

BALTIC
GARAGE

RSA
Fellowship



GATESHEAD COLLEGE

Business plan & request for sponsorship
September 2014

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BALTIC: garage

Business plan & request for sponsorship

1. INTRODUCTION

This business plan sets out a proposal for a collaboration between Baltic Centre for Contemporary Art, RSA North East, and Gateshead College and other partners to create a design and prototyping and production facility supporting local businesses and offering opportunities for students and others to work in a real world environment whilst honing their creative skills.

The RSA is encouraging governments, businesses and others to make the most of technologies and innovations that are transforming our economy, which they characterise as the power to create. This proposal responds to that challenge.

BALTIC is located at Gateshead Quays between the world famous Sage and Gateshead College. It is adjacent to an area that is being completely redeveloped by the Borough Council. Already Baltimore House and the Northern Design Centre with BALTIC form an area being promoted as the BALTIC Business Quarter, intended to be a hub for creative and digital businesses looking to locate in Newcastle/ Gateshead.

BALTIC: garage will complement this activity providing facilities to businesses, individuals and students to engage in design and prototyping using a wide range of state of the art facilities. It closely reflects BALTIC's mission to promote creativity.

The north east has a fantastic history of industrial pioneers: William Hedley invented Puffing Billy, one of the first railway engines; George Stephenson, the father of the industrial revolution on Tyneside and mastermind of the Stockton &

Darlington Railway; Robert Hawthorn, who designed and built marine engines and steam locomotives; Thomas Hedley, the man behind Fairy soap; William Armstrong, a pioneer of hydraulics, artillery, gunboats and hydro-electricity; Joseph Swan, inventor of the incandescent light bulb; and John Holmes who invented the quick-break electric switch so as not to electrocute himself when playing with Swan's light bulbs. But the North East did not just turn out great engineers. John Dobson was an architectural genius who worked closely with Richard Grainger to transform Grey Street, Grainger Street and Clayton Street in Newcastle. Thomas Bewick was the father of wood engraving. Thomas Horsley, founder of the Royal Grammar School, was a Merchant Adventurer who traded in coal and wool. Newcastle was a centre for printing and publishing.

There is no evidence that any of these people started in garages, but garages and workshops have a history of being places where innovation takes place. They allow people the space and freedom to express their ideas. Of course, before garages people used other spaces. In 1885, Alexander Graham Bell, the inventor of the telephone, set up a lab inside the carriage house behind his father's home in Washington DC.

In 1901, William Harley wanted to design an engine to power his bicycle. Working with his friend Arthur Davidson, he built his engine-powered bike in a wooden shack, founding Harley-Davidson in 1903. In 1923, Walt and Roy Disney started making cartoons in the Hollywood garage of their uncle. In

1931, Gerhard Fisher, an engineer, started building his Metallascope metal detectors in a garage in Palo Alto.

In 1938, William Hewlett and David Packard, starting with less than \$550, rented a garage Palo Alto, now designated as the 'birthplace of Silicon Valley'.

In 1945, Ruth and Elliot Handler started a business in their garage, selling picture frames and making dollhouse furniture from the scraps. Barbie has turned Mattel into a major brand.

Before the Beatles, John Lennon was a member of the Quarrymen. When the parents of one band member couldn't take the noise anymore, the band was forced to practise in a back garden air-raid shelter.

In 1975, Bill Gates and Paul Allen founded what became Microsoft inside a garage. In 1976, Steve Jobs and Steve Wozniak started building computers in Jobs' parents' garage

– and Apple, now the most valuable technology company in the world – was born.

In 1984, Colin Chapman started building the first Lotus race cars in his parents' garage.

Jeff Bezos founded Amazon in 1994, initially running it all out of his garage in Seattle. Larry Page and Sergey Brin started Google in 1998 whilst they were still students at Stanford, borrowing Susan Wojcicki's garage.

Eric Hintz, a historian at the Lemelson Center for the Study of Invention and Innovation at the Smithsonian Hintz says, "It's sort of a shorthand. It's very romantic to say, 'Here's the garage.' You can build a whole corporate culture around it".

It is on these foundations – a pioneering spirit and a desire to design and innovate – that the partners intend to build.

2. THE MAKER MOVEMENT

The Arts and Crafts Movement, founded in 1887, was one of the most influential, profound and far-reaching design movements of modern times. It began in Britain around 1880 when architects, designers and artists began to pioneer new approaches to design and was, to some extent, anti-industrial. It quickly spread across America and Europe and then Japan. It was a movement born of ideals, which grew out of a concern for the effects of industrialisation: on design, on traditional skills and on the lives of ordinary people. The two most influential figures were the theorist and critic John Ruskin and the designer, writer and activist William Morris who, by the 1880s, had become an internationally renowned and commercially successful designer and manufacturer. Morris championed artisanship as an alternative to mass production, which he believed produced shoddy design and dehumanised labour.

The maker movement is the 21st century heir. Whilst Morris was uncomfortable with modern technology and questioned the role of machines in production, the maker movement has embraced today's technologies, which include electronics, robotics, 3-D printing and CNC tools, as well as more traditional activities such as metalworking and woodworking. There is a stress on new applications of technologies and encouragement of invention and prototyping. There is a strong focus on using and learning practical skills and applying them creatively. Some people engage in do-it-with-others (DIWO) techniques; often people share through open source documentation allowing others to emulate them. However, the maker movement also incorporates creation and invention developed entirely by individuals in their homes, garages or places with limited manufacturing resources. (See <http://goo.gl/94SBYF>)

3. A POSSIBLE MODEL

MAKLab is Scotland's first open access digital fabrication studio offering personal manufacturing and digital prototyping. MAKLab is a registered trademark and is the trading name of Skirmishes Limited, a company limited by guarantee registered in Scotland with charitable status. MAKLab started in 2012 in The Lighthouse, Scotland's Centre for Design and Architecture, but has now moved to a new home at Charing Cross in Glasgow. One of MAKLab's goals is to reduce the costs usually associated with prototyping and manufacturing. It offers access to a range of equipment at low cost, so it is particularly suitable for people aiming to set up a new business. Specifically, MAKLab:

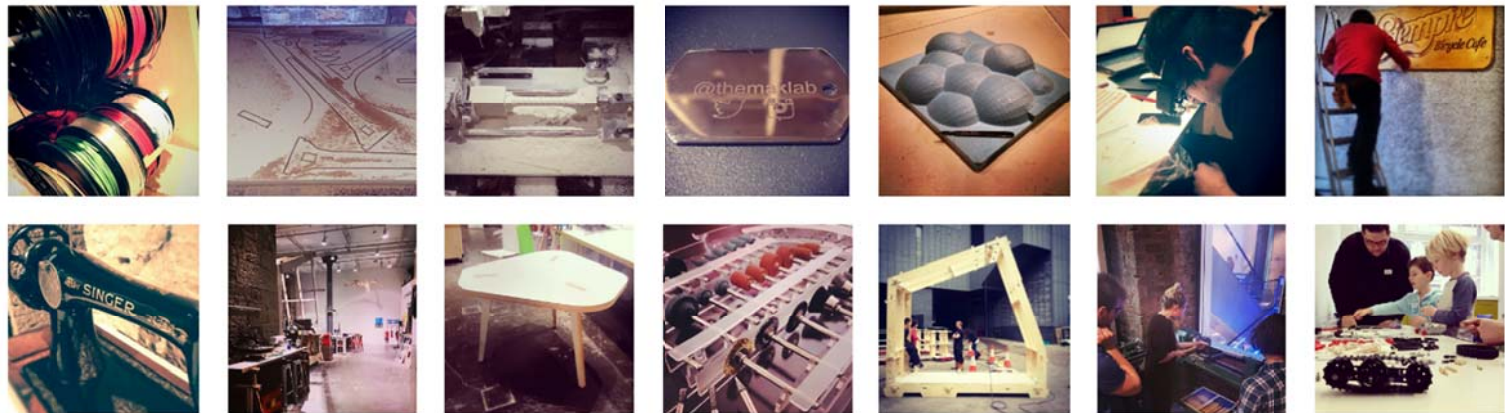
- Reduces the cost for designers and makers, supports start-up businesses to develop and promotes innovative services, products and ideas;
- Through its design and prototyping studio, offers access to the latest digital prototyping tools, expertise and training, and opportunities to network with like-minded

people who can share ideas, teach tricks and help develop projects in an open and comfortable environment;

- Brings people into a vibrant network involving professionals, technology, design, engineering, coding and many others, throughout Scotland, the UK and globally.

Membership is around 220 individuals and 10 small businesses. Around 50 per cent are students looking for access to do their projects out of hours, more freely etc. A further 40 per cent range from recent graduates in the arts to people who work full time on engineering for nuclear subs and are just tinkering with electronics at MAKLab. Some 10 per cent are micro companies, usually creative, from furniture maker to product designers who use the space for early stage prototyping and for small batch runs.

MAKLab is expanding in two ways: through the delivery of educational workshops and experiences and through offering formal training on the more industrial machines.



Images used with permission from MAKLAB Limited

4. BALTIC

BALTIC Centre for Contemporary Art is a major international centre for contemporary art, which gives a unique and compelling insight into contemporary artistic practice and is a place where visitors can experience innovative and provocative new art, relax, have fun, learn and discover fresh ideas;

- BALTIC is an international leader in the ambitious and distinctive presentation, commissioning, development and communication of contemporary visual art; and
- BALTIC exists to enrich people's lives with a programme that deepens their knowledge, understanding and love of

contemporary visual art while increasing and broadening its impact.

- Over and above its core programming, BALTIC contributes significantly to the regional economy; enables, inspires and drives the creative sector; supports business and innovates and collaborates across the academic sector from pre-school to post-doctoral research.
- BALTIC is supported by Arts Council England and Gateshead Council but, increasingly, earns a substantial part of its own income through retail, events, food and beverage offers and other innovative income streams.

5. THE ROYAL SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES AND COMMERCE

The RSA is an influential organisation committed to finding innovative practical solutions to today's social challenges. The RSA is a registered charity which combines thought leadership with social innovation to further human progress. Building on a 250-year history as a beacon for enlightenment values, it undertakes influential and varied research projects and hosts the UK's most ambitious free lecture series.

The RSA's work is supported by 27,000 Fellows, an international network of influencers and innovators who deliver capacity, commitment and innovation. Through its ideas, research and Fellowship it seeks to understand and enhance human capability to close the gap between today's reality and people's hopes for a better world.

In the light of new challenges and opportunities for the human race, the organisation's purpose is to develop and promote new ways of thinking about human fulfilment and social progress: to enrich society through ideas and action.

Throughout its history, the RSA has focussed on a wide range of issues. Its current focus is on public services and communities; learning & creativity; enterprise, design and manufacturing.

Recognising that the 21st century presents huge challenges, the RSA's vision for the future is that people are empowered to be active participants in creating a world we want to live in: that every individual will have the freedom and opportunity to develop their unique capabilities to the full.

Matthew Taylor, chief executive of the RSA, sets out the emerging world view in the 2014 Annual Lecture: 'The Power to Create' (see <http://goo.gl/HvcyjK>)

To make this vision real, the RSA seeks out enlightened thinking and puts it to work in practical ways. As part of delivering the 'Power to Create' strategy, the RSA is aiming to create a network of 'maker spaces' that will revolutionise the way that society designs and produces products and services.

RSA ReMake is also connecting makers, manufacturers and educators to curate maker stories to strengthen community.

The RSA believes that everyone should have the freedom and power to turn their ideas into reality and the rapidly developing maker movement allows people to do just that. The RSA wants to explore how maker spaces can promote and support the social and environmental benefits of new digital fabrication techniques.

The RSA is keen to develop ReMake Hubs with a focus on whole system design and manufacturing for the circular economy: creative, practical spaces with design studios and the latest advances in 3D printing, programming, material science and other emerging technologies.

Hubs will facilitate collaboration to accelerate the pace of innovation; create the structure and strategies to support business innovation; and capture and intensify the energy and inventiveness of businesses, research communities and the creative industry to make innovation happen.

This strategy moved forward in September 2014 when the RSA announced the opening of a RSA Innovation Hub, in collaboration with Fab Lab London. This represents the RSA's first practical 'maker space', and provides an opportunity for industry groups and disruptive, pioneering professionals to meet, collaborate and create. The Hub will be an important pre-competitive space, allowing individuals and organisations to engage with each other and develop new approaches.

6. GATESHEAD COLLEGE

Gateshead College is one of the largest education providers in the region; a thriving business with a turnover of £48 million, 15,000 learners, 700 staff and over 450 business and employer partners. It delivers a wide range of programmes from entry level to degree across seven campuses and the region's workplaces. A market leader in education and training for advanced manufacturing, engineering and the creative industries, with strong networks of industry partners, the college has invested heavily in a wide range of state of the art facilities for digital product development and fabrication, from CNC and 3D printing to electronic prototyping, hardware development and software programming. It believes that accessible and affordable facilities for personal manufacturing and digital prototyping will help learners to focus on design and creativity and to turn their enterprise ideas into reality.

Gateshead College is a founder member of the Gazelle Group of entrepreneurial colleges – who acknowledge the value of enterprise, entrepreneurship and innovation as strategic drivers for change, recognising a need to prepare learners for

a world of work that has changed significantly in the last 20 years, a world that requires long-lasting skills such as team working, digital fluency and entrepreneurship.

This involves a shift of emphasis from simple acquisition of qualifications to a more applied and commercially relevant approach – requiring physical and technological environments that can deliver applied learning and competitive advantage. This strategy will not only foster more business start-ups and product ideas but will also create graduates who can offer a broader range of skills to business and thus add real value.

The college is committed to developing an entrepreneurial outlook in all learners across the whole curriculum, enabling them to be engaged, creative and productive. It offers advice and support to any learners who wish to develop their business ideas, during their time at College and beyond and has strong links with the Gateshead Council economic and business development team to ensure that students have access to the best possible start-up support services.

The college has a thriving student enterprise group, Northern Stars, which has already produced successful business ventures and which gives students the opportunity to test their business ideas with college and peer support. It is about to launch a retail unit, based at Intu Metrocentre, to provide business experience for prospective entrepreneurs.

Gateshead College has positioned itself to be the best vocational college in the region and the best connected to employers and the business community. It is committed to raising the skill levels, aspirations, ambitions and access to

7. MAKER SPACE IN BALTIC

It would seem, ipso facto, that there is considerable overlap between BALTIC's role in promoting creativity and learning in relation to the arts and in the potential support for promoting and supporting creativity and learning in relation to the design and manufacture of products that might be wanted by contemporary society. In developing this project, BALTIC intends that it will

- Promote creativity, enterprise and independence – and offer insight into contemporary (small scale) manufacturing practice
- Provide the opportunity for individuals and clients to experience innovative new forms of manufacturing
- Promote the importance of all aspects of design, technical expertise and innovation in new product development

Baltic has a workshop, estimated to be around 750 square feet, and which has a wide variety of industrial wood working equipment. They have a cycle of three exhibitions each year, so the space is intensely utilised for a relatively short period three times per annum – and is then less frequently used for the rest of the year.

networks for all learners, to foster courage to succeed whether in enterprise or employment, in keeping with the LEP strategy for more and better jobs and as part of a wider societal obligation to create wealth and prosperity for the people of the north east.

The College's engineering workshop is at their Team Valley site and targets engineering students; working with the BALTIC will give the opportunity to many more students,, irrespective of their course, to engage in design and creativity.

Assuming sufficient demand, there are other spaces within the building that could be repurposed to create additional capacity. Currently smaller workspaces house other equipment, including picture framing and welding. There is quite a lot of space, which is currently used for storage for materials that could be stored elsewhere.

Additionally, within the wider organisation, BALTIC holds a range of equipment associated with handling large and heavy structures, film and video production, vinyl cutting.

The workshops and storage areas can be independently accessed via separate 24-hour security entrance at the rear of the building though initially it is likely that its opening hours will reflect those of the Baltic.

It would be relatively easy to reconfigure the space to provide a workshop of around 750 square feet for new equipment and to offer access to the woodworking equipment.

BALTIC has a small premises alongside which currently houses its heating plant. If the maker space proves successful it could potentially move into this space when BALTIC's heating is replaced by a district heating scheme being launched by the Council planned to come on stream over the next two years.

BALTIC already has a number of skilled technical staff within its team, including people who are highly specialised in all aspects of exhibition creation and manufacture. The team is experienced in computer aided design, fabrication, carpentry and joinery, video and projection installation, electrical installation, lighting, ICT and Health and Safety and COSSH

regulations. It is likely, outside of key exhibition preparation times that they could provide some support to external users of equipment. As demand for the lab grows, then it will become possible to employ people dedicated to supporting the users of the lab.



8. FAB LAB COLLABORATION

There is a growing network of Fab Labs and maker spaces around the country, supported by the US based Fab Foundation. Sunderland University plans to launch a Fab Lab but at present there are no Fab Labs in the north east of England.

Fab(rication) Lab(oratorie)s started at Massachusetts Institute of Technology in 2006 and there are now more than 320 Fab Labs spread across 25 countries worldwide. In the UK, FabLabsUK was launched in 2011. It worries that the UK is falling behind and aims to create a network of 50 Fab Labs – supported by industry, commerce, academia, and local and

national government – across the UK by 2016. The most recent, Fab Lab London was created in partnership with the RSA. It is anticipated that BALTIC: garage will join this network and will sign the Fab Lab Charter.

BALTIC: garage will in time therefore be able to call on a growing network of equipment and expertise to support businesses and individuals who come looking for support but who find that perhaps BALTIC cannot immediately provide the support that they need as well as sharing ideas through the network.

9. HARNESSING THE RSA

It is important that this project harnesses the unique strengths of the RSA: 27,000 Fellows all with considerable skills, experiences and large personal networks; the action and research centre's rigorous research and practical experimentation; and the influential thought leadership of its world-changing public programmes and projects.

The RSA aims to meet 21st century challenges by showcasing ideas, undertaking innovative research and building civic capacity around the world. This collaborative project will contribute to delivering these aims locally: building on what is already working and aligning with the RSA's ethos and values.

It is also anticipated that the lab will tap into the RSA Fellowship to support individuals with particular new ideas

who are struggling, for example, with an overall design or who are looking for mentoring, coaching or consumer response. It may also be possible for users to tap into RSA's Catalyst initiative.

RSA Catalyst supports Fellow-led ideas that aim to have a tangible and positive social impact, providing financial support, expertise and help with crowdfunding to those looking to turn their ideas into reality and improve the world around them. £100,000 is given every year in grants, connecting project leaders to support from within the Fellowship and helping prepare, promote and run successful crowdfunding campaigns.

10. EQUIPMENT AVAILABILITY

As noted, BALTIC already has a wide range of equipment. This will be supplemented by new provision intended to reflect demand. MAKLab in Glasgow, for example, provides a wide range of equipment including 3d printing, 3d scanning, laser cutting and engraving, CNC milling, CNC router cutting, vinyl cutting vacuum forming, embroidery, sewing, a heat press, a function generator, an oscilloscope and a soldering station. Initially BALTIC: garage will install some key items of

equipment such as 3d printing. Beyond that, however, it will aim to respond to specific requests, to ensure that there will be sufficient demand for any piece of equipment before investing in it. MAKLab explain that they spent about £75,000 on equipment but estimate that a small provision could be made for around £45,000. BALTIC: garage believes that a budget of around £75,000 should be sufficient for the first three years.

11. USERS & PROMOTION

The facility will be promoted widely, through the local media, through the RSA's networks and through BALTIC's networks exploiting the exceptional reputation that the BALTIC technical team has established amongst the world's leading artists for being able to help them realise their ambitions through a very thorough and creative approach to technical challenges. It will be promoted to visitors to BALTIC. Crucially, it is anticipated that it will be used by students from further

and higher education – particularly Northumbria University – with whom BALTIC has a strong and existing partnership – leading the co-development of various collaborative teaching and learning offers. It will also be promoted to businesses in Gateshead and more widely. Indeed part of the excitement is the opportunity to promote collaboration between businesses and students on projects that will benefit both.

Users, whether individual or business, will be encouraged to become members and to pay an annual subscription. Members will then pay a nominal fee to use equipment intended to cover the actual costs of the activity. Non-users

will be encouraged to come and use the facility as well, but they will be charged a fee that more closely matches the total cost of the provision.

12. BUDGET

BALTIC is keen to investigate the provision of the workspace for this Lab and to involve its technical staff where they can add value and where capacity can be made available. There will be some cost in rearranging workshop areas etc which will need to be measured carefully. Beyond that the costs will be equipment and materials. A special offer for founder members could set subscriptions at £50 for individuals and £250 for businesses. It is anticipated that these might rise to £100 for individuals and £500 for businesses after the offer period ends. (For comparison, MAKLab sets individual membership at £144 and business membership at £432 which

gives discounts of 40-60% on their machine rates). Membership will also allow members to participate in a range of events that BALTIC and RSA will organise in order to encourage more creativity and imagination. There will be a need for some marketing but the main budget requirement will be for equipment. The provisional budget has been set at £80,000 in total. BALTIC expects to be able to find a contribution to this and is looking for at least three other sponsors each willing to contribute to making this project a reality.

13. NEXT STEPS

The BALTIC, Gateshead College and RSA are all committed to this project in principle. To make this a reality, there are a number of actions to be undertaken:

- BALTIC appoints a champion from amongst its staff to take the lead
 - Core partners set up small advisory group to provide support and ideas to the champion
 - BALTIC board agrees to rearrange workshops and storage areas to create a space to house more equipment than is currently available in the wood workshop
 - Champion and Gateshead College prepare initial equipment list (with reference to Fab Foundation)
- Gateshead College enterprise students plan and implement a public relations campaign to draw attention to the facility and to encourage use by businesses, students and others
 - RSA develops plans to engage the Fellowship
 - Champion seeks sponsorship
 - Champion finalises budget, agrees contribution with each of the partners and sets out membership/ usage charges
 - Champion plans and implements agreed changes to workshop and storage areas
 - Champion acquires equipment