

UNIVERSITY OF BIRMINGHAM

NETWORK RAIL FRAMEWORK PROJECT AGREEMENT

Between

THE UNIVERSITY OF BIRMINGHAM

and

BRNO UNIVERSITY OF TECHNOLOGY

THIS PROJECT AGREEMENT is made on the last date of signature below

1. **THE UNIVERSITY OF BIRMINGHAM**, registered by Royal Charter RC 000645, Charity number 7237 having its administrative offices at Edgbaston, Birmingham, B15 2TT, ("the University"); and
2. **BRNO UNIVERSITY OF TECHNOLOGY**
public university formed under Act 111/1998 Coll.
Part: **Faculty of Civil Engineering**
having a registered office at Veveří 331/95602 00 Brno, Czech Republic,
represented by Miroslav Bajer, Prof, MSc., Ph.D., dean
("the Collaborator").

The University and the Collaborator are hereinafter referred to as the "**Parties**" or either one thereof as "**Party**".

Whereas:

- a) The University entered into a framework agreement ("Framework") on 17th September 2019 with Network Rail Infrastructure Limited.
- b) The Funding Body has commissioned the University under the terms of the Framework to carry out a research project entitled "Shift2Rail In2Track3 Task 1.1.1A,B&D Integrated & embedded sensors for prognostic monitoring" on the terms set out in Schedule 1 (the "Project").
- c) The University wishes the Collaborator to carry out a portion of the Project as envisaged in the proposal to the Funding Body and the Collaborator warrants that it has the necessary skills and has allocated sufficient resources to accomplish the Allocated Work.
- d) Any other associated flow down terms which are set out in the Contract are set out in Schedule 3 mutatis mutandis.

NOW, THEREFORE, it is hereby agreed as follows:

1. DEFINITIONS AND INTERPRETATION

- 1.1. The words and phrases below shall have the following meanings:

Agreement	shall mean this agreement and any schedules or appendixes incorporated herein;
Allocated Work	shall mean the work defined in Schedule 2 hereto attached;
Background IP	shall mean any IP or Know-how controlled or owned by any Party prior to the date of commencement of this Agreement or IP generated by any of the Parties independently of the Project and controlled or owned by that Party or any IP to which the Party has the necessary rights for the purpose of the Allocated Work;
Confidential Information	all and any information, documents, data and opinions disclosed by a Party to the other Party (or otherwise acquired by one Party pursuant to this Agreement) including without limitation commercial, financial or proprietary material, pricing, inventions, formulations, compositions of matter, data, know-how, formulae, algorithms, processes, operating methods and

procedures, results, designs, drawings, specifications, industrial and or IP, computer programmes or other software and any other confidential information relating to the Allocated Work and/or the Project whether in oral, written, electronic, graphic or digitised format; or disclosed pursuant to discussions with any of the officers, employees, students, honorary members of staff, agents, advisors or consultants of a Party and whether or not marked or indicated as confidential;

Contract	shall mean the contract awarded to the University by the Funding Body as set out in Schedule 1 and as amended or varied from time to time;
Effective Date	shall mean 22 nd October 2021;
Fees	shall mean the monies to be paid by the University to the Collaborator for the work detailed in Schedule 2 to this Agreement, subject always to receipt from the Funding Body;
Foreground IP	shall mean any IP or Know How which becomes known or is developed by any Party directly as a result of the work undertaken in accordance with the Project including but not limited to financial information, details of plant or processes, reports, drawings, operating methods and instructions, formulations, projections, plans, specifications, know-how, techniques, manuals, and the like both written and unwritten;
Funding Body	shall mean Network Rail Infrastructure Limited;
Intellectual Property ("IP")	shall mean patents, inventions, registered designs, copyrights, database rights, domain names, design rights, rights affording equivalent protection to copyright, topography rights, trademarks, service marks, know-how, business names, trade names, moral rights, registration of or an application to register any of the aforesaid items, and rights in the nature of any of the aforesaid items in any country, rights in the nature of unfair competition rights and rights to sue for passing off;
Project Manager	shall mean the respective persons appointed by the Parties hereto to project manage the Contract and this Agreement. The University Project Manager shall be [REDACTED] and the Collaborator Project Manager shall be [REDACTED]

2. TERMS AND CONDITIONS

- 2.1. The Parties to this Agreement shall be bound mutatis mutandis by the terms and conditions of the Contract, including its Annexes, which form part of the Agreement as Schedule 1, but excluding provisions of the Contract that are particular to the University and other parties to the Contract.
- 2.2. Where there is any conflict between the terms of the Contract and this Agreement, the Contract shall take precedence.

3. SCOPE

- 3.1. The Collaborator shall perform and complete its share of the work under this Agreement in relation to the Project in accordance with the Allocated Work as set out in Schedule 2.

- 3.2. The Collaborator shall co-operate with the University to ensure the efficient management of the Project and, in particular, shall provide the University with the information necessary for the University Project Manager to carry out his/her duties, and in particular to enable the University to make proper reports to the Funding Body as required by the Contract.

4. PRICE AND PAYMENT

- 4.1. The total Fees payable by the University to the Collaborator in respect of the Allocated Work are £89,000 (Eight Nine Thousand Pounds), inclusive of any applicable VAT. Details of the components of this total, and the invoicing arrangements are set out in Schedule 2 - Payment Schedule. Payments to the Collaborator will be made by the University without undue delay after receipt of the financial contribution from the Funding Body.
- 4.2. In the event that the University shall be required to make repayments the Funding Body in respect of the Allocated work, such sums as are required to be repaid to the Funding Body shall be reimbursed to the University by the Collaborator. Where the Funding Body withholds payment to the University in respect of the Allocated Work, then the University shall be under no obligation to make payment of such sums to the Collaborator.

5. DURATION AND EFFECTIVE DATE

The work to be performed under this Agreement shall commence in accordance with the periods set out in the Contract and be completed by the dates set out in the Contract.

6. TERMINATION

- 6.1. Performance under this Agreement may be terminated by the University in the event of termination of the funding from the Funding Body.
- 6.2. Upon termination by the University, the University will reimburse the Collaborator for all costs incurred to date of termination in the performance of the Project, for which they have already received payment from the Funding Body, such reimbursement not to exceed the total estimated project price specified in Schedule 2.
- 6.3. Without prejudice to any other right or remedy it may have, either Party may terminate this agreement at any time by notice in writing to the other party ('Other Party'), such notice to take effect as specified in the notice:
- 6.3.1. if the Other Party is in breach of this agreement and, in the case of a breach capable of remedy within 14 days, the breach is not remedied within 14 days of the Other Party receiving notice specifying the breach and requiring it to be remedied; or
- 6.3.2. if the Other Party becomes insolvent, or if an order is made or a resolution is passed for the winding up of the Other Party (other than voluntarily for the purpose of solvent amalgamation or reconstruction), or if an administrator, administrative receiver or receiver is appointed in respect of the whole or any part of the Other Party's assets or business, or if the Other Party makes any composition with its creditors or takes or suffers any similar or analogous action in consequence of debt.
- 6.4. Termination by notice of this Agreement by whatever means shall not affect the provisions of clauses 7, 8, 9, 10 11 and 12 hereof.

7. CONFIDENTIALITY

7.1. In respect of all Confidential Information in whatever form acquired by one Party (the "Recipient Party") from the other Party (the "Disclosing Party") the Recipient Party hereby undertakes:

- 7.1.1. not to use the Confidential Information for any purpose other than the performance of the Project;
- 7.1.2. only to disclose the Confidential Information to the extent necessary to those of its employees, staff or students, to whom disclosure is necessary for the performance of the Project;
- 7.1.3. not to disclose the Confidential Information to any third party except as necessary for the performance of the Project;
- 7.1.4. not to copy or reduce the Confidential Information to writing or other recorded form except as may be reasonably necessary for the purpose of the Project; and
- 7.1.5. to be responsible for the fulfilment of the above obligations by its employees, staff and students and by third parties to whom it has communicated Confidential Information in accordance with clause 7.1.1.

7.2. Clause 7.1 above will not apply to any Confidential Information which:

- 7.2.1. is in or comes into the public domain otherwise than by a breach of these conditions by the Recipient Party; or
- 7.2.2. the Recipient Party can show was rightfully in its possession prior to receipt from the Disclosing Party; or
- 7.2.3. the Recipient Party receives without restrictions on disclosure from a third party who has not received the Information directly or indirectly from the Disclosing Party; or
- 7.2.4. the Recipient Party can demonstrate was known to it or subsequently independently developed by it and not acquired as a result of participation in the Project; or
- 7.2.5. is disclosed pursuant to the requirement of any law or regulation (provided, in the case of a disclosure under the Freedom of Information Act 2000, none of the exceptions to that Act applies to the information disclosed) or the order of any Court of competent jurisdiction, and the party required to make that disclosure has informed the other, within a reasonable time after being required to make the disclosure, of the requirement to disclose and the information required to be disclosed.

7.3. If any Party (the "Requested Party") which is subject to the Provisions of the Freedom of Information Act 2000 ("FOIA") receives a request under FOIA to disclose any information that, under this Agreement, is defined as Information belonging to the other Party (the "Owning Party"), it will notify the Owning Party within 2 days and will consult with the Owning Party. The Owning Party will respond to the Requested Party within 5 days after receiving the Requested Party's notice if that notice requests the Owning Party to provide information to assist the Requested Party to determine whether or not an exemption to the FOIA applies to the information requested under that Act.

8. INTELLECTUAL PROPERTY RIGHTS AND EXPLOITATION

8.1. Background IP, which is relevant to the Project and which is freely available to either Party, shall be made freely available between the Parties and the Funding Body for the purpose and duration of the Project and as otherwise set out in clause 12.9 of the schedule of post tender amendments of the Contract.

- 8.2. Participation in the Project will not itself affect any rights of ownership of Background IP which shall at all times remain with the owner thereof and nothing in this Agreement, save as specifically mentioned or provided for herein or the Contract, shall grant ownership of and/or rights of use of such Background IP to any Party.
- 8.3. The Collaborator shall promptly disclose to the University all data, Know-how, Foreground IP, conceived, made, first reduced to practice, or developed by the Collaborator arising in the performance of the Project.
- 8.4. All Foreground IP and Know-how arising wholly and exclusively from the Project and/or Allocated Work and relating to its objectives shall be the property of the University and the Funding Body as set out in clause 12.9 of the schedule of post tender amendments of the Contract.
- 8.5. The University grants to the Collaborator a royalty-free, non-exclusive licence to use the results and any Foreground IP for internal non-commercial research and academic purposes.

9. PUBLICATION AND PRESS RELEASE

- 9.1. The Collaborator shall not advertise or publicly announce that they are supplying services or undertaking work connected with the University or the Funding Body without the permission of the University and the Funding Body as appropriate.
- 9.2. The University recognises that the Collaborator may wish to publish in the form of certain papers, articles, books, pamphlets or published material which makes reference to or contains material arising from the Project. The Collaborator agrees that the University's and the Funding Body's written permission will be obtained 60 days before such publication or disclosure and pending such permission confidentiality shall be observed. The terms of clause 12.9 of the schedule of post tender amendments of the Contract shall apply to such approval process.

10. INSURANCE AND RESEARCH GOVERNANCE

- 10.1. The Collaborator warrants that it has in force appropriate insurance policies (including without limitation public liability insurance, professional indemnity insurance) in respect of its activities under this Agreement.
- 10.2. The Collaborator shall provide to the University such evidence of the Collaborator's insurance cover maintained pursuant to clause 10.1 above as the University shall from time to time reasonably request.

11. WARRANTIES, LIABILITY AND INDEMNITIES

- 11.1. The Collaborator warrants, represents and undertakes that:
 - 11.1.1. it will perform the Allocated Work in accordance with this Agreement;
 - 11.1.2. it will carry out the Allocated Work with all due skill and diligence and in a good and workmanlike manner, and in accordance with the best practice within the industry of the Collaborator ('Best Practice');
 - 11.1.3. its employees and agents will have the necessary skills, professional qualifications and experience to perform the Allocated Work in accordance with this Agreement and Best Practice;
 - 11.1.4. it has full capacity and authority to enter into this Agreement;

- 11.1.5. it has obtained all necessary and required licences, consents and permits to perform the Allocated Work.
- 11.2. Each of the Parties acknowledges that, in entering into this Agreement, it does not do so in reliance on any representation, warranty or other provision except as expressly provided in this Agreement, and any conditions, warranties or other terms implied by statute or common law are excluded from this Agreement to the fullest extent permitted by law.
- 11.3. Subject always to the specified cap under 11.6 of this Agreement, the Collaborator shall be liable for all loss damage costs and expenses as a result of any infringement or alleged infringement by the Collaborator of any third party's intellectual property rights.
- 11.4. The Collaborator shall indemnify and keep indemnified the University its servants or agents against all claims, actions, losses, damages, costs and expenses which may be brought against or incurred or suffered by the University its servants or agents in connection with the carrying out of work pursuant to this Agreement which arise as a result of or due to the negligence of the Collaborator its servants or agents.
- 11.5. The liability of any Party for any breach of this Agreement, or arising in any other way out of the subject-matter of this Agreement, will not extend to loss of business or profit, loss of turnover, income, revenue, goodwill, opportunity and loss of savings or anticipated savings or to any indirect or consequential damages or losses no matter how arising, whether by breach or by negligence and whether in contract, tort, breach of statutory duty or otherwise, even if one Party has advised the other Party of the possibility of those losses and/or if they were within the contemplation of such Party.
- 11.6. Subject to clause 11.7 below, the maximum liability of either Party under or otherwise in connection with this Agreement or its subject matter shall not exceed £513,160.
- 11.7. Nothing in this Agreement limits or excludes any Party's liability for:
- 11.7.1. death or personal injury resulting from negligence; or
 - 11.7.2. any fraud or for any sort of other liability which, by law, cannot be limited or excluded.

12. GENERAL TERMS

- 12.1. **Force majeure** - Neither Party shall have any liability under or be deemed to be in breach of this Agreement for any delays or failures in performance of this Agreement which result from circumstances beyond the reasonable control of that Party. The Party affected by such circumstances shall promptly notify the other Party in writing when such circumstances cause a delay or failure in performance and when they cease to do so. If such circumstances continue for a continuous period of more than 2 months, either Party may terminate this Agreement by written notice to the other Party.
- 12.2. **Amendments** - This Agreement may only be amended in writing signed by duly authorised representatives of the Parties.
- 12.3. **Assignment** - Subject to the following sentence, neither Party may assign, delegate, sub-contract, mortgage, charge or otherwise transfer any or all of its rights and obligations under this Agreement without the prior written agreement of the other Party.
- 12.4. **Entire agreement** - This Agreement contains the whole agreement between the Parties in regard to the Allocated Work and supersedes and replaces any prior written or oral agreements, representations or understandings between them. The Parties confirm that they have not entered into this Agreement on the basis of any representation that is not expressly incorporated into this Agreement.

- 12.5. **Waiver** - No failure or delay by the Collaborator in exercising any right, power or privilege under this Agreement shall impair the same or operate as a waiver of the same nor shall any single or partial exercise of any right, power or privilege preclude any further exercise of the same or the exercise of any other right, power or privilege. The rights and remedies provided in this Agreement are cumulative and not exclusive of any rights and remedies provided by law.
- 12.6. **Agency, partnership etc** - This Agreement shall not constitute or imply any partnership, joint venture, agency, fiduciary relationship or other relationship between the Parties other than the contractual relationship expressly provided for in this Agreement. Neither Party shall have, nor represent that it has, any authority to make any commitments on the other Party's behalf.
- 12.7. **Further assurance** - Each Party to this Agreement shall at the request and expense of the other execute and do any deeds and other things reasonably necessary to carry out the provisions of this Agreement or to make it easier to enforce.
- 12.8. **Severance** - If any provision of this Agreement is prohibited by law or judged by a court to be unlawful, void or unenforceable, the provision shall, to the extent required, be severed from this Agreement and rendered ineffective as far as possible without modifying the remaining provisions of this Agreement, and shall not in any way affect any other circumstances of or the validity or enforcement of this Agreement.
- 12.9. **Announcements** - No Party shall issue or make any public announcement or disclose any Confidential Information regarding this Agreement unless prior to such public announcement or disclosure it furnishes all the Parties with a copy of such announcement or Confidential Information and obtains the approval of such persons to its terms. However, no Party shall be prohibited from issuing or making any such public announcement or disclosing such Confidential Information if it is necessary to do so to comply with any applicable law or the regulations of a recognised stock exchange.
- 12.10. **Interpretation** - In this Agreement unless the context otherwise requires:
- 12.10.1. words importing any gender include every gender;
 - 12.10.2. words importing the singular number include the plural number and vice versa;
 - 12.10.3. words importing persons include firms, companies and corporations and vice versa;
 - 12.10.4. references to numbered clauses and schedules are references to the relevant clause in or schedule to this Agreement;
 - 12.10.5. reference in any schedule to this Agreement to numbered paragraphs relate to the numbered paragraphs of that schedule;
 - 12.10.6. any obligation on any Party not to do or omit to do anything is to include an obligation not to allow that thing to be done or omitted to be done;
 - 12.10.7. the headings to the clauses, schedules and paragraphs of this Agreement are not to affect the interpretation;
 - 12.10.8. any reference to an enactment includes reference to that enactment as amended or replaced from time to time and to any subordinate legislation or byelaw made under that enactment; and
 - 12.10.9. where the word 'including' is used in this Agreement, it shall be understood as meaning 'including without limitation'.
- 12.11. **Notices** - Any notice to be given under this Agreement shall be in writing and shall be sent by first class mail or air mail to the relevant address of the relevant Party as set out below, or such other address as that Party may from time to time notify to the other Party in accordance

with this clause 12.11. Notices sent as above shall be deemed to have been received three working days after the day of posting (in the case of inland first class mail), or seven working days after the date of posting (in the case of air mail).

In the case of notices to the University, send to:
Director of Research Support Services, The University of Birmingham, Edgbaston,
Birmingham, B15 2TT, United Kingdom

In the case of notices to the Collaborator, send to:
Vice Dean for Internal Relations and Foreign Affairs of Faculty of Civil Engineering, Brno
University Of Technology, Veveří 331/95, 602 00 Brno, Czech Republic

12.12. Dispute Resolution

12.12.1 The Parties shall use good faith efforts to try to resolve any disputes between them (within 30 days' of written notification by one Party to the other) via senior nominees not previously involved in provision of the Project.

12.12.2 If the matter is not resolved through discussions between the Parties' senior nominees, it shall be settled by:

12.12.2.1 in the first instance, mediation in accordance with the Centre for Effective Dispute Resolution ("CEDR") Model Mediation Procedure (the "Model Procedure"). To initiate mediation a Party must give notice in writing to the other Party to the dispute requesting mediation pursuant to the Model Procedure. A copy of the request shall also be sent to CEDR. The mediation shall be before a single, jointly agreed upon, mediator;

12.12.2.2 and then reference to the jurisdiction of the Courts of England and Wales.

12.12.3 Neither Party shall commence litigation against the other until the process above has been followed, provided that nothing within this Contract shall be deemed to prevent either party from seeking injunctive relief in order to prevent or limit infringement of its Intellectual Property and/or to prevent or limit disclosure of its Confidential Information.

12.13. Law and jurisdiction - The validity, construction and performance of this Agreement shall be governed by English law and shall be subject to the exclusive jurisdiction of the Courts of England and Wales to which the Parties submit.

12.14. Third parties - For the purposes of the Contracts (Rights of Third Parties) Act 1999 this Agreement is not intended to, and does not, give any person who is not a party to it any right to enforce any of its provisions.

12.15. Equality - The Parties shall not unlawfully discriminate either directly or indirectly on such grounds as gender, race, colour, national origin, disability, sexual orientation or age within the meaning of the Equality Act 2010 and all legislation, directives and guidance relating to equality and discrimination, and shall abide by clause 27 of the Contract.

12.16. Data Protection -

12.16.1. the Parties acknowledge and agree that as at the Effective Date any research data to be transferred pursuant to this Agreement does not constitute personal data as defined in the Data Protection Act 2018 and General Data Protection Regulation (EU) 2016/679 ("Personal Data");

12.16.2. the Parties each acknowledge and agree that they may need to process Personal Data relating to each Party's representatives (in their respective capacities as data processors) where relevant in order to:

- 12.16.2.1. administer and perform their respective activities and obligations under this Agreement; and
- 12.16.2.2. compile, dispatch and manage any payments agreed under this Agreement; and
- 12.16.2.3. manage this Agreement and resolve any disputes relating to it; and
- 12.16.2.4. respond and/or raise general queries relating to this Agreement; and
- 12.16.2.5. comply with their respective regulatory obligations; and
- 12.16.2.6. each Party shall process such Personal Data relating to each Party's representatives for the purposes set out in this Clause in accordance with their respective privacy policies. The Parties acknowledge that they may be required to share Personal Data with their Affiliates and other relevant parties, within or outside of the country of origin, in order to carry out the activities listed in this Clause, and in doing so each Party will ensure that the sharing and use of this Personal Data complies with applicable data protection laws.

12.16.3. Although not contemplated under this Agreement, if during the term of this Agreement it becomes necessary to transfer any research data which contains any Personal Data, the Parties shall prior to any such transfer enter into a data transfer agreement in such format as shall comply with applicable data protection laws.

12.17. Modern slavery

12.17.1. The Parties shall comply with all applicable laws, statutes, regulations and codes relating to modern slavery, including but not limited to the Modern Slavery Act 2015.

12.17.2. The Collaborator shall implement due diligence procedures for its own suppliers, subcontractors and other participants in its supply chains, to ensure that there is no slavery or human trafficking in its supply chains.

12.17.3. The Collaborator shall use reasonable endeavours not to purchase any raw materials, resources or products from any country that has been sourced from producers or manufacturers using forced labour in its operations or practice.

12.18. **Good Conduct** - The Parties shall be entitled to cancel this Agreement immediately upon written notice if the other Party or its employees or agents are found to have made, offered, accepted or taken or agreed to make or take any gift, bribe, hospitality or consideration of any kind from any person or body as an inducement or reward for showing or forbearing to show favour or disfavour to any person or for doing or forbearing to do any action in relation to or for the purposes of offering or obtaining an advantage in relation to performance of this Agreement or where such action is in contravention of the Bribery Act 2010. The Parties warrant that they have adequate and robust policies and procedures in place in accordance with guidance issued under the Bribery Act 2010.

IN WITNESS WHEREOF the parties have executed this agreement the day, month and year first written above.

For and on behalf of **THE UNIVERSITY OF BIRMINGHAM**

Signature: [REDACTED]

Name: AUSA BLONN

Title: DIRECTOR OF RESEARCH SUPPORT SCIENCES

Date: 13th DECEMBER 2021

For and on behalf of **BRNO UNIVERSITY OF TECHNOLOGY**

Signature: Digitálně podepsal
Name: doc. Ing. Jan doc. Ing. Jan Pěňčík,
Title: Pěňčík, Ph.D. Ph.D.
Date: Datum: 2021.12.09
08:39:18 +01'00'

SCHEDULE 1

THE CONTRACT



NR Head Terms.pdf

SCHEDULE 2

ALLOCATED WORK AND PAYMENT SCHEDULE

Allocated Work

The project will continue the work carried out in the In2Track2. There are two goals for this project which will be worked upon in parallel two work packages.

WP1 aims to develop and demonstrate the feasibility of having an identified node (i.e., RFID tag) that can be used as a definitive reference point for the location of the S&C on the track. The lab-based demonstrators which are being developed in In2Track2 will form the basis for In2Track3. As a part of this project, the subsystems of the whole positioning system (shown in **Error! Reference source not found.**) will be more developed and then tested in a real environment and deployed on-site. The work will develop a physical-graphical prototype of a positioning system in relation to S&C location to achieve at least TRL6 (technology demonstrated in the relevant environment).

WP2 aims to develop a system for condition monitoring of a crossing nose. The work extends from In2Track2, where the corresponding subsystems were developed and tested in the lab. As a part of this project, the components and the system will be tested in a real environment and deployed onsite. The project will strive to reach TRL 7, by demonstrating this system as a prototype in the real conditions. The architecture of the system is depicted in **Error! Reference source not found.** below.

Note: the contribution of BUT is in the second work package. Hence below, we focus on the plan for that.

Work package 2 Tasks:

WP2: In-bearer sensors for crossing-nose condition monitoring

Task 2.1: Test subsystems in real environment

The various subsystems such as sensors, communication devices, data storage, DAQ hardware, power systems have to be tested in real environment. They will be grouped as three entities as: (a) Sensors+DAQ, (b) Communication+data storage, (c) Power. The components developed by each institute will be exchanged with each other. The outcomes from the tests will be documented into the deliverable **D2.1** as mentioned below.

Task 2.2: Data acquisition in real environment

The developed and tested subsystems will be integrated together for a whole system prototype. The developed prototypes will be deployed in live tracks in UK and CZ. Signals should be recorded for whole passing train, but those from locomotive need to be analyzed for condition monitoring. Before and during this WP, information from infrastructure manager is needed about passing trains apart from arranging necessary permits. The methods followed for data acquisition will be documented in **D2.2**.

Task 2.3: Data processing and analysis

The data collected from onsite tracks will be checked for its plausibility and further processing. Further they will be analysed with the developed algorithms to check for any deteriorating conditions in track. The developed algorithms might have to be revisited, as there might be challenges coming from real and big data. The algorithm with its validation will be reported in **D2.3**.

Task 2.4: Report writing

The various work packages along with outcomes from the recorded data and then analysis of this data will be documented as a technical report (**D2.4**).

Contributions

The relative contributions of the teams at UoB and BUT are expected to be flexible, as is usual with an evolving collaborative research project such as this. We anticipate a joint contribution to all of the In2Track3 2.1 – 2.5 tasks described above.

Task 2.1: Test equipment in real environment:	
Hardware development, firmware + testing	Q1 and Q2
Task 2.2: System integration and Measuring in real environment:	
3 crossings => 9 measuring campaigns	Q2 – Q6
Task 2.3: Data analysis	Q4 – Q7
Task 2.4: Final report	Q8

Timescales:

D2.1: Subsystem testing	(A +M6)	19 200 GBP
D2.2: Report from onsite measurement	(A +M18)	45 800 GBP
D2.3: Report on developed algorithm	(A +M21)	19 200 GBP
D2.4: Final report	(A +M24)	4 800 GBP

Overall costs	89 000 GBP
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The payment of the funding by the University to the Collaborator will be made in line with any payments made by the Funding Body under the Contract to the University for the Allocated Work, completion of the above deliverables by the Parties and pursuant to valid invoices being sent to the University by the Collaborator.

Invoices to be addressed to accountspayable@contacts.bham.ac.uk All invoices must quote the purchase order number supplied by the University otherwise they will not be paid.

SCHEDULE 3

ADDITIONAL TERMS

Linked Third Party Contract Clauses

1. For the purposes of linked third party contract clauses 1-11 of contract specific conditions below, the following definitions will apply:
 - 1.1. **"Action"** means the activities funded by the EU (via grants, procurement, prizes or financial instruments).
 - 1.2. **"Affiliated entity"** means any legal entity that is:
 - (a) under the direct or indirect Control of a participant;
 - (b) under the same direct or indirect Control as the participant; or
 - (c) directly or indirectly Controlling a participant.
 - 1.3. **"Control"** means:
 - (a) the direct or indirect holding of more than 50% of the nominal value of the issued share capital in the legal entity concerned, or of a majority of the voting rights of the shareholders or associates of that entity; or
 - (b) the direct or indirect holding, in fact or in law, of decision-making powers in the legal entity concerned;
 and **"Controlling"** shall be construed accordingly.

For the avoidance of doubt, the following relationships between legal entities shall not in themselves constitute Controlling relationships:

 - (c) the same public investment corporation, institutional investor or venture-capital company has a direct or indirect holding of more than 50% of the nominal value of the issued share capital or a majority of voting rights of the shareholders or associates; or
 - (d) the legal entities concerned are owned, or supervised by the same public body.
 - 1.4. **"Beneficiary"** means the legal person, other than the European Commission and the Shift2Rail Joint Undertaking, who is a party to the Project Grant Agreement.
 - 1.5. **"IKOP"** means in-kind financial contributions by the Funding Body consisting of the total costs incurred by the Funding Body in implementing projects less the contribution of the Shift2Rail Joint Undertaking.
 - 1.6. **"Linked Third Party"** means an Affiliated entity or Third party with a legal link to a Beneficiary.
 - 1.7. **"Project Grant Agreement"** means the IN2TRACK2 Grant Agreement no 826255.
 - 1.8. **"Third party with a legal link to a Beneficiary"** means any legal entity which has a legal link to the Beneficiary implying collaboration that is not limited to the Action.
2. Any work undertaken under by the Collaborator as part of this Agreement will be as a Linked Third Party to the Funding Body under the Project Grant Agreement.
3. The reporting obligations of a Linked Third Party are specified within Article 20 of the Project Grant Agreement (see the latest Shift2Rail Joint Undertaking (S2R JU) Multi-beneficiary

Model Grant Agreement under the link here:

http://ec.europa.eu/research/participants/data/ref/h2020/other/mga/jtis/h2020-mga-multi-shift2rail-ju_en.pdf. The Collaborator hereby acknowledges that it is aware of, and undertakes to comply with, those provisions of Article 20 of the Project Grant Agreement which apply to Linked Third Parties.

4. The total value for this Agreement consists of direct costs (personnel, travel, equipment, publishing etc) plus an additional 25% of indirect costs "Overheads". The Collaborator will not make any direct profit from the work or Actions under or in connection with this Agreement.
5. The Collaborator will submit statements of actual costs (in the currency which the money has been spent) to the Funding Body in the requested H2020 format (shown below) on an annual basis by 15th January, except in the scenario where the Project ends prior to 31st December. In this case, the Collaborator is required to provide its cost statement within 30 days of the project end date and in accordance with the Project Grant Agreement.

Partner Cost Statement Horizon 2020

Project name	
Organisation full name	
Organisation short name	
Reporting period	

Percentage of overheads	25%
Funding rate	

Choose appropriate percentage for your funding rate:

Funding on innovation (IA)	70% (non-profit bodies are exempt and can claim 100%)
Funding on research (RIA)	100%

Efforts (person-months) and Cost Details (euros) per Workpackage

O	Efforts per staff type (per)					TOTAL	Cost Details (euros)									
	Researcher	Post doc	Technician/Engineer	PhD Student	Administrative/Other		(A) Direct Personnel costs	(B) Other Direct Costs	(C) Direct costs of sub-contracting	(D) Direct costs of providing financial support to third parties	(E) Costs of material contributions not used on the beneficiary's premises	(F) Indirect costs (0-25% (A-E))	(G) Special Unit costs covering direct & indirect costs	(H) Total estimated eligible costs [(A)+(B)+(C)+(D)+(E)+(F)+(G)]	(I) Max. Grant (40%)	own contribution (if applicable)
WP1-						0.0										
WP2-						0.0										
WP3-						0.0										
WP4-						0.0										
WP5-						0.0										
WP6-						0.0										
WP7-						0.0										
WP8-						0.0										
WP9-						0.0										
WP10-						0.0										
WP11-						0.0										
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -

Please justify below the use of the different type of costs in relation to the work planned in the project

Cost	Justification
Justification of Travel	€ -
Justification of Equipment	€ -
Justification of other goods and services	€ -

6. The Collaborator undertakes to keep appropriate documentation to be able to prove that project costs are eligible under the Project Grant Agreement rules for a period of 5 years after the final payment of the grant funds balance including but not limited to, Collaborator personnel keeping timesheets, in the format required by the Funding Body.
7. Submission of deliverables to the Funding Body is subject to a review process both by the Funding Body and the European Commission/Shift2Rail Joint Undertaking. If there are any review comments from the European Commission/Shift2Rail Joint Undertaking in relation to the deliverables, these will be communicated via email to the Collaborator from the Funding Body employee involved in the Action. The Collaborator will provide the Funding Body with a full plan for addressing any actionable comments within 2 weeks from receiving review comments. The Collaborator will reasonably co-operate with the Funding Body and undertake this work within the scope of this Agreement and will promptly carry out the plan without any additional fees for the Funding Body.
8. The Contract Price is an estimate of the costs that will be incurred by the Collaborator in delivering the scope of work. The Funding Body will only pay the Collaborator for the costs that they have incurred in undertaking the scope of work within this Agreement, up to a maximum of the Contract Price. The costs that the Collaborator has incurred in undertaking the scope of work will be detailed within the cost reporting templates that the Collaborator is required to submit to the Funding Body. If the costs incurred by the Collaborator are less than the Contract Price which has already been invoiced for and paid by the Funding Body, the Collaborator will be required to provide the Funding Body with a credit note to ensure that the

amount the Funding Body pays the Collaborator is equal to the costs incurred by the Collaborator in undertaking the scope of work within this Agreement.

9. The Collaborator agrees to comply with the provisions of Articles 6 (eligible and ineligible costs), 18 (keeping records – supporting documentation), 22 (checks, reviews, audits and investigations – extension of findings), 23 (evaluation of the impact of the action), 35 (conflict of interests), 36 (confidentiality) and 38 (promoting the action – visibility of JU funding and support from JU members) of the Project Grant Agreement as if it were a Beneficiary.
10. The Collaborator agrees and acknowledges that the costs for this Agreement may also be declared as IKOP by the Funding Body and that IKOP is, in accordance with article 4.4 of the S2R JU Regulation (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0642&from=EN>), required to be certified by an independent external auditor appointed by the Funding Body on an annual basis. The Collaborator accordingly agrees to allow for all reasonable audits of its costs by the Funding Body's designated auditor. The Collaborator shall allow the Funding Body's designated auditor access to the Collaborator offices during standard working hours. The Collaborator will fully co-operate with any independent auditors. All audits shall be at the Funding Body's expense and there will be no cost to the Collaborator.
11. In particular, but without limitation, the Collaborator undertakes that:
 - 11.1. it will for period of 5 years after the payment of the balance keep adequate records and other supporting documentation to prove the proper implementation of the Action;
 - 11.2. if there are on-going checks, reviews, audits, investigations, litigation or other pursuits of claims under the Agreement (including the extension of findings; see Article 22), the Collaborator will keep the records and other supporting documentation until the end of these procedures;
 - 11.3. it will retain originals of all documents. Digital and digitalised documents will be considered originals if they are authorised by the applicable national law. The Commission or the Shift2Rail Joint Undertaking may accept non-original documents if it considers that they offer a comparable level of assurance. Records and other supporting documentation on the scientific and technical implementation of the Action must be in line with the accepted standards in the respective field.

