wishes, it may be useful to construct certain additional treatments, such as:

19.1.1. Auction with a different definition of new entrants (comparable to Treatment 2);

19.1.2. □Auction with 15% reservation for domestic flights (comparable to Treatment 3); □

19.1.3. Auction with a different design, testing the impact of specific auction rules. □The cost to the Customer of each of these additional treatments is likely to be around £10,000 per treatment, although the cost can vary depending on the nature of the treatment (e.g. number of participants, duration). □

20. Methodology (Task 4)

21. Results from the experiments

21.1. The output from the experiments will be a data set that records the decisions of the participants. CeDEx will initially collect the data set and share it with the Supplier. It will contain 10 runs per treatment.

21.2. Each run will consist of multiple rounds. For each run, round and participant, the Supplier will collect information on the decisions made and the outcomes. For instance, the data set will include the number of slots each airline received, the corresponding price, and whether the slot was obtained through secondary trading. The Supplier will also have information on how successful airlines were in reaching their objective functions in each of the treatments. The Supplier will provide the results of their analysis to the Customer in a format further described below.

22. Data analysis

22.1. The Supplier will conduct after running the experiments and collecting the data. The Supplier will also provide a brief overview on how to ensure data quality while accounting for various technical considerations.

23. Objectives of the analysis

23.1. The Supplier will design their analysis in a way that allows the Supplier to assess how the different slot allocation mechanisms meet the four objectives set out by the Customer, in terms of ensuring:

23.1.1. there is effective competition between airlines at an expanded Heathrow; □

23.1.2. the allocation of slots leads to an efficient use of Heathrow capacity; □

23.1.3. the international long-haul connectivity of Heathrow is maximised; □

23.1.4. the strengthening and development of existing and new domestic routes specifically. □In particular, the Supplier will assess how different allocation methods, represented by their treatments, affect the distribution of slots between airlines, and their effect on competition, routes and prices. The Supplier will do this by using a combination of simple descriptive statistics, econometrics and data visualisation tools. □The Supplier's note that the objectives set out by the Customer may not all be achievable in each slot allocation mechanism. For instance, more effective competition could come at the expense of a less efficient use of Heathrow capacity. Therefore, in their analysis of the experiment results the Supplier would include an evaluation matrix to show how, and to what extent, each slot allocation mechanism meets the different objectives.

23.2. □Relevant metrics □Selection of the precise metrics on which the Supplier will collect data depends on the precise experiment design, which will be discussed with the Customer before being finalised. However, the Supplier expects that they will include measures on: □

23.2.1. efficiency of the different mechanisms, such as the number of slots that were requested and actually sold in each round, the price at which they were sold, the volume of trade and value of slots on the secondary market; □

23.2.2. the efficient use of scarce resources, such as the number of seats and flights based on the selected aircraft types; □

23.2.3. the level of competition in the market, such as the concentration of slots holding, the rate of switching between airlines, the market share of new entrants, the market shares of the largest airlines and the Herfindahl–Hirschman Index (HHI);

23.2.4. average cost per seat and the average revenue per slot; □

23.2.5. connectivity on domestic and long-haul flights (e.g. the number of slots and seats.) □These metrics will constitute the basis of their analysis. The Supplier will use them to evaluate the different slot allocation mechanisms. □The analysis of experimental data is typically done in two steps. The first step consists of understanding the behaviour of participants within each treatment. It provides intuition on the reason why participants made certain decisions. As such, it involves computing simple summary statistics, such as averages and medians, on the outcomes of interest.

23.3. For instance, in Treatment 1, the Supplier will compute the average number of airlines that bid for each slot, thereby assessing the extent of competition based on the current slot allocation mechanism. □The second step of the experimental data analysis is a comparison across treatments. The objective is to evaluate the effect of each slot allocation mechanism on the behaviour of participants. It is the heart of the experimental methodology in economics and all sciences. In an experiment, participants are randomly allocated to each treatment and there are no systematic differences. In other words, if the Supplier observe systematic differences in behaviour across treatments, it can only be because of the specificities of the scenario participants were assigned to, and not their personal attributes. The analysis in this step may involve the use of more complex techniques, such as econometrics. For instance, the Supplier will compare the value or the number of bids for each slot between Treatments 1 and 4. This will provide information on the effect of an auction on competition for slots. □Data quality □Robust analysis relies on good-quality data. Data quality in experiments arises from the clarity of instructions given to the participants, the quality of the programming, and the collection of the relevant variables for the analysis. CeDEx has run hundreds of experiments and has developed considerable expertise in this field. □In order to adapt the instructions to all participants, the Supplier will plan to have written and oral instructions. The Supplier will also use onscreen individual control questions to test the participants' understanding of the rules of the experiment. If participants fail to answer these questions, they will receive further explanation on their monitors, to ensure that they understand the key instructions. Experienced programmers will lead on the programming phase. The software available at CeDEx includes a test mode, which ensures that the program functions before participants use it. Further, the Supplier experimental plan includes a pilot phase. This will allow for adjustments to the program and the instructions to be made, should there be a need. □Finally, in addition to the relevant economic variables, the Supplier will also collect anonymised demographic questions. These will be used for 'hygiene checks' on whether a sample is equivalent across treatments, or whether participant characteristics drive outcomes. □Technical considerations □After the experiments, the software will output computerised spreadsheets in Excel or .csv format. In order to conduct data analysis, the Supplier will import the data from the experiment into a statistical package. This package will enable us to conduct the □ econometrics and statistical analyses mentioned above. At all stages, the Supplier will ensure the confidentiality, anonymity and security of the data the Supplier will collect.

24. Communication schedule

24.1. A successful outcome means providing you with sound expert economic advice supported by effective project management. A robust approach to project management is critical to delivering robust results that you can apply to the question at hand, on time and on budget. Central to delivering top-quality advice is regular and open communications with you and your team. This includes sending you relevant materials at specified times during the project period:

24.1.1. Week 4: the Supplier will provide you with their research into airlines, as specified in Task 1, and with a draft specification of the experiments;

24.1.2. Week 7: the Supplier will provide you with the final specification of the experiments and the relevant materials for them. Once this is signed off by the DfT, we will start the experiments;

24.1.3. Week 15: the Supplier will provide you with initial findings for feedback. This will include an overview of the results of the experiments, and some initial findings based on their econometric work to test the outcomes of each treatment against the objectives;

24.1.4. Week 16: the Supplier will provide you with a draft report to allow you to provide comments or questions;

24.1.5. Week 18: the Supplier will provide you with the final output.

25. Final output

25.1. As part of the final output, the Supplier will provide the following:

25.1.1. A file that will include the 'raw' data from the experiment, and the programs used to analyse it.

25.1.2. An overview pack, potentially in PowerPoint, summarising the most important outcomes of the experiments. This will include visuals with overview statistics of the outcomes of the treatments. The overview pack will also provide a clear visual presentation of the findings regarding how well the different treatments deliver against the objectives. For example, the Supplier can indicate how well each treatment scores on each objective by using a 'traffic light' colour coding. Green indicates that the objective is met using this treatment, red indicates that the objective is not met, and orange that the objective is partially met.

26. The Supplier will write a high-quality report, including:

26.1. an executive summary

26.2. an introduction, setting out the objectives and importance of the study;

26.3. a summary of the research undertaken on airlines;

26.4. a methodology note on the experiments, which includes all relevant material, highlighting assumptions made in setting up the experiments; the level of assurance of the outputs; and potential uncertainties and weaknesses in the approach taken.

26.5. a methodology note on the analyses the Supplier will have performed with the data from the experiments;

26.6. an overview of the outcomes of the experiments. This will include the outcomes presented in the PowerPoint pack, and give further details and explanation where required;

26.7. results from how well different models of allocation deliver against the four DfT objectives. Again, this will be presented in a visual and clear way, so that results can be easily interpreted;

26.8. potential unintended impacts from the slot allocation process. For example, some treatments could lead to behaviour from airlines that is not desirable, or to outcomes that perform worse than the control treatment on some objectives. For each of these unintended impacts the Supplier could suggest some potential ways in which these impacts could be mitigated; □

26.9. a section on lessons learned from the experiments. This will include the findings of the experiments, without providing recommendations on the preferred allocation method. The Supplier will also suggest some additional research or experiments that could be done. □

26.10. a discussion how the results of the experiments are applicable to potential future expansion of other constrained airports in the London system, and non-London airports where slot capacity can be constrained at certain times. The Supplier will carefully address which results would be similar when applied to other airports, and where caution should be exercised in assuming the results also apply to other airports. The Supplier will also suggest some potential additional research that can be done when considering whether the allocation method can be applied more widely. □

27. Quality assurance□

27.1. Quality at Oxera is assured through a rigorous, documented sign-off procedure to verify that all outputs are:

27.1.1. evidence-based—using primary source data or data from reputable and trusted sources; □

27.1.2. accurate—all the Supplier's consultants are issued with comprehensive best-practice modelling and data handling guidelines, and modelling is audited by one of their modelling specialists; □

27.1.3. peer-reviewed—all outputs are checked by a senior economist for technical accuracy, adherence to the original plan, and compliance with Oxera's high quality standards; □

27.1.4. proofread and clearly presented—all written outputs are checked by the Supplier experienced copyeditors and proofreaders for consistency, presentation and readability. The Supplier comprehensive established house style is applied to all outputs, unless the Customer has specific requirements.

28. Programme Delivery Support & Account Management

29. Project team

29.1. The Supplier's project team would have: clear communications with the Customer and the Customer's project team, and within the Supplier's project team; clearly stated roles and responsibilities for each project team member (see below); a clear upwards reporting structure (from the project team to Project Manager to Project Director).

29.2. The Supplier have an internal resourcing system at Oxera where resources for specific projects are booked in advance for a certain number of days per week for the duration of the project. This ensures that the Supplier can resource the project and call on the required staff as needed.

29.3. The team for this project would comprise the following individuals, who have experience in aviation, including airport slot allocation, behavioural experiments and auction design.

29.4. The Supplier's contract management and governance process detailing how the Supplier will monitor the quality of the work being carried out

29.5. Quality at Supplier is assured through a rigorous, documented sign-off procedure to verify that all outputs are:

29.5.1. evidence-based—using primary source data or data from reputable and trusted sources; □

29.5.2. accurate—all their consultants are issued with comprehensive best-practice modelling and data handling guidelines. All modelling and analysis will be audited by one of the specialist team members who has not been involved in preparing the analysis; □peer-reviewed—all outputs are checked for technical accuracy, adherence to the original plan, and compliance with the Supplier high quality standards. This will be assured both through the sign-off from the Project Director, but also through the peer review panel review; □

29.5.3. Proofread and clearly presented—all written outputs are checked by the Supplier's experienced copyeditors and proofreaders for consistency, presentation and readability. The Suppier's comprehensive established house style is applied to all outputs, unless you have specific requirements. □Integrity is a core value at the Customer, and the Supplier place emphasis on providing analysis and conclusions that are objective and credible. □Proposed timetable around the key milestones. □

29.5.4. Starting certain tasks earlier so that different tasks overlap. For example, the Supplier considers that drafting the specification of the behavioural experiments and preparation of material can already start in week 2. □

29.5.5. The Supplier has added a task for the pilot experiments ahead of the review of experiments. □

29.5.6. The Supplier has amended the timings slightly to allow for an additional week to analyse the □results.

29.6. Complaints and escalation process

29.6.1. The Supplier is committed to resolving any complaints or disputes arising out of or in connection with the services to be provided by us as efficiently as possible. Any dispute shall be referred to the Project Manager in the first instance, who will attempt to resolve it. The details of the Project Manager for this project are included in the box below. Tim Hogg: tim.hogg@oxera.com 020 7776 6648 The complaints and escalation procedure is as follows. Day 1: A complaint is received. The complaint is fielded by the Project Manager, to whom the complaint is addressed, and logged. The Project Manager advises the Customer in writing that the complaint has been received and that a response will be sent within five (5) days. Days 2–4: The Project Manager sends a written response via email or letter to the Customer, and follow up with the Customer to ensure this has been received. Day 4/5: The Customer receives the response. Either the Customer is satisfied that the matter has been dealt with sufficiently and the matter is concluded, or the Customer is not satisfied and 'appeals'. If the Project Manager is unable to resolve the Dispute with the Customer, the Dispute shall be referred to the Project Director and the Operations Board. Day 6: The Supplier acknowledges the appeal by the Customer and advises the Customer that a response will be sent within three (3) days. Days 7–10: The Project Director and Operations Board review the complaint and the nature of the appeal. They either send a new response to the Customer or advise the Customer that the original Supplier line is supported. The Customer either accepts Supplier's position or declines. If the Dispute has not been resolved, then, if the parties agree, it will be referred to mediation by a sole mediator agreed between Supplier's and the Customer.

Annex C – Pricing Schedule

Pricing Schedule

The below pricing schedule will be used to base the contract charges on.

Activity	Details - please include all tasks associated with delivering the activity. Please bear in mind the milestones stated at section 8 of Attachment 3 Specification and the breakdown of each task given under section 7 of the Attachment 3 Specification. Please highlight additional costs involved with stakeholder communication/management	Role	Discounted Daily Rate	Anticipated Days	Total	Total Activity Cost
Inception Meeting	Preparation of detailed Agenda including detailed project plan and key questions / issues for discussion with DfT	A,B,C,D	£ 1,957.50	1	£ 1,957.50	£ 4,402.50
	Attendance at meeting with DfT	A,B	£ 2,445.00	1	£ 2,445.00	
					£ -	
					£ -	
					£ -	
(Task One) Conducting research on airlines	Determine relevant stakeholders, draft communication plan and email stakeholders	A,B,C,D	£ 1,957.50	2	£ 3,915.00	£ 25,545.00
	Desk-based research on slot allocation rules, allocated slots at HAL, etc	B,C,D	£ 1,730.00	2	£ 3,460.00	
	Desk-based research on airline development plans, aircraft orders, financial constraints, etc	C,D	£ 1,470.00	4	£ 5,880.00	
	Desk-based research on auction design and experimental economics	B,D	£ 1,725.00	2	£ 3,450.00	
	Discussion with airlines, experts and ACL	A,B,C	£ 2,210.00	4	£ 8,840.00	
(Task Two) Arranging two rounds of a behavioural experiment	Draft specification of behavioural experiments	All	£ 1,965.00	10	£ 19,650.00	£ 41,565.00
	Discussion of experiments with DfT	A,B	£ 2,445.00	2	£ 4,890.00	
	Final specification of experiments	All	£ 1,965.00	3	£ 5,895.00	
	Draft materials for participants	A,B,C,D	£ 1,957.50	4	£ 7,830.00	
	Arrange for participants' attendance at experiments				£ 3,300.00	
(Task Three) Conducting the series of experiments,	Cost of lab (including programming)				£ 24,800.00	£ 47,440.00
	Cost of logistical arrangements				£ 4,700.00	
	Participant costs				£ 14,080.00	
	Review experiments, agree changes with DfT and make adjustments if required	A,B,E	£ 1,930.00	2	£ 3,860.00	
					£ -	
(Task Four) Reporting on the results of the experiments	Data analysis (including analysis of relevant metrics)	A,B,C,D	£ 1,957.50	6	£ 11,745.00	£ 18,600.00
	Auditing of the analysis	C,D	£ 1,470.00	2	£ 2,940.00	
	Write up short note and present initial findings to DfT	A,B,C,D	£ 1,957.50	2	£ 3,915.00	
					£ -	
					£ -	
Draft Reports	Drafting the report	A,B,C,D	£ 1,957.50	10	£ 19,575.00	£ 30,525.00
	Peer review	Board level	£ 3,060.00	1.5	£ 4,590.00	
	Meeting with DfT to discuss draft report	A,B	£ 2,445.00	1	£ 2,445.00	
	Incorporating DfT comments	A,B,C,D	£ 1,957.50	2	£ 3,915.00	
					£ -	
Risk Management	Bi-weekly calls with DfT	A,B	£ 2,445.00	2	£ 4,890.00	£ 12,720.00
	Internal team weekly catch-ups on project management and progress	A,B,C,D	£ 1,957.50	4	£ 7,830.00	
					£ -	
					£ -	
					£ -	
Final reports and findings	Finalising the report	A,B,C,D	£ 1,957.50	5	£ 9,787.50	£ 18,592.50
	Incorporating DfT comments	A,B	£ 2,445.00	2	£ 4,890.00	
	Meeting / presentation to DfT	A,B	£ 2,445.00	1	£ 2,445.00	
	Finalising data packs to provide to DfT	C,D	£ 1,470.00	1	£ 1,470.00	
					£ -	
Total cost for research (Evaluation)						**£ 199,390.00**

Rate Card

The below rate card will be used to calculate any additional work that may occur during the life of the contract that have not been highlighted within the above pricing schedule.

Staff Grade	Description	Maximum Charging Threshold (Day Rate)	Proposed (Day Rate)
Board Level / Chief Executive	As described in Category A roles, with further strategic decision making responsibility and overall accountability of organisation	£1,738.00	£ 3,060.00
Category A	Senior member of personnel, e.g Research Director having assumed responsibilities in his/her profession through the performance of management and supervision roles. Typically, he/ she shall have ten (10) years or more professional experience of which at least four (4) years must be relevant to the type of tasks to be performed under the contract at this level.	£1,413.00	£ 2,640.00
Category B	Certified member of personnel e.g. Senior Researcher or Research Manager having received a high-level training in his/her profession and recruited for his/her appreciated skills as regards professional practice. Typically, he/she must have five (5) years professional experience of which at least two (2) years shall be relevant to the type of tasks to be performed under the contract at this level	£943.00	£ 2,250.00
Category C	Member of personnel such as a researcher. Typically, with two (2) to four (4) years experience, with understanding and grounding in research projects and the type of tasks to be performed under the contract at this level.	£875.00	£ 1,740.00
Category D	Junior member of research personnel e.g. junior researcher. Typically, with two (2) years experience. A newcomer to the profession but with training related to the type of tasks to be performed under the contract at this level.	£648.00	£ 1,200.00
Category E	Administrative or general junior personnel (e.g. those involved in ensuring the logistics of the tasks are undertaken).	£408.00	£ 900.00
		Total Blended Rate	£ 1,965.00