



# London Medical Education Academy

## Business case

London Medical Education Academy

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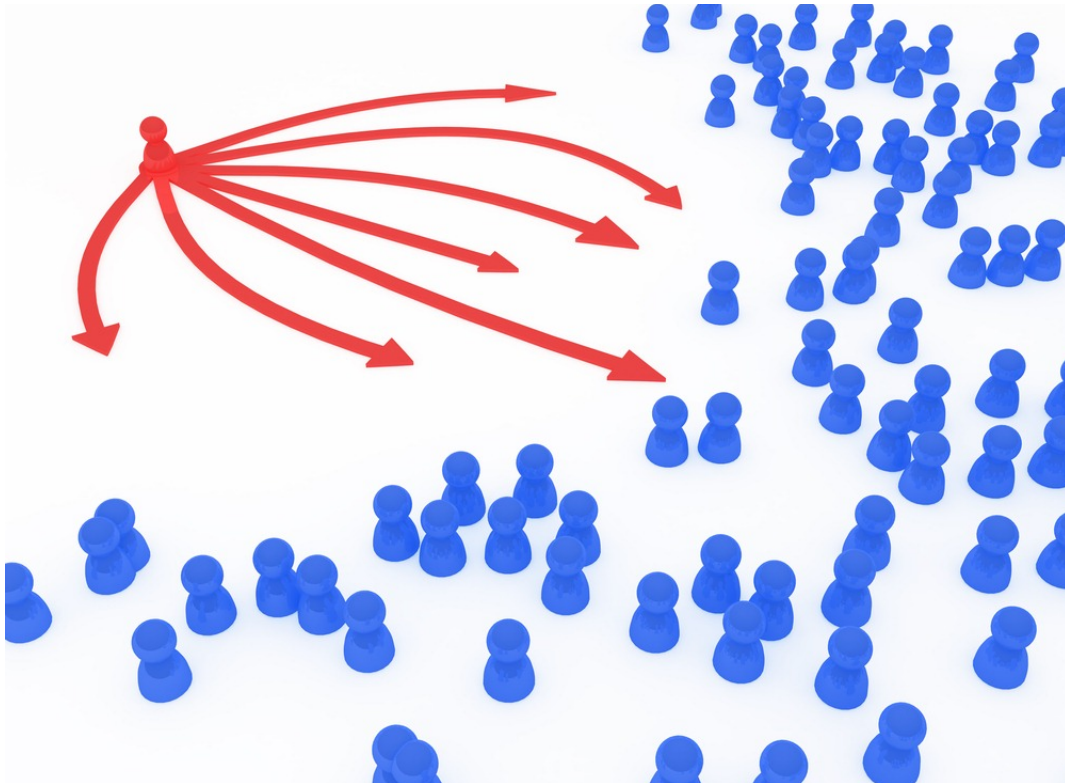
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# Executive Summary

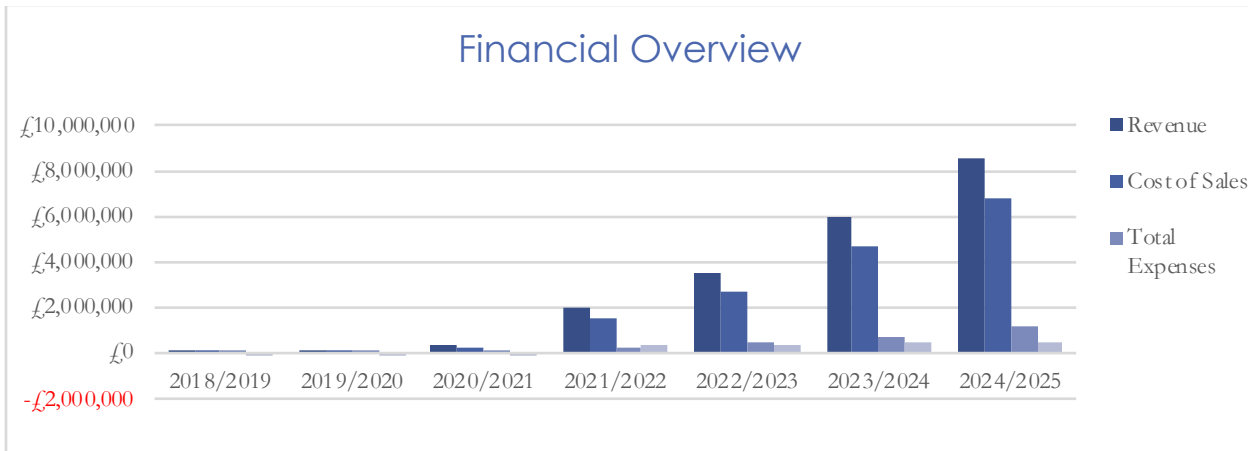
London Medical Education Academy have a **working business model** with **demonstrated success**, and this document outlines the **future growth plans** for London medical Education Academy and the **expansion from single courses to educational facilities** comprising of simulation, lab and assessment departments. In addition, a separate **storage facility will increase access and affordability** to training for the UK, and increase the value of education and innovation in Buckinghamshire.

This project will create 56 new jobs and it will impact outcomes for patients all over the world... for decades to come.



## Highlights to date

- 2015 **Inception and first course run** on Obstetric Fistula in London
- 2016 **First international course** (Santiago, Chile)
- 2017 Winning Bill Bendyshe Brown **Award for Excellence** at Bucks Business Award
- 2017 Winning First Womens **“UK Entrepreneur of the Year”** Award
- 2017 Appointed as Members of G4 **Alliance for Safer Surgery**
- 2018 **Appointed by World Academy of Medical Sciences** (WAMS) Educational Board



## Objectives

By 2020 we will open a combined lab and storage facility for state-of-the-art surgical training, providing simulation and fresh frozen cadaveric tissue training in Buckinghamshire.

## Mission Statement

Our mission is to better utilize donated human tissue to improve access and affordability of cadaveric training for healthcare professionals.

## Keys to Success

More storage, less transport, optimizing resources in the center of a growing Medtech and advanced AI hub.

## Description of Business

### Company Ownership/Legal Entity

London Medical Education Academy (LMEDAC) is a privately owned limited by shares business registered in England as company number 09409404. The academy is VAT registered (257687256). The company was founded 28<sup>th</sup> January 2015 and is fully owned by Angela Spang. A Charity is under construction and will be registered during 2019.

### Location (Current)

Rented office space 50m<sup>2</sup> in High Wycombe. Surgical Labs used all over the country (Glasgow, Manchester, Edinburgh, Keele, London)

### Hours of Operation

09.00-17.00 weekdays plus lab as scheduled.

### Products and Services

We run postgraduate surgical training for healthcare professionals. See appendix for course brochures.

## Suppliers

- Specimen providers
  - ScienceCare: US based organization – the travel/importation adds additional cost to the specimen
  - National Repositories within the UK – Nottingham, London Anatomy Office, Manchester. These locations are currently turning donors away due to lack of storage.
- Labs: Labs around the UK have different levels of provision. Some are not able to provide laparoscopic equipment or are not able to hold sufficient storage to make economies of scale viable with the other non-lab costs associated with the courses. We want to provide a lab that will help achieve economies of scale to make cadaveric training affordable.
- Salesforce: provision of a CRM system to maintain course record and specimen details (when relevant)
- EE: communication
- Medical equipment: Specialist surgical equipment including but not limited to – laparoscopic stacks, cameras, micro-drills and basic surgical equipment such as scalpels, swabs etc. Appropriate protection clothing will need to be provided for attendees.

## Trainers

We use actively practicing surgeons as trainers – this ensure they are up to date on the latest techniques, and they have plenty of experience to draw from. The trainers are nominated by peers or chosen by the medical associations.

## Service

The provision of a state-of-the-art lab in which surgeons can train, enhance skills, improve their learning curve and become proficient in order that they can become more confident and avoid adverse events. The lab environment will be sponsor and advertiser free, providing a safe environment for open, non-biased discussion on appropriate techniques and debate on controversial issues.

## Management

### Angela Spang - CEO

20 years in medical education and medical innovation. UK Entrepreneur of the Year First Women 2017, Business Leader of the Year and Best New Business Winner and Finalist.

### Liz Thornber – Operations

Degree in European Business Studies, Postgraduate Diploma in Marketing and Member of Chartered Institute of Marketing (MCIM)

### Medical Directors

Mr Alex Digesu Consultant Surgeon GYN  
Mr Wael Agur Consultant Surgeon UroGyn  
Ms Fiona Reid Consultant Surgeon Urology  
Mr Barry Paraskeva Consultant General Surgeon  
Ali Juma Consultant Surgeon Plastic Reconstructive Surgery  
Trauma Medical Director (TBD)

### Anatomy

Dr Matt Szarko  
Dr Michael Rittig  
Mr Paul Moran Consultant Surgeon

### Financial Management

Accountancy outsourced to LB Accountancy

## Start-Up Summary

We have been operating since 2015 and have run over 20 successful courses training over 100 surgeons. We have expanded from GYN to Urology, plastic surgery, laparoscopy, and are contracted to emergency trauma and neurology and spine in 2019. We have a product that works, but have identified the barriers to grow. This investment will allow us to bring all our courses home to Bucks, create jobs here and bring revenue into the region instead of taking it to other parts of the UK or internationally.

## Reasons for being

- Current environment isn't conducive to attracting people into the medical profession
- Not enough medical professionals for a growing population
- Those that do are unprepared and not ready, due to limited training opportunities
  - YouTube videos on 'How to get into surgery'
  - A delegate who attended a course after already perforating 8 bladders...
  - The intra-operative injury rate
- 88% of healthcare professionals are increasingly worried about being sued ( "The Rising Cost of Clinical Negligence" by the Medical Protection Society)
  - All surgeons have to complete CPD training. Currently surgeons who operate on a daily basis only have to obtain CPD points within a three-year period and these points can come from attendance on scientific conferences.

**CONCLUSION: The need for our offering is great, and continues to grow**

## Strategic Case

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### Healthcare

The Oxford/Cambridge corridor is filled with **State-Of-the-art healthcare facilities**, that care for **more and more patients every year**. The amount of healthcare professionals needed continues to rise, and the **demand for training is greater than it has ever been**. Both existing labs (Cambridge and Oxford) are restricted to their growth, and **Oxford has already reached out to us** to query if we could **help with storage facilities**.

### Science education

The region has enormous existing and growing science focus as a **world leading life science cluster**, and our lab will enable STEM teaching and education for schools in the region in an environment truly inspiring. The lab will be a **resource for schools** from Key Stage 1 up **to post graduate courses** at our Universities and the **educational value of human cadaveric tissue** will increase the value for all healthcare programs and physiology/sports medicine programs in the region. With the UK's **first private medical school** close by, and the **national spine center at Stoke Mandeville**, we are perfectly placed to support both institutions.

### Innovation

Healthcare innovation is coming faster and quicker than ever before, and both UK as well as international innovation is continuing to rise. **Growing MedTech and Advanced AI are areas where enormous testing** has to take place in the next few years (as an example: Versius, the new surgical robot is tested on 100 cadavers annually) In case of Brexit the pressure on UK companies will increase to ensure innovation happens swifter as access to international research and innovation will reduce (we have already seen this happen) , and if we are still part of the union, there are phenomenal amounts of collaboration opportunities internationally. **Commercialising medical device innovations** in a more efficient and cheaper way will make the whole region more competitive.

### Entrepreneurship

As one of the most entrepreneurial areas in Britain, there are huge benefits to having a human tissue lab in the region. Anything from **testing new medical devices** to tools and **equipment for social care** to **research on drugs and delivery systems**. We already have great

experience in R&D with **long collaboration with medical device companies**, and our platform to grow this will expand the regions commitment to BERD, CMKO and HERD further.

Our rationale to build in the region is removing the restriction of storage and availability. We cannot find space in labs so we can run our courses. We cannot store specimens, so we can use them for more than one course, which makes it both wasteful and expensive. We need to build storage and lab space to overcome this hurdle. The strategic fit with the regional needs and the additional benefits we can offer is a perfect match.

### The need for training:

Currently in the UK £1.6 billion is spent on negligence cases. Many of these cases are due to injuries, and are preventable. See appendix.

### The need for storage:

1000s of donors are being refused at repositories per year.

Our research and history shows that when hands-on training is more affordable there would be a policy change to encourage and even mandate surgeons to attend practical, hands-on courses that would have a greater benefit, every day, to their patients.

### Smart goals

Specific	Measurable	Achievable	Relevant	Timebound
Provide affordable training for healthcare professionals	A current Urogynaecology course is £950 for a 1:2 ratio	An initial reduction to £600 and then £450 once economies of scale have been reached	Reducing the cost of hands-on training instantly impacts lives of patients	Within 6 months of opening lab
Reduce the number of rejected donors per year	1 lab is turning away 10 donors/week	New storage solves that problem	Generous donors are willing to donate their bodies to training/science/research and they are being turned away	Within 1 year of opening lab
Decrease the NHS spend on clinical negligence	2017 - £1.6 billion was spent on clinical negligence	Realistic pricing for training to improve confidence and learning curves for healthcare professionals will have an instance impact on their working lives and in turn on the experience of the patient	If patients' experience for their procedures leaves them feeling confident in the surgeon's ability to treat them they are happier	Within 3 years of opening lab



## Market failure / State Aid

- The private sector cannot deliver this project alone and it requires public sector intervention:
  - **Land:** support and guidance from Council
  - **Job creation:** education, training, for new staff, or re-training of existing staff in the region
  - **Benefit for NHS:** surgeons need to be getting time off to do training of other doctors, and attendees need time off to come to learn
  - **Wider benefit for patients:** as we embark on our goals, patients from all over the UK will benefit. We want to channel as much as possible through the official NHS channels so that we can all benefit from better training.
- Non competitive advantage: this does not break any state aid rules whereby public sector money is giving a single private sector company a competitive advantage:
  - The project benefits other companies (cheaper access to testing, trialing and training)
  - The organization will become a non-profit organization
  - We are already successfully running our courses since three years, thus we already proven to have an advantage in know-how over anyone else who may want to get into this field.
  - We have other options, but they are less useful.
  - By building here, we are not getting a benefit, we are simply eliminating a disadvantage and putting the region on a more level playing field.

## If we DON'T get this public funding:

- Donors will continue to be turned away by repositories due to lack of storage. This impacts families ethically, morally and financially (as they will now have to pay for the funeral of their loved one which is not always a possibility)
- Live patients will continue to be used for training, which leads to increased negligence claims and therefore cost for the NHS.
- We will have to collaborate with medical device companies who will want us to use their products in a bid to influence doctors (who as government employees are not allowed to be given anything of value as is considered a bribe)
- Alternatively, we will have to borrow money, but because we are very much in the public's best interest and not a possible crowdfunded, this will be difficult.

**Human cadavers have not been a legal possibility for surgical training for very long, so this is a novelty. People are both emotionally, morally and ethically affected by our business, many pro but some against. It is difficult to find private funding for something that is so loaded with personal feelings by people who don't realize its capacity to save and improve lives. Since it isn't public knowledge that doctors currently train on live patients, we are limited to what we can do with fundraising.**

## Logic chain overview of issues and outputs

Problem to address	Activities	Outputs	Outcomes	Impacts	Wider benefit
Labs are too far away from majority of customers	Build lab in better location	Local option for training, close to London and Heathrow	Increase access for 25 million customers in south of England, and improve travel for 15% international attendees	More healthcare professionals being trained or learning new procedures correctly enables fewer risks and therefore fewer negligence claims.	Reduce environmental impact
Lab lacks access to cadavers	Build additional storage	More specimens are available for training	Lowers the cost of training for professionals	Could potentially also supply others	Job creation: lab staff
Lacking opportunity to accept collaboration partners as don't have own lab	Build training center	Wider educational offering for multiple stages	Higher value of training for broader market	Business growth with more partners and broader training offering	Job creation: Research and admin
Lacking continuous education chain as lack pre-work and assessment area in other labs	Build own center	A complete educational process: prep work and post course assessment,	measuring outcome of training	Increased value	Job creation: Assessment center and Medical Directors
Lab can't store and multi use specimens	Build storage	500 storage spaces	Reduced cost for specimens	Cheaper cost for attendees	More courses create more jobs in training and admin
Lab is too expensive	Build own center	Affordable space	Less cost for training, higher attendee rates	Accessibility for students	STEM and physio courses can benefit from anatomy training
Can't get enough time in lab	Build own center	Available course dates as/when customers want them	Optimizing efficiency bby running courses simultaneously of back to back	Can utilize specimens better: Knee and shoulder courses at the same time using the same specimen	Less waste, better economy in scale

# Economic Case

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## Range of options

- Build own storage and lab (**OPTIMAL**)
- No change (**POSSIBLE**)
  - We can continue as we are, but we are limited in what courses we can run, where we can get access to labs, and what they can let us do (as an example, not all labs are set up to do laparoscopic work).
  - this makes the courses very expensive which limits the number of surgeons who can afford the training
- Build only storage (**POSSIBLE**)
  - Interesting option, but we still wouldn't have the opportunity to teach and assess learning
  - We could potentially store and then hold courses in other venues
    - But we would still struggle to get access
    - Still limited to what courses we could hold
- Go abroad (**NOT VIABLE**)
  - We can move our operations to another country where the cadavers are cheaper, but we don't want to leave the UK.
- Buy another lab (**NOT VIABLE**)
  - Owned and located in universities and are part of the school
- Build only lab (**NOT VIABLE**)
  - Would solve the challenge with storage and rejected donors

**Economic costs and benefits per year** – covered in NPV section

## Distributional analysis: who benefits, who pays?

State healthcare / Individual – both benefit and pay

International attendees visiting the area, using hospitality and travel services

A sustainable cadaver lab would be the first in the world.

## Wider impact:

### **Sustainability:**

Where possible the infrastructure will be built with environmental sustainability in mind, subject to building and HTA regulations.

1. Improving the fabric of the building. Re-purposing a building on a brown field site has two benefits, less waste from its collapse or removal and secondly avoidance of building on green field areas.
2. Efficient services. Ensuring that the building operates in a most effective matter not only to keep running costs low but also to benefit the environment. E.g. MVHR – Mechanical ventilation and heat recovery, utilising the heat generated from the freezers to heat other public areas of the building.
3. Consideration of electricity provision. Generally achieved through solar panels. However, we would hope to achieve a BREEAM 'Excellent' rating, along with 'Near zero carbon'.
4. Waste management:
  - a. Medical waste (material) will be going to suitable waste management (Discussions started with Grundon to review environmental impact)
  - b. Tissue remains: cremation so burial depending on donors wishes

5. Transport: Green vehicles
6. Single use items kept to a minimum (Plastic gloves to be exchanged for biodegradable)

### **Additional jobs**

**Future new hires** within 5 years of opening: (56 FTEs)

- |   |                            |
|---|----------------------------|
| 4 x Embalmers   | 8 x Clinical trainers      |
| 7 x Technicians   | 3 x Course directors       |
| 4 x Anatomist   | 2 x Business admin         |
| 2 x Drivers   | 2 x Marketing              |
| 5 x Cleaners  | 2 x Education Coordinators |
| 3 x Sales   | 2 x Researchers            |
| 2 x Finance   | 1 x AI Manager             |
| 3 x Audio Visual attendant – filming/photography/displays | 1 x HR admin               |
| 5 x Course administrators                                 |                            |

### **Supplier services purchased locally**

Cleaning, catering, transport, lab supplies, hotels: Estimated to over 200k annually

### **Benefits register and delivery plan**

<b>Who</b>	<b>How</b>	<b>What/when/why</b>
Patients	Each surgeon trained improves outcomes that elevate the surgical outcome for patients for years to come	Illustrated: 1 surgeon does 5 operations of a certain kind each week for 20 years= improving outcomes for 4500 patients. (proof of skill improvement in appendix)
Surgeons	less cost for training, less stress for the NHS (to provide the training themselves and less pressure on their budgets)	Available, affordable and accessible training opportunities in the region from opening day
Faculty jobs	The passing of knowledge from one generation to another	Keeping highly skilled surgeons in the area instead of them traveling abroad or other regions to teach
Direct job creations	54FTEs	See plan
Suppliers	Cleaning, catering, transport, lab supplies, hotels	See plan
Indirect job creations:	builders, architects, local hospitality venues	See plan
New trainees	Reduction in healthcare costs for trainees and the injuries they will not be doing on patients	Our courses increase employability both nationally and internationally. Our Uro/Gyn course now ticks the box for the Anatomy section for ST Doctors according to BAUS (British Association of Urology Surgeons) under Royal College of Gynaecologists. Reducing their need for traveling to training will increase efficiency and reduce time pressures.  Injury reduction (see costs of litigation in appendix)
Schools	Wider offering of educational breadth	Educational visits, shorter or longer courses, job placements and observational opportunities for

		medical students will offer the region a healthcare program for universities that will make educational offers unique from many other places.
Startups and innovators	Value for new startups or local innovation who will have a better value proposition to their products because of the testing, demonstration, assessments and trainings in our facilities	Discussions ongoing with Mosaic Surgical, Becton Dickinson, Smith & Nephew

A best estimate 10 year NPV valuation discounted at 3.5% per annum is calculated as £4,343M. It is based on projected EBITDA. We don't anticipate there to be any changes in tax but this depends on governmental changes. We do anticipate getting R & D credit whilst the business is making a loss and when profitable the credit will be used to offset the tax charge.

**Monitoring and evaluation:**

- Management meetings on the first Monday of each month will assess and regulate project performance.
  - Existing management structure will be monitoring
  - LEP representative will be invited to all meetings
  - Evaluation against the business plan with corrective measures actioned

## Commercial Case

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**Commercially feasible/deliverable**

Creating a state-of-the-art lab with the most sustainable infrastructure achievable at this time is completely feasible. Working with architects and equipment suppliers who are all working with the same goal of achieving a lab that operates in the most efficient manner, to keep costs down and make training affordable for those who need it.

London Medical Education Academy has already discussed working with potential partners from repositories around the country to assist with supplying extra storage facilities and supply once the lab has been built. LMEDAC has also received overseas enquiries regarding potential lab space.

Cadaveric labs are currently over-subscribed for both use of lab space (at least a 9 month waiting time) and the requirement of extra storage to accept all donors on the registers around the country. Therefore, once the lab is built there is a demand.

**Risks to the project: what would make us unable to deliver?**

- No LEP funding
- Funding at the wrong points during development
- Inability to obtain an HTA
- Inability to find a suitable location/venue

## Future development opportunities

- Adding a simulation suite with VR elements
  - Two potential partners already identified
- Exchange human cadavers for synthetic cadavers once technology is ready and prices are coming down
  - Potential partner identified
- 3D printing of sections and organs
  - Modelling with use of human cadavers before disposal

## Procurement: goods, services, land, buildings

- **Goods:** LEEC is the leading designer and provider of specialty equipment for mortuaries, labs and storage facilities and they have been working with us for almost a year to design our space and the necessary equipment.
- **Land and/or building:** A suitable plot of land and building (as described above) will need to be purchased in order to fulfil the criteria. A brown-field area has already been identified. Collaboration with experts like Chandler Garvey, Bucks CC and other stakeholders will be crucial for success of the project. Conversations have started but are awaiting outcome of the application.
  - Close to London, Heathrow, Oxford. Close to major roads.

Due to the comprehensive guidelines set out by the HTA license the lab will need to be positioned in a location that is not overlooked or visible by the general public. Other key considerations are accessibility, proximity to Heathrow would be a distinct advantage in attracting International attendees. Additionally, proximity to a main railway line and 100 parking spaces for countryside attendees.

## Procurement strategy

A project manager will oversee the procurement process.

- Lab equipment: For specialist equipment like lab and storage equipment, we are working with the leading provider in the UK to get design drawings and equipment lists. We will then tender to at least 2 other providers to compare.
- Cadavers: London Anatomy office, HTA and Science care will all be invited to quote.
- Catering, printing, disposable equipment, non-specialist furniture: 3 providers invited to quote.

## Key contractual issues - Key milestones and delivery dates

Activity	Internal/External	Deadline
Fundraising	Int & Ext	End Q1 2019
Architect drawings	Ext	End Q1 2019
Planning permission/Building regs submission	Ext	End Q2 2019
Planning permission/Building regs	Ext	End Q3 2019
Find contractors	Ext	End Q3 2019
Apply for HTA licence	Int	Q3 2019
Begin build	Ext	Q1 2020
Finish build	Ext	End Q2 2020
Grand Opening	Int	Q3 2020

# Financial case

## Financials

Total cost of project is estimated as £4.35m, with LEP Funding (50%) £2.175m. Split as follows:

- Equipment and freezers £1.9m
- Building costs & land £2m
- Legal fees £50k
- HTA License £50k
- Staff and training £350k

Funding will be required in the following timelines:

- 2018/19 architects, planning etc £150,000- self funded
  - 2019/20 building phase £1.9m (£100k spent 2018/19)- funded by LEP funding
  - 2020/21 Aug 2020 purchase of lab equipment and freezers £450k- part of LEP funding £200k and bank loan of £250k
  - 2020/21 we would secure a further loan from the bank on the finished facility of £1m. This will be used to purchase £750k of further equipment and freezers.
  - 2021/22 purchase of further equipment and freezers £250k
  - 2022/23 All further equipment/freezers will be funded through the company profits/cash-flow.
- Cost over runs
    - Payments on personal loans will need to be paid from the existing running of the business
    - The business will continue to use external labs until the refurbishment is complete to standard.
  - Contingent liabilities – N/A
  - Guarantees: Rent income

## Profit and Loss Statement

See Appendix

## Sales Forecast

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>Income</b>							
Laboratory rental				72,000	72,000	75,600	79,380
Storage facility cadaver sales to companies				168,000	168,000	176,400	277,830
Storage facility cadaver sales to hospitals/universities				538,200	538,200	1,076,400	1,130,220
Courses- internal			312,000	1,224,000	2,721,000	4,605,000	5,900,000
Courses- internal International							1,120,000
Courses- external	100,000	120,000	48,000	0	0	0	0
<b>Total Income</b>	<b>£ 100,000</b>	<b>£ 120,000</b>	<b>£ 360,000</b>	<b>£ 2,002,200</b>	<b>£ 3,499,200</b>	<b>£ 5,933,400</b>	<b>£ 8,507,430</b>

## Break-Even Analysis

Break-even will occur in the 2021/2022 financial year. Please see appendix.

# Management Case

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## Proposal practically deliverable

Simply: yes. We have already run this business, we know this market (and the market knows us). This reduces risk and Optimism Bias in our proposal.

We are removing identified and quantified hurdles to current and future growth. We have a product to sell, and we have existing customers, and we know how to reach our target audience.

## Our Capability and Experience of delivering success

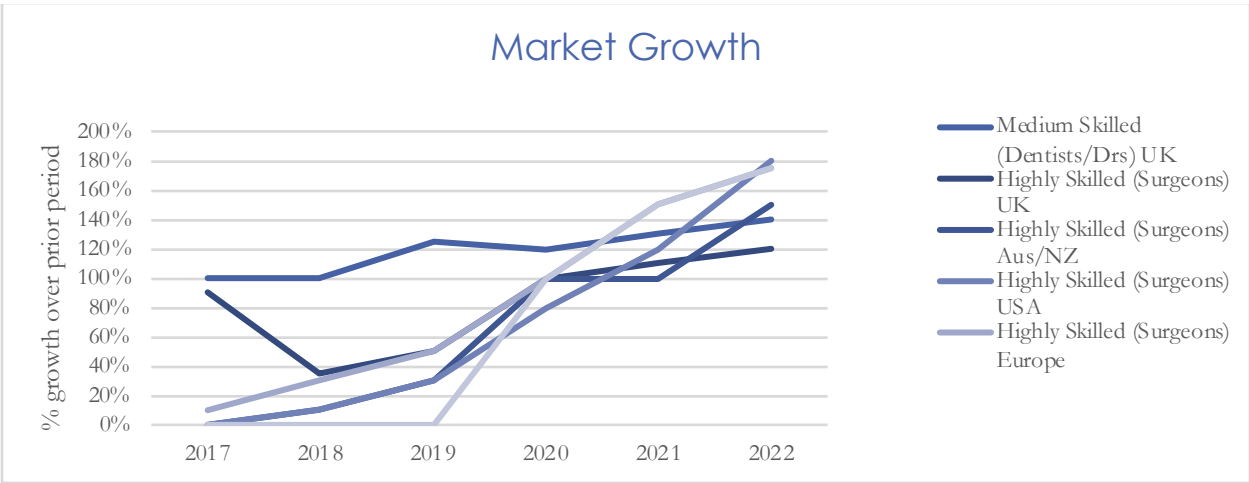
### *Market acknowledgement and Feedback*

- Feedback from organisations and individuals
  - “The clinical governance implications of having such training under your belt, it is indeed a small price to pay”
  - “This was a wonderful experience. Being able to practice with cadavers and be oriented by experts was great.”
  - “Most effective and useful course I have attended in recent times. Informal but very informative, interactive and hands on”
  - “It was a huge privilege to attend and something that I will never forget”
  - “Each of the faculty provided a different perspective to the techniques which was actively debated, allowing the delegates to decide on which approach would be most suitable to a given situation”
  - “this may be the most in-depth training course currently available in the UK with an unparalleled low delegate to cadaver ratio”
- Collaborations and partners include:
  - The World Academy of Medical Science (WAMS)
  - International Continence Society (ICS)
  - British Association of Cosmetic Nurses (BACN)
  - International Society of Lumbar and Spinal Stenosis (ISLASS)
  - CPD Standards Office
  - European Accreditation Council for Continuing Medical Education (EACCME)
- Press articles (see appendix)

### *Market Analysis*

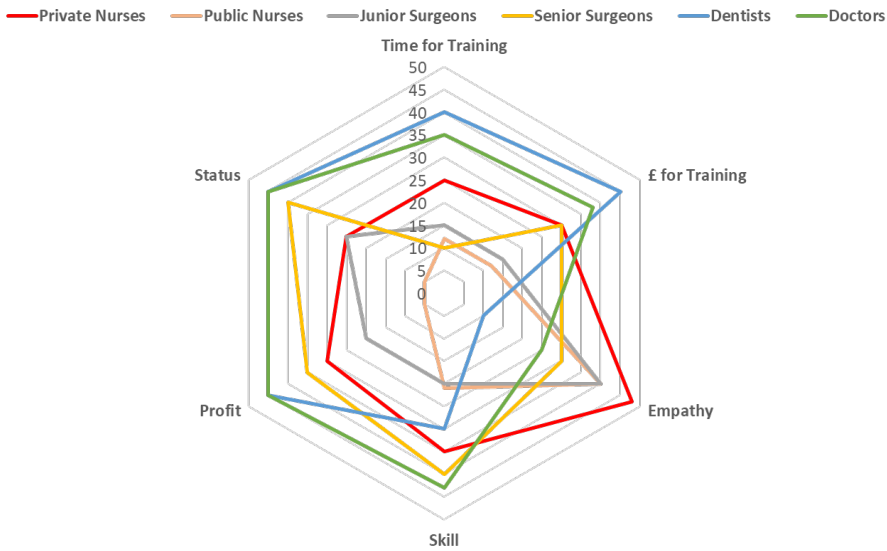
Market Growth is obtained by offering affordable training that makes it attractive for attendees. The overseas attendees would use local hospitality and transport options and then some of the visitors with longer journeys may also stay longer to experience the cultural aspects of the UK.



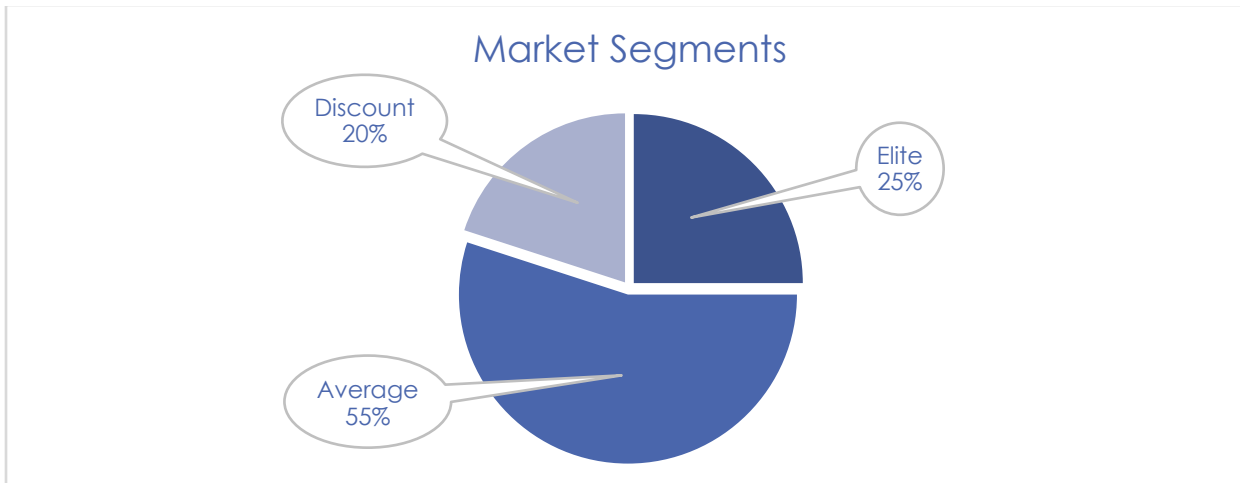


**Market Segmentation**

Segmentation happens within geographic regions, skill level of the healthcare professional, access to training funds, need for training within a discipline in which there is a large demand for training (native tissue repair with the pause on mesh procedures).



UK	Australia/NZ	US/Canada	LA	Middle East	Nordics
Plastic Surgeons		Plastic Surgeons		Plastic Surgeons	
Private healthcare Surgeons		Private healthcare Surgeons	Private healthcare Surgeons	Private healthcare Surgeons	
	Public healthcare Surgeons				Public healthcare Surgeons



## Competition

**Associations** – Provide cheaper training already but this is supported currently by industry. Regulations are changing within this area limiting the amount of support industry can provide, therefore this is an unsustainable approach.

**Medical Schools** – Are able to offer cheaper hands-on courses through a mix of external industry support and the ability to use their own cadaveric specimens. Due to the regulation changes mentioned above and combined with the increase in donor specimens and lack of storage this is also unsustainable.

## Pricing

$(\text{Costs} + \text{margin}) / \# \text{ of expected attendees}$ . Specimen and lab costs are constantly monitored. Compared to competitors we offer accredited CPD points and our training is independent (surgeons don't feel pressured into buying certain products) even if we are slightly more expensive.

## Advertising and Promotion

We have already run a successful business for 3 years and know what works: Social media, PR, website/SEO, word of mouth, speaking opportunities, exhibiting at exhibitions. (Direct email and advertising campaigns give less ROI)

## Communication and ongoing activities

This strategy is currently in place and communication platform strategies have changed to respond to the results. E.g. free campaigns have been more successful than paid campaigns and activity is highest around courses being run.

## Milestones

### 2018/19

- Our current situation, whereby we can only offer courses at external facilities being London, Manchester, Nottingham and Glasgow

- Under our current business model we rely on space constraints and are hit by the high costs charged to us by the training facilities and cost of cadavers as well as specialist trainers fees.

**2019/20** will see the start of our building phase of the facility.

- We will run our existing model of external courses.
- We will incur extra costs relating to the building of the facility.

**2020/21** is our year of transformation.

- We will have 6 months of training under our existing model, running 5 courses.
- Our first internal course will take place in September 2020.
- We anticipate that we will run on average 1 course per week with 20 participants at £600 per course. The facility will usually operate 45 weeks per full calendar year. From Sept 2020 to March 2021 it will be open for 26 weeks.
- From 1 September 2020 we will need to employ an embalmer at £32k pa, a specimen cleaner at £20k pa, a driver at £20k pa and an administrator at £18k pa.
- All cadavers will be donated to us from the hospitals/ universities. We will only use these for our own training courses. We estimate we will receive in 10 cadavers per week and use 5 per week (or parts of).
- Course catering is estimated at £10 per attendee.
- Cleaning materials cost £1,000 per month.
- Cremation costs £1,500 per full cadaver. Our courses will be on various parts of the anatomy and therefore we have assumed this will equate to 3 full cadavers per week for cremation.
- HTA licence costs £20k pa, so in first year of opening £10k will be charged to the P&L account.
- We will need 2 trainers per course at £750 per trainer per day if 20 attendees. Each trainer will then expense travel expenses of £150 per course.
- It will cost approximately £6,000 to transport the cadavers to our storage facility based on 45p per mile and estimated 13,512 miles in total.
- We will need to spend heavily on advertising and marketing, targeting universities, individual surgeons and hospitals.
- Part of the capital requirements will be funded through a bank loan with increased finance costs expected.
- All our courses are accredited. It currently costs approximately £900 for 5 course types.
- We will employ a marketing manager and training facilitator, both with a salary of £35k.
- Some costs will increase in line with inflation at an estimated 3% as the costs stated above are at today's prices.

**2021/22**

- Will operate at 45 weeks training (Easter being 4/4/2021 and 17/4/2022). Q1 is 12 weeks, Q2 9 weeks, Q3 11weeks and Q4 13 weeks.
- Q1 will offer 1 course per week with 20 attendees, from Q2 2 courses per week and from Q3 3 courses per week. Courses will remain at £600 per course.
- We will run no external courses.
- Some costs will increase in line with inflation at an estimated 3%.
- We will employ 2 sales members in Q1. We will also employ a lab technician in Q1. We will employ another embalmer, cleaner, driver and one more administrator in Q2.
- We will rent the laboratory facilities at £1,500 per day to companies 1 day per week. This will operate for 48 weeks/year.
- We have assumed each company test will use one whole cadaver and we will sell this to them at £3,500. We will cremate these cadavers.
- We will sell an estimated 234 part cadavers to universities and hospitals at an average price of £2,300 per cadaver as these will potentially only be part cadavers.
- We therefore estimate that over the year we will need to cremate the 48 cadavers used for company testing, the 234 part cadavers for and approximately 309 used in our own training.
- We would employ a bookkeeper on £20k per annum equivalent.
- We would receive 10 cadavers per week costing double the transportation cost from 2020/21, which was only for half the year.
- We will transport 6 cadavers for 39 weeks to other training facilities with an average mileage of 1,126 per round journey at 45p per mile, and then transport them back to our facility for cremation.

**2022/23**

- We anticipate the same for company testing as per 2021/22 above.

- We anticipate the same for cadaver sales to hospitals/universities as per 2021/22 above.
- We plan to have 3 courses per week.
- Q1 & Q2 will see an increase to 30 per class. Q1 is a 11 week period due to Easter being on 17/4/2022 and Q2 is a 9 week period. The price of the course will be dropped to £550. 2 tutors will be needed for these courses.
- Q3 will see a further increase to 40 per class and is a 12 week period. The price of the course will be dropped to £525. 3 tutors will be needed for these courses.
- Q4 will again see a further increase to 50 per class and is a longer 13 week period. The price will be dropped further to £500. 4 tutors will be needed for these courses.
- We would employ a senior finance team member on current wage equivalent £45k per annum. We would also need to employ a further finance team member, 2 further lab technicians and 1 further administrator. From Q3 we will employ another embalmer and cleaner, 1 sales member and one head of sales.
- Increase in accountancy due to expected audit requirement.
- We would start a large marketing campaign to international from Q3, which includes employing 2 new marketing members.

#### **2023/24**

- We anticipate the same for company testing as per 2021/22 above but we will charge 5% more.
- We anticipate double sales of cadavers back to universities/hospitals as 2022/23. We will also take more cadavers from the hospitals, so transportation costs will double. We will take on a 3<sup>rd</sup> driver.
- The academic year will be only a 44 week period due to timings of Easter.
- Q1 will see class sizes remain at 50 per class and 3 times a week. It is a 11 week period. There will be 4 tutors per course.
- Q2 will remain at 50 per class but increase to 4 times per week. This is a 9 week period.
- Q3/Q4 class size will increase to 60 per class. There will be 4 tutors per course.

#### **2024/25**

- We plan to open to international students following the success as a UK provider. International will be charged the higher price of £800. This is because they will have translators, and a higher catering budget and airport transport.
- The UK training will be 4 days per week and International 2 days per week.
- Q1 & Q2 International will only have 20 students per class with 4 tutors and a translator available. These courses will take place every fortnight. From Q3 they will take place every week.
- Q1 & Q2 UK will have 60 students per class with 6 tutors.
- Q3 & Q4 UK will have 70 students per class with 7 tutors.
- Laboratory space will be partitioned so we can operate courses alongside each other and company testing if necessary.
- Sales to universities/hospitals will remain unchanged, but with a 5% price increase.
- Company testing will increase slightly through more cadaver usage.
- Accountancy increased due to expected review of funding.
- We'd have higher office costs due to more employees, higher travel costs due to marketing activities overseas and higher accreditation fees due to international courses.
- Marketing budget is considerably higher because of increased activity at international trade events.

#### **2025/26 onwards**

- We aim to be the main provider of cadaveric training within the UK. All 20,000 surgeons will need cadaveric practical training, which will need refreshing every 3 years. UK courses will reach full capacity of 100 students per class. We will employ a finance team of 5 members, a sales and marketing team of 7 members, laboratory staff of 14 members, 2 drivers, 3 administrative staff, as well as 2 training facilitators and a large pool of highly professional tutors and translators when required.
- Internationally we will grow as a training provider.

### ***Contingency plan and risk management***

**Contingency:** Our plan allows for some delays in plans as we can still run courses in the current set up ( see [Range of options](#)) thus continuing operations, albeit in a very challenging situation.

#### **Risk Management:**

<b>Dependencies</b>	Mitigation:	Risk:
HTA Licence – storage, transportation and anatomy learning licence	long term relationship with HTA established, with promising and supportive conversations over several months	Low
Suitable lab access	Build own	Low
Suitable staff available	Good collaboration with recruitment agencies and training opportunities internally	Low
<b>Risks</b>	Mitigation:	Risk:
Build delays	Close monitoring of plans	Low
Regulatory changes	Continuous discussions with regulatory body	Low
Funding drops out	Secure funding upfront	Medium
Attendees breaking rules of HTA	Clear guidelines and constant staff presence and supervision in lab.	Low
Power cuts	Back up generators	Low
Vehicle break down	frequent services, Back up vehicle	Low
Break in	24h security, surveillance system with camera to app with built in alarm, local patrol company engaged to run security	Medium
<b>Constraints</b>	Mitigation:	Risk:
Limitations on floor area we can obtain	Flexible location	Low
Activities controlled by HTA	Hire experienced DI (Designated Individual: Identified and approached)	Low
Funding and/or time available to healthcare professionals for training	reduce cost for training, lab closer to London	Medium
Brexit limiting travel options for international surgeons (or their accompanying family):	Focus on UK market	High
Existing business too time consuming to fully focus on project	Additional staff to manage project	Medium

### ***Post implementation evaluation arrangements***

Quarterly business reviews, LEP representative attending.

## Appendix

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- 1. The reason why***
- 2. Courses brochures (BSUG, Trauma, BACN, ICS)***
- 3. Photographs***
- 4. In the press***
- 5. Full Financial Projections incl P&L***