Innovation Bridge Innovation Action Plan

Client	Fusion Radiology
Project number	IB141
Knowledge base name	University of Bedfordshire
Lead academic	Vitaly Schetinin
Business development manager	Gordon Brady
Executive summary (max ½ page)[1]	Fusion is a UK based Teleradiology Company that provides remote diagnostics reporting services to support existing radiology departments within NHS and private healthcare organisations. The company reports on various modalities including Neuro, MSK, MRI, CT oncology, CTC, Paediatric, PET/ SPECT and X-rays. We also provide 2nd expert opinions. The business is a middle-man service, linking requirement to need.

Project background

Fusion Radiology is a UK based Teleradiology Company that provides reporting services to support existing radiology departments within NHS and private healthcare organisations.
The project aims to add value to the business by providing Fusion Radiology with access to intelligent radiology image analysis platform using a cutting-edge Quantitative Imaging technology.

Quantitative Imaging refers to technologies capable of extracting *quantifiable* features from medical images to assist the radiologist with reliable assessment of normality, severity, degree of change, status of a disease, injury, or chronic condition. Quantitative Imaging technologies are intensively developed in recent years because they significantly improve the quality of care and save costs, providing cost-efficient monitoring of disease and treatment, see eg [1,2].

One of advantages of Quantitative Imaging is the ability of detecting subtle changes that cannot be visually assessed by radiologists in early stages of pathologies.

Methodology

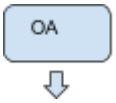
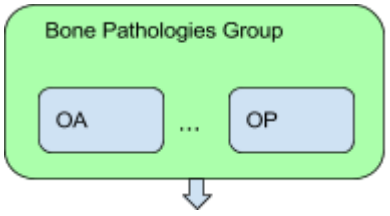
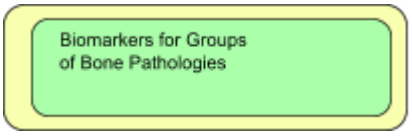
The project objectives are to:

1. Examine the business model and capture requirements
2. Make recommendations on how to meet these with accompanying timelines/ example costs
3. Make recommendations about CyberEssentials and GDPR requirements
4. Outline the scope/ time and cost of a potential research project building in the recommendations in step.2
5. Identify suitable grant funding to develop these including R&D tax credits

[1]

This will prepare the business for incoming regulation in 2018, and give the company a competitive advantage by identifying new ways to add value to the existing business model. It will allow the company access to new forms of funding and new knowledge, as well as create new links in the industry.

The block-diagram below summarises plan and provides details about project goals, technological levels and possible applications for funding at Level 1, 2 and 3:

Level & Funding Bids		**Goal to achieve**	**Technology Level**
1: Innovation Bridge Stage 1		Early detection of Osteoarthritis (OA)	The detection method has been validated on 60 patients and can be demonstrated offline
2: Innovation Bridge Stage 2		Extension to detect a Bone Pathology group. Replacement of bone mineral density measurements with DEXA. Monitoring of treatment and progression, fracture risk prediction	Demonstration on a Web-based platform as a service with a monthly settlement
3: NIHR, EPSRC, MRC, H2020 SME Instruments		Detection of biomarkers for bone pathology groups	Demonstration of commercial use

Research / analysis results

Existing technologies that are based on the d*ual energy X-Ray absorptiometry* (DEXA) have limited availability for patients in different risk groups. In cases of monitoring the progression of pathology, cost-efficient solutions can be developed using *plain* X-Ray imaging technologies, which however are not yet reliable because of natural bone variabilities and insufficient image quality.

A new Quantitative Imaging method developed at the University for early detection of Osteoarthritis has demonstrated a high accuracy on X-ray images. This achievement opens routes to joint grant applications for NIHR, EPSRC, MRC, and H2020 SME Instrument funding.

The new method of Quantitative Imaging developed at the University of Bedfordshire for early detection of bone pathology in X-ray images has been tested on 60 cases and shown to outperform existing technologies for detection of Osteoarthritis in terms of diagnostic accuracy. The use of plain X-ray imaging makes the new method cost-efficient in comparison with the DEXA technology.

The developed method is highly sensitive and capable of recognising bone microstructures in the norm and pathology. The method can be implemented within an intelligent web-based platform, an example shown in [3].

Market analysis has shown that Quantitative imaging is a new boosting trend in medical imaging systems developed by the major vendors such as Sectra, Siemens syngo.via, GE Healthcare Thoracic VCAR, TeraRecon iNtuition.

A leading medical imaging systems vendor Sectra predicts that: "*These tools will not only speed up the diagnosis itself, but also increase the precision, leading to a selection of the right treatment to patients. The benefits associated with higher precision will justify the business case for many labs to go digital*" [4].

Most of these technologies are focused on oncology images whilst Quantitative Imaging for bone pathologies is not yet commercialised and so is opened for innovations.

Importance of OA early diagnostics

Osteoarthritis (OA) is characterized by loss of joint cartilage and development of bone spurs, that causes pain and impaired movement. OA is the most common musculoskeletal condition and the 5th most important cause of disability in high-income countries. According to the World Health Organisation, in the UK population OA causes the loss of 200 disability-adjusted life years (DALY) per 100,000 people.

OA is typically diagnosed when patients have developed symptoms such as joint pain, and the pathological changes of bones and cartilage are visually recognisable in X-ray images. Then the visible pathologies are scored by experts using the *Kellgren and Lawrence* system, see e.g. [5]. At this late stage the developed pathology cannot be effectively treated in terms of expected outcomes. New

methods for early diagnostic of OA are needed in order to improve the treatment outcomes and reduce DALY.

State of the art in OA early diagnostics

At early stage, changes in bone microstructure can be evaluated with MRI which, however, is costly and time-consuming and so limited. Alternative X-ray technologies provide cost-efficient solutions. However, OA-related changes in the bone microstructure cannot be objectively evaluated by practitioners. The use of X-ray texture descriptors has been shown promising for OA diagnostic, see e.g. [6], however not yet capable of delivering accurate, reliable, and reproducible diagnoses, because the results are influenced by X-ray technological conditions such as modality, exposure, blur, magnification, projection angle as well as affected by variability of bone X-ray textures between patients [5]. As medical expert's evaluations are often provided at a low consistency, reported in the literature <70%, the quantification of uncertainty is particularly important, see Fig. 1.

These problems cannot be effectively resolved without a *user-friendly interface* between the practitioner and an X-ray technology in the cases when diagnostic decisions are needed to be reliably and quantitatively examined in terms of confidence intervals within which the decision can probably vary, see Fig. 2. It is critically important that the friendly-user interface can be achieved when Intervals of interest can be estimated individually for each patient. Existing technology of Medical Imaging cannot provide accurate estimates for each patient and so remaining a high risk of making misleading interpretation. Provision of such user-friendly interface is the current focus in emerging X-ray diagnostic technologies, see eg [2].

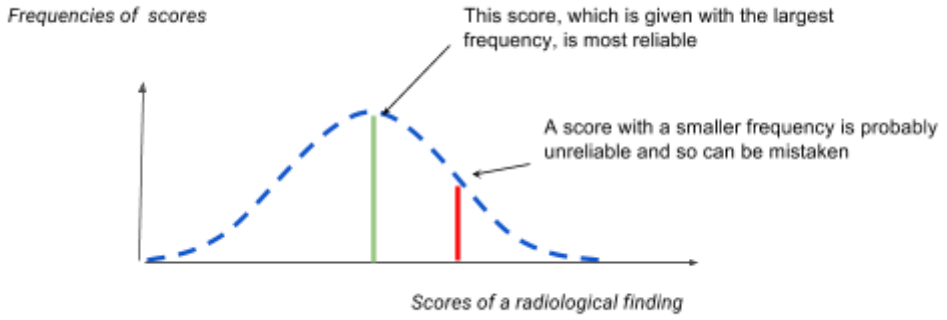


Figure 1: In non-trivial cases, radiologists observing a finding provide different scores. The score variations, interpreted in terms of frequencies, carry important information for estimating the reliability of a score. Having such information (shown in Blue), the radiologist can estimate the reliability of a given score. So in the cases with a low reliability (as shown in Red), the radiologist can reduce a probability of error by considering additional medical information.

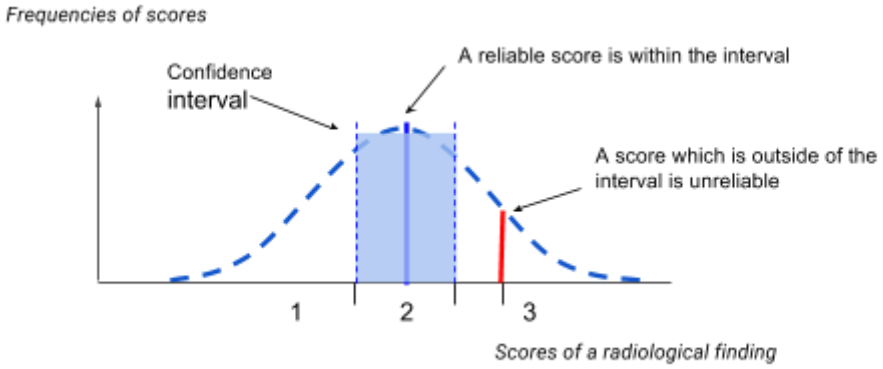


Figure 2: A score given by the radiologist is reliable within a confidence interval (the area in Blue). A score (in Red) outside of the confidence interval is probably unreliable. So the knowledge of interval of interest is critically important for making risk-aware decisions in radiologist reports.

Importance of OP early diagnostics

Osteoporosis (OP) affects over three million people in the UK, and it is the most common reason for a broken bone in older people. If diagnosed early, OP can be effectively treated, and sometimes reversed by lifestyle changes [7].

State of the art in OP early diagnostics

The most common method for osteoporosis diagnosis is to estimate Bone Mineral Density (BMD) by using DEXA imaging. However DEXA imaging is costly and uses relatively high radiation doses, increasing risks for patients. An alternative solution based on estimating “peripheral BMD” from standard X-ray images of hands is available from Sectra [8].

However, BMD-related estimates are capable of predicting only 60% of fractures. The imaging of bone microstructure has been recognized as an important factor in the OP diagnostics. However, at present, it cannot be obtained by noninvasively and requires a bone biopsy. Analysis of bone texture in plain radiographs offers a simple way to evaluate bone structure [9]. However, such technologies are not yet available to medical practitioners.

New method of OA early diagnostics

We developed a new highly sensitive method capable of recognising bone textures in the norm and pathology. The method has outperformed existing technology on a dataset including 60 cases of Osteoarthritis at early stages in terms of recognition and prediction accuracy. The method can be implemented within a smart Cloud-based computing platform as well as a standalone application.

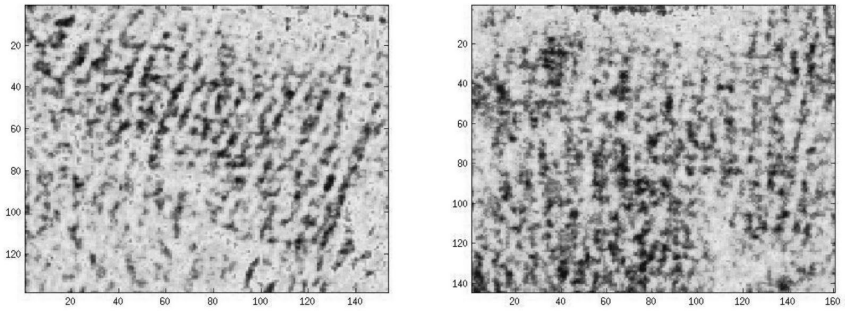


Figure 3: X-ray images of bone texture: normal (left) and OA (right).

The method can be extended to cases of images of bone joints which were scored by the consultant using e.g. the KL scoring system

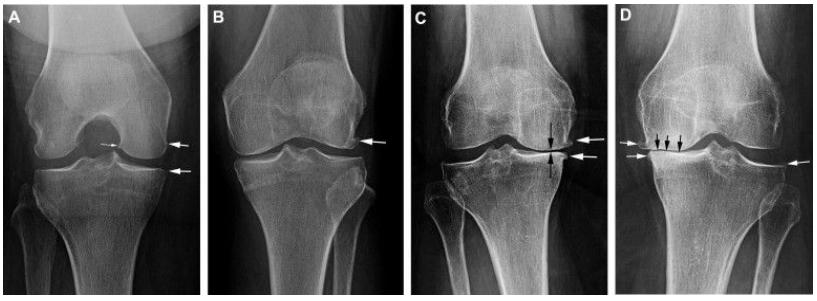


Figure 4: Bone joint images at different stages of OA scored according to the KL system; early (A) to severe (D).

Requirements for the proposed QI system

1. The new technology is expected to analyse 2D X-ray images
2. The technology is required to be capable of learning diagnostic rules using a minimal number of medical images
3. Diagnostic rules are represented in the form interpretable for experts
4. The technology will complement a medical support system of semi-automated estimation of Kellgren-Lawrence score that is widely used for assessing the degree of Osteoarthritis
5. To comply with the GDPR, the system made available on Stage 2 will work on image data without using additional patient information. No personal data will be stored in the system.
6. Future versions of the system will interact with a PACS viewer and be designed to use additional information on patients conditions, while complying with GDPR and Cyber Essentials requirements.

Intellectual Property on Diagnostic Rules

Diagnostic rules which are obtained by the system from medical images by using feedback of a radiological expert can be assigned as Intellectual Property (IP) of the expert and so cannot be transferred to 3rd party without an agreement.

Expected benefits

- The new QI technology will attract NHS collaborators interested in research and commercialisation of cost-efficient technologies for prevention and treatment of bone pathologies. This market sector is currently limited because of the lack of reliable methods for early diagnosis and accurate assessment of changes in bone microstructure.

- The Client will be able to provide their radiologists with access to QI. The radiologists will interact with the system and use their expertise to provide feedback and improve the outputs of QI. As the result, each expert will develop their own customised "radiology impression rule", which they can use to quantitatively support their opinion and improve reliability and precision of diagnostics, that will lead to cost savings.

- After validating the rules, e.g. within an NIHR funded project, the client will be able to offer patients a new early screening service. The benefits of the service are high availability, low cost, and low radiation dose, as well as accurate estimates of confidence intervals.

- The QI will enable radiology experts and clinical researchers to monitor disease progression in patients, that is essential for evaluating the effectiveness of treatments in clinical trials.

References

[1] Radiological Society of North America. Quantitative Imaging Biomarkers Alliance. Online: https://www.rsna.org/QIBA/
[2] D. Yeager. (2014) Quantitative Imaging Tools. Radiology Today Magazine. Online: http://www.radiologytoday.net/archive/rt0814p6.shtml
[3] V. Schetinin, L. Jakaite. (2016) TraumaCalc: Bayesian prediction of trauma survival. Online:http://traumacalc.org/traumacalc/
[4] How to implement machine learning to reap true advantages in pathology. (2017) Sectra. Online: https://www.sectra.com/medical/osteoporosis/articles/Emerging_Approaches_to_Osteoporosis_Screening__Allison_Breast_Center.htm
[5] J. Hirvasniemi et al. (2014) Quantification of differences in bone texture from plain radiographs in knees with and without osteoarthritis, Osteoarthritis and Cartilage.
[6] T. Lowitz et al. (2014) Characterization of knee osteoarthritis-related changes in trabecular bone using texture parameters at various levels of spatial resolution, BoneKEy reports, Nature.
[7] Osteoporosis Early Diagnosis. (2017) Cleveland Clinic. Online: https://my.clevelandclinic.org/health/articles/osteoporosis-early-diagnosis

[8] Emerging Approaches to Osteoporosis Screening: Allison Breast Center. (2013) Sectra. Online: https://www.sectra.com/medical/pathology/resources/articles/How-to-implement-machine-learning-to-reap-true-advantages-in-pathology.html
[9] E. Martín-Badosa, et al. (2003) A method for the automatic characterization of bone architecture in 3D mice microtomographic images, Comput Med Imaging Graph.

Recommended actions

Overview

1. Submission of an "Innovation Bridge Stage 2" Proposal where the study is initiated and analysed by the company.
2. Submission of an NIHR Invention for Innovation project and EPSRC project
3. Cyber Essentials certification
4. Dependent on results – a plan for H2020 submission
5. CAPSTONE
6. R&D Tax Credits

Cyber Essentials

The Cyber Essentials scheme has been developed by Government and industry to provide a clear statement of the basic controls all organisations should implement to mitigate the risk from common internet based threats. The scheme is mandatory for central government contracts advertised after 1 October 2014 which involve handling personal information and providing certain ICT products and services.

Cyber Essentials recommendation

In order to comply with the NHS requirements, the client is advised to obtain Cyber Essentials certification from one of the Accreditation Bodies listed at: https://www.cyberaware.gov.uk/cyberessentials/get.html

The cost of certification is £300 - £500+vat per year, and no additional hardware/software will be required in most cases.

One of the requirements for the certification is to complete a questionnaire about technical issues. An example of the questionnaire is available at: https://www.iasme.co.uk/cyberessentials/

It will be important to ensure that devices used by consultants at homes/remote offices also comply with the requirements, as defined at: https://www.ncsc.gov.uk/information/requirements-it-infrastructure-cyber-essentials-scheme

GDPR

The regulation applies to companies that process personal data. Examples of such data include “name, an identification number, location data, an online identifier or one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity” (Article 4) .

The GDPR does not apply to “*anonymous information, that is [...] data rendered anonymous in such a way that the data subject is not or no longer identifiable*” (Recital 26). This means that medical images can be exempt from GDPR if an individual cannot be identified from such images. However if additional information such as address, age, gender and patient history is processed along with the images, the GDPR will apply.

Article 5 of the GDPR requires that personal data shall be:
(a) processed lawfully, fairly and in a transparent manner in relation to individuals;
(b) collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes; further processing for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes shall not be considered to be incompatible with the initial purposes;
(c) adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed;
(d) accurate and, where necessary, kept up to date; every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay;
(e) kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed; personal data may be stored for longer periods insofar as the personal data will be processed solely for archiving purposes in the public interest, scientific or historical research purposes or statistical purposes subject to implementation of the appropriate technical and organisational measures required by the GDPR in order to safeguard the rights and freedoms of individuals;
(f) processed in a manner that ensures appropriate security of the personal data, including protection against unauthorised or unlawful processing and against accidental loss, destruction or damage, using appropriate technical or organisational measures.

GDPR recommendations

In order to comply, the Client is advised to access and process only the data that are necessary for completing the radiology report. The information such as names and contact details of patients, that is irrelevant to the patient’s condition, should not be processed and stored by the Client.

The use of a secure viewer for data, such as a PACS system, minimises the risks of data breach or unauthorised or unlawful processing. However, appropriate security policies, such as those defined within the Cyber Essentials scheme, must be implemented to ensure that only authorised individuals have access to the data.

If any data are saved on Client's devices, it is recommended to set up a company policy to delete the data as soon as possible after completing the report, in order to minimise risks of data damage or breach.

Links:

1. https://www.privacy-regulation.eu/en/4.htm
2. https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/

Income – R&D Tax Credits

A company can claim for R&D tax relief if an R&D project seeks to achieve an advance in overall knowledge or capability in a field of science or technology through the resolution of scientific or technological uncertainty. This can go back over the past 2 financial years, so it can include money already spent, and often leads to a significant financial benefit to the company.

Projects must aim to research solutions to a technological problem, when such solutions aren't already known or deducible by a competent professional working in the field. Tax relief cannot be claimed for developing innovative business products or services that don't incorporate any advance in science or technology.

The University has worked with two companies in the past. They operate on different business models, and the University has no financial interest in either company. We do not recommend one or the other, and the company can do the work themselves if they have time, but it is a specialist field and these companies are experts with a proven track record and they have 2 different business models.

1. No-win, no-fee. Datafox operate this business model, and we have seen many of our client SMEs use this model to win a significant amount of R&D investment back from HMRC.
http://www.data-fox.co.uk/ - contact Tony Martinez, Senior R&D Claims Manager, M: 07544 220123, T: 0800 035 2510, E: tony.martinez@data-fox.com
2. Upfront fee- R&D Funding Group operate an upfront fee, contact is Stephen Dyson, http://rdfunding.co.uk/ 020 360 32096 - info@rdfunding.co.uk

Capstone Projects

As a method of resourcing the company at no cost to grow in the short term, the University's Business School run a number of MBA courses in disciplines such as business systems, marketing, law and finance, events, tourism and project management. As part of these courses, MBA students work closely with local enterprise to offer ideas and solutions to a business problem. These projects offer the students either:

- the experience of working as an unpaid placement person within a UK company or
- the experience of undertaking a live project on behalf of the client organisation but based at our university campuses.

Both the placement and project will run for no more than 12 weeks during which time students would be able to support ongoing organisation activities with a view to producing a report capable of reaching Master's level. Projects should be realistic (ie they should be achievable within 8 working weeks to

allow 4 weeks of academic study and write-up about the project, it's methodology, the outcomes and the obstacles overcome.

What is a "live project"

It is a real live consulting project that a team of 4 to 5 (depending on registered numbers) MSc students run for a client. At the start, the team analyses and proposes improvement solutions to a business/ management-related challenge that is assigned to them.

This is where the company need to create a brief of the challenge, and the brief will need the input of the academic as well as the company, to devise something stretching enough but achievable. The deliverables of the Live Project draw on relevant theories and models as necessary to inform decision making.

The CAPSTONE students will develop imaginative and effective solutions to the opportunities and challenges with reference to appropriate current research and debate.
This report recommends that the company should investigate the use of CAPSTONE project to document the company's processes, map these against known best practice and make recommendations for efficiency improvements. They could also focus on a marketing strategy for the company.

Projects are run by Dr Teslim Bukoye - Email Teslim.bukoye@beds.ac.uk
(https://www.beds.ac.uk/howtoapply/departments/businessschool/our-staff/staff2/teslim-bukoye)

You'll need to complete a project brief for each place, and a document to do this is available from the Business Partnership Manager.

Next steps

Innovation Bridge Stage 2

Timing plan

Month	Action	By
M2	Select a set of X-ray images of bone textures in OA and Control subjects. A minimum of 10 case images is required. Provide scoring for the images. More images will improve reliability.	Client
M3	Evaluate the QI method on the collected images	UoB
M5	Provide access to QI system	UoB
M5	Purchase PACS software (e.g. Sectra UniView or Sectra Radiologist Workstation)	Client

M6	Research solutions for interfacing the QI system with PACS viewer	UoB
M5	Preparing requirements for the use case for the EPSRC proposal	UoB
M6	Complete Cyber Essentials certification	Client

Costs

The Innovation Bridge project will take six months to complete. The project will require the following resources:

- Principal Investigator to spend four days per month on the project, performing research, data analysis, and writing the project report, giving a total of 24 days at a daily rate of £195.12, total cost of £4,682.88
- The Cyber Essentials certification cost £600 (purchasing additional support package is recommended for the first time). The client may wish to purchase expert help from a Cyber-Essentials consultant. Typically this would cost £600 - £800 per day, and would take approximately 3 days.
- Domain and web server for 1 year £50
- Free Matlab-compatible software (GNU Octave) will be used within the project at no cost
- The cost of PACS software to be negotiated with vendor, e.g. Sectra.

The company will need to supply one part-time staff member to collect and provide evaluation for the X-ray image data.

The company should apply for a small scale grant to embark on this stage of work, such as the Innovation Bridge grant which can cover 30% of the total project funding.

The Innovation Bridge grant is available to any SME working with the Innovation Bridge project which has received support from a University partner and is eligible for ERDF funding, fulfilling the criteria set out below.

The grant is a capital or revenue grant to assist SMEs to implement the recommendations of the Innovation Action Plan leading to growth of the business and the development of new products and services.
The grant can be used to develop new goods and services for market which will make the business more viable and resilient and support growth of turnover and employment. It should enable the business to become more competitive in the national and international economy.

A successful application should include:

- Reasons for the grant request and how it will deliver growth and innovation in the company business
- Details about what the company wish to buy and how it will be procured and paid for
- Clarity of the impact of the grant for the business and the benefits of it including any new products to be delivered and job creation
- References and financial accounts
- All the evidence requested on the form including:
    - A copy of the equality and diversity policy or statement
    - A copy of an environmental sustainability policy or statement
- Reassurance that the funds are available to make the payment to buy the goods.

EPSRC Healthcare Technologies: Call for Investigator-led Research Projects

The scheme supports academic applicants working on Engineering and Physical Sciences-focused projects with applications in Healthcare. The projects are strongly encouraged to include a use-case provided by an SME collaborator, who will benefit from the technologies developed within the project.

Projects that address the following themes related to the proposed Quantitative Imaging platform are particularly welcome:

- Novel, low-cost diagnostic devices, with high sensitivity, specificity and reliability, for timely and accurate diagnosis, improving the choice and reducing the cost of intervention, and increasing the likelihood of successful health outcomes.
- Systematic treatment of uncertainty in complex models and decision support systems, allowing more sophisticated decision-making, based on an understanding of confidence and sensitivity.

Links:

1. https://www.epsrc.ac.uk/funding/calls/htinvestigatorledresearchprojects/
2. https://www.epsrc.ac.uk/research/ourportfolio/themes/healthcaretechnologies/strategy/grandchallenges/

NIHR Invention for Innovation Funding

The funding supports projects in medtech SMEs, universities and the NHS that demonstrate proof-of-principle and have a clear pathway towards adoption and commercialisation. These awards comprise both early and late stages of R&D including the clinical development of laboratory-validated

technologies or interventions. Although no funding limit is imposed, applicants must fully justify all costs. The funding period is for up to three years. Up to 100% of research costs for all partners will be paid. The nearest deadline for submitting stage 1 proposals is 13 December 2017. The eligible activities include, for example:

- R&D towards medical devices, active implantable devices and in vitro diagnostic devices as defined by relevant EU directives
- Product development to enable a technology for clinical use including around manufacturing, IP protection, freedom to operate and market analysis, business case development
- Activities associated with the adoption of new technology

Links:

1. https://www.nihr.ac.uk/funding-and-support/funding-for-research-studies/funding-programmes/invention-for-innovation/
2. https://www.nihr.ac.uk/funding-and-support/funding-for-research-studies/funding-programmes/invention-for-innovation/i4iProgrammeGuidance_Call14.pdf

H2020 SME Instrument

The EU run a programme looking for high growth, highly innovative SMEs with global ambitions, actively investing in innovation, and looking to grow. As part of the Horizon 2020 programme, the scheme selects potentially disruptive businesses to invest in and support as part of the SME Instrument. SMEs with a strong growth potential and the ambition to become world-market leaders could receive up to €2.5 million* in funding. The company should have been established for a while – further than the start-up stage and projects at the technology readiness level 6 or higher (technology demonstration) have the best chances to receive funding.

It's a good sign if your company is based in an innovation hub, has received grants or venture capital funding, received innovation-related tax benefits, or won an innovation prize in the last 2 years – so the fact that the company has worked through Innovation Bridge already is a bonus. It is recommended that the company apply under SME Inst-06 "Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well." This type of targeted application stands a higher chance of success rather than aiming for an open call.

Links:

1. https://ec.europa.eu/easme/en/horizons-2020-sme-instrument
2. http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/smeinst-06-2016-2017.html

1. ER DF outputs forecast	Please indicate the numbers against all forecast outputs (see triage form for original output):					
Guidance notes Innovation Bridge is designed to meet one or more of the following (indicate all that apply)	C1	18 hours business support	Complete	☑	Incomplete	☐
	C2	Grant application	Planned	☑	Not planned	☐
	C4	Private sector leverage	Planned	☑	Not planned	☐
	C5	New enterprise				
	C8	Jobs created	FTE:			
	C28	New to market innovation	Yes			
	C29	New to business innovation	No			

Print name	Dr Vitaly Schetinin
Signed (academic)	
Date	14/06/2017

This Record of Activity must be completed by the relevant academic staff before client signs off this Action Plan

Record of Activity

Date	Hours	Summary of work undertaken	Name
31/05/17	2	Desk based research	Dr Vitaly Schetinin
01/06/17	2	Desk based research	Dr Vitaly Schetinin
02/06/17	2	Writing Innovation Bridge Action Plan	Dr Vitaly Schetinin
05/06/17	2	Writing Innovation Bridge Action Plan	Dr Vitaly Schetinin
12/06/17	1	Writing Innovation Bridge Action Plan	Dr Vitaly Schetinin
19/06/17	2	Desk based research	Dr Vitaly Schetinin
26/06/17	2	Desk based research	Dr Vitaly Schetinin
27/06/17	2	Writing Innovation Bridge Action Plan	Dr Vitaly Schetinin
07/07/17	1	Meeting with client	Dr Vitaly Schetinin

I agree that I have received a minimum of 12 hours support as detailed above in the record of activity from University of Bedfordshire from 30/05/2017 to 07/07/2017.

Client Feedback

Please complete this brief feedback section with your initial thoughts on the content of this Action Plan. You may be contacted within 3-12 months of receipt of this Action Plan for additional feedback.

1. Did this Action Plan cover all expected topics/issue? Yes No
2. If No, what other topics / issues were you hoping would be covered? _____

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3. How valuable to you / your management team are the ideas, information, concepts, etc in this Action Plan? (Please circle your rating between 1-10)

   1 2 3 4 5 6 7 8 9 10

   Not at all Slightly Fairly Highly

4. Overall how satisfied are you with the Innovation Bridge Project? (Please circle your rating between 1-10)

   1 2 3 4 5 6 7 8 9 10

Not at all Slightly Fairly Highly

5. Could we use your project as a potential case study for promotional purposes? Yes No

Your approval would be required before any material is published

Please feel free to add any additional comments:

I have received the Innovation Action Plan and have been advised as to the opportunity to apply for an Innovation Bridge grant.

I will endeavour to deliver the stated outputs and acknowledge that the Innovation Bridge team at Central Bedfordshire Council will contact me again to gather details and evidence of these outputs for their records to comply with funding requirements.

Print name	
Position in Company	
Signed (business) For and on behalf of <insert business name>	
Date	

For Central Bedfordshire Council Innovation Bridge Team	
Date Form Received:	
Signed by Contract Management Officer:	