

A PROPOSAL FOR A BUILT ENVIRONMENT PROGRAMME ACROSS FURTHER AND HIGHER EDUCATION, BEGINNING IN THE WEST MIDLANDS

A proposal to create an interactive project, beginning in the West Midlands, using the live canvas of Built Environment projects to promote careers and address skills gaps

'MAKE IT REAL'

Kathryn Lennon Johnson
CommunityBIM

January 2015

VERSION 3: Seeking Funding and Advisory Support



TABLE OF CONTENTS

Executive Summary	3
Introduction	5
Why	8
What	9
Where	10
Who	10
How	11
When	12
Conclusion	13
References	14
Appendices	14
Toolkit	
NAWIC careers book (summary)	

EXECUTIVE SUMMARY

The skills shortage in construction is currently everyone's biggest challenge

- The construction industry is facing what may be its biggest ever skills shortage after years of underinvestment in training.
- This is a heavily reported topic in recent times, with suggestions ranging from “making the industry sexier”, through flexible working and stress management, all the way to ever increasing numbers of (fairly unpopular) apprenticeships.
- This 10-year proposal (as a key part of the Construction 2025 strategy) seeks to launch a project using the real, physical, tangible Built Environment (in real and virtual form) to demonstrate the sector to young people. The intention is to ‘Make it Real’, because it touches all our working, social and homes lives every day in a very tangible and visible way.
- Since the demise of the schools careers service, governments have relied on businesses going into schools and selling, meaning that a comprehensive approach covering all schools does not exist. Businesses have suggested the current outreach to schools was piecemeal, even where there is good practice. Where businesses do commit to training and outreach, they often find themselves unfairly penalised when it comes to the balance between rising labour costs and pressure on margins. This proposal will co-ordinate and support all good practice, as well as providing outreach where none currently exists
- This proposal intends to create an interactive project, operating initially across the whole of the West Midlands (in order to start somewhere!), and using the live canvas of the Built Environment. All schools and further education institutions will be invited to participate, as will all construction businesses with a presence in the area. This will be augmented with involvement from all relevant supporting organisations (CITB, Local Authorities, RIBA, RICS, etc.) and actively promoted to residents and communities.
- On October 23rd 2014, NAWIC hosted an event at Coventry University for teachers and careers advisors to understand more about the Construction Sector. The intention was to demonstrate the spectrum of available careers from the perspective of student aptitude, rather than specific roles, allowing students to find their own place in the sector. The message was that the Built Environment needs everyone's input. Speakers talked about their hugely varied career paths to demonstrate that there is no right or wrong route. Attendees could show the specialisms and skillsets of their business and their staff. Schools, colleges and universities could see opportunities for their students, and also understand the role they play in creating the workforce. Future events ongoing within this proposal
- The live projects encapsulated in this proposal will include site visits, planning discussions, consultations, design meetings, community engagement, asset register collation, 3D augmentation development, etc, helping to remove some preconceptions of ‘dirty’, unskilled work by demonstrating breadth. This will work towards an improved image of the industry, and increased capability in the workforce
- All the content of this proposal will be hosted online via the Hot500 social network hub, for all students from Year 9 and onwards, connected through their schools, colleges and universities. Further

details about this platform are included within this proposal, but in essence this platform provides a real-time social network of conversations, images, opportunities and ideas.

- Much work has begun on the subject including the CITB's 'Educating the Educators' report of February 2014, and classofyourown.com ROOTS project in the NW, to create an ongoing, real-world way for students to experience the construction sector. This proposal seeks to combine the best of those programmes and create tangible action, beginning in the West Midlands and rolling out across the UK, and to celebrate and promote all the routes used to encourage young people into the sector. In this way, we can recruit for the current gaps and for future needs and opportunities.

“We want more people to realise the range and potential of working in construction”

Construction 2025

INTRODUCTION

Following the NAWIC event at Coventry University on 23rd October 2014, which brought together representatives from education and construction, a programme was created to address the needs identified by attendees from both the construction sector and the education sector. Guest speakers from a variety of construction employers told the audience at the event of their own career journey to date.

The event attempted to demonstrate careers that match student-level subjects and aptitudes, rather than trying to 'sell' any particular role. For example, messages and soundbites were encouraged that allowed teachers to identify a skill for maths as a possible Quantity Surveyor, or geography as a possible Geotechnical Engineer, for example.

There was, and continues to be, very high demand from local schools/colleges/universities for more information about the sector. Inevitably, the current growth of work and opportunity in the sector, alongside risk aversion and slim margins, means a push back from business in that they are unable to consistently commit that kind of resource to attending individual schools and giving large chunks of time. Many larger employers operate specific schemes to promote their own apprenticeships and encourage young people to their careers events, but these initiatives still require students to be aware of, and to consciously consider, careers in construction. Operating in these silos does not address the broader shortage, though this proposal intends to work alongside, support and reinforce all such employer-specific opportunities, joining up individual approaches on behalf of the broader sector.

This proposal is intentionally independent of any one commercial business, and neutral regarding specific disciplines of the sector, working completely cross-platform. Although the largest businesses in the sector naturally have the highest profile and the strongest brand recognition, it is also important to make young people aware of the contribution made by niche firms, innovative technology organisations, and businesses with a very local focus. The Board of advisors established by this programme will be equally representative

I believe the budget for this proposal is available from many sources – CSR, skills initiatives, start-up funding programmes – and could tie in very cleanly with the Design, Engineer and Construct GCSE that is currently gaining momentum in the North West. There is also the opportunity to tie in with extensive vocational training opportunities, but it is vital we are not asking children and young people to self-select. Instead, the Built Environment must begin by showing its value and relevance to them before they commit to an interest in it. This will also support diversity through non-traditional career routes

By creating this next generation of Built Environment enthusiasts (whether they go on to work in the sector, or not), we as the Built Environment community, and we as broader society, will benefit from the contribution of students towards developments that serve us better. Encouraging “non-traditional” aptitudes and enthusiasm (for English, Media, History, Politics, Fashion, Psychology or Sports for example) to actively contribute to plans and developments means that we begin to create the Management Consultancy/Banking Sectors employment model whereby contributions from all perspectives are relevant and beneficial. Diversity in gender, ability, background and academic aptitude is the goal, and this in turn could begin to protect the sector from cyclical economic factors.

As an anonymous planner commented when discussing proposals that are unpopular or not in keeping with local requirements, “Even if we know it’s the wrong thing to build, we can’t solve these problems ourselves [as the industry] as there’s nothing in the planning guidelines we can refer to. We can’t just say “people don’t like it””. By broadening the value that all skills bring to the sector, we can create a Built Environment that serves us all.

Another professional suggested, “We don’t do ourselves any favours in the sector – we must stop talking about construction as the thing you retrain for in prison”

Figures suggest that 1 in 6 people currently working in the Built Environment are due to retire in the next 10 years – although it is clearly vital that this knowledge, skill and wisdom is captured and shared, it also presents an ideal opportunity to modernise the sector, creating the industry as it needs to be for today’s society and workforce, as much of the ‘Old Guard’ will be part of those leaving the industry.

Terms of Reference

- All schools and further education institutes will be invited to take part. Students under 16 will be represented by their school. Further details are included within this document
- All Built Environment businesses will be encouraged to participate; size of business will not be a limiting factor. Further details are included within this document
- The core of the information will be hosted on and through the Hot500 social network site, a hub network working platform in partnership with enterprise education providers and other young entrepreneur networks, to enhance the level of support available to aspiring young entrepreneurs.
- There is an opportunity to enhance the enterprise skills and entrepreneurial opportunities for students, allowing them to generate revenue by addressing needs commercially, wherever and whenever appropriate. This could include additional web development by students with an interest in web programming, games development and technology for example, working again with the Hot500 and their own educational enterprise networks. More details are included within the body of this document.
- As quickly as possible, this programme will be combined with the introduction of the Design, Engineer and Construct GCSE. However, this programme is not exclusively for students who wish to *study* the Built Environment specifically, it is for all students from any aptitude to experience how their interests and expertise plays a significant part in the sector
- This programme will also seek to demonstrate the value of the Built Environment and the individuals and businesses that create it, by helping students and communities to understand the roles and processes. As a parallel aim, this programme will seek to increase the recognition and respect of all the professions involved, as an ongoing device to improve their perceived value (both esteem and financial)
- Many organisations, groups and institutions will play a significant role in the success of this programme, and some are highlighted in Who (page 8)
- Equally, this programme must deliver results and value to all those who participate, and some suggestions for those value metrics are outlined in When (page 10)

The Hot500 social network Built Environment website will host:

- Map of projects from the living regional canvas
- Calendar of events and opportunities (populated by businesses, communities and the students themselves)
- Database for capturing real-life Built Environment local impacts and comments (new or historic)
- Careers database, sorted by student aptitude, featuring videos and presentations by representatives from different professions, discussing their role (filmed by interested media students)
- 3D augmented model of the region with API data pull from sociographic sources (land values, quality of life, crime statistics, mental and physical health statistics) created by technology and programming students

- Example plans and workbooks for schools to use in creating their own internal Built Environment reviews and projects
- BESStv, featuring videos from site tours, client interviews, community reviews, consultation feedback, etc
- 'Walking tour' app, guiding people around recently completed developments to highlight impact and considerations

WHY



There is an urgent need to solve the skills problem, tempered with a complete lack of capacity and squeeze on funds in the Construction industry. On the other side, teachers and careers advisors don't understand the sector and can't do it justice: they are seeking support

Without immediate action, the lag will be at least 5 years, and could be more if young people aren't attracted into the sector in the interim. There is also the risk recruiting for immediate jobs that may no longer be relevant as the sector goes through such a significant period

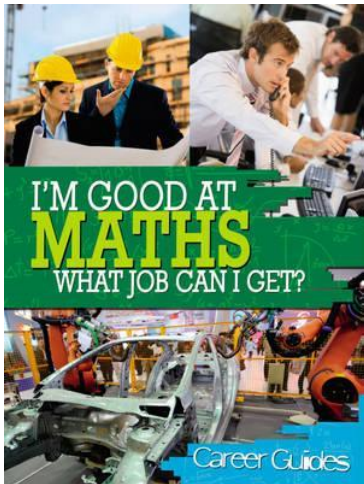
As the skills shortage takes hold, this will also impact the cost of delivery and the role of procurement. It won't simply be based on price, but on who can actually resource the work. This short term opportunity to make profits could be at the expense of the longer term sustainability of the industry.

This programme seeks to support students and young people as the new generation coming into the sector; however it also addresses the need for an older/experienced workforce by making the Built Environment relevant to Man on the Street, via local engagement in the programme

- 35% of careers advisers believe that construction is an unattractive career opportunity
- 44% of teachers admit to having offered ill-informed careers advice to students
- Over 60% of careers advisers in schools offer no information on jobs prospects based on available work

The Built Environment can't wait for these statistics to repair themselves. To achieve the Construction 2025 vision of becoming "a sector of choice for young people inspiring them into rewarding professional and vocational careers" and "we will not achieve our vision or meet our ambition... without radical, transformational change." It's not enough to simply continue doing what we've done in the past.

WHAT



This is a real, tangible opportunity to promote careers in the construction/engineering sectors, based on the skills and interests of the students, not just the specifics of a job role. Most Construction professionals agree that the role they currently do is not the same as the one they did when they joined the workforce, let alone the industry.

Taking architecture and the Built Environment to 'the people' allows the sector to display its breadth by using its strongest asset – real 'products' (i.e. buildings, roads, bridges, airports, clean land, etc)

We can use the live canvas of the Built Environment for students to explore their own skills/aptitudes, rather than limiting them with the specifics of role descriptions

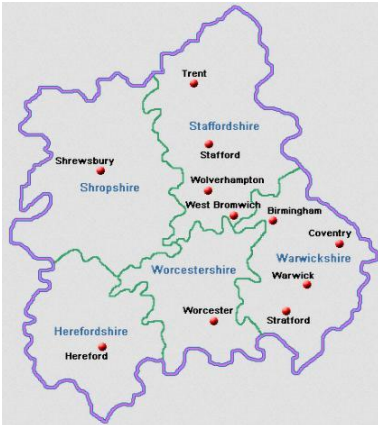
On a local level, there is no regional economic plan for Birmingham and Solihull – this could provide the foundation and ongoing content for it, as well as addressing similar problems in other areas across the country as the programme is rolled out.

CSR and HR are priority considerations for construction businesses. Businesses can't resource sending someone to every school, but this programme can support that same aim with a solution that is independent and employer-agnostic, ensuring the best Return on Investment for time, skills, resources and budget

We must involve community groups/residents/planners to develop live local examples and sites to visit for students. The shared experiences of stakeholders in previous projects will also provide valuable insight and guidance.

Success in the sector's strategic priorities (smart construction and digital design; low carbon and sustainable construction; and improved trade performance) depends on having a skilled, motivated and diverse workforce.

WHERE



To begin with, this programme will roll out across all schools, colleges and universities in the West Midlands as that is where it has already started. Very quickly (within 6 months) this programme will be available across the whole of the UK

By using a technology platform, this programme gives profile to companies, projects, developments and plan in a way students are comfortable. It is speedy, editable, flexible, accessible and consistent

An opportunity is immediately apparent for 3D augmented reality city models, to allow residents, planners, local authorities and developers the most holistic view of the environment as it exists, and how it would be altered.

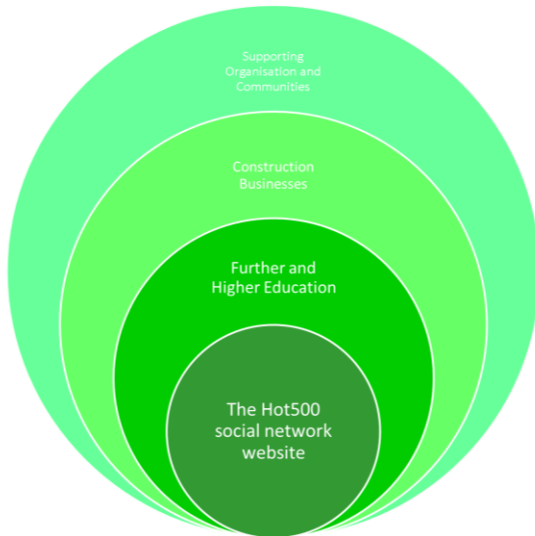
WHO

A starter-for-ten list of some of the hundreds of organisations that are already working in this area in some way, have a pressing need to address, or have students that need careers advice:

- Bellenden
- Big Bang Schools Fair
- Big Issue Foundation
- Birmingham and Solihull LEP
- BITC
- Built Environment Hub
- Chicks with Bricks
- CIOB #BuildingBritain initiative
- CITB
- Common Purpose
- Community TV
- Construction/Built Environment businesses
- Construction Industry Council
- Construction Leadership Council
- George Clarke
- Hot500 – social network for students across all WM colleges and universities
- ICE
- Local authorities
- MADE (Midlands Architecture and Design)
- NAWIC
- Oliver Heath
- Open Doors
- Prince Charles' Foundation for Building Community
- RIBA
- RICS
- Stephen Lawrence Foundation
- STEMNET
- The B Team
- WISECampaign

- WM schools, further and higher education
- UK-wide schools, further and higher education

HOW



What will each of these groups contribute and receive?

The Hot500 social network

- A secure online social network for students, focused on supporting enterprise
- Launched December 2014, currently trialling the platform with nine schools
- Over 750 students currently registered and active
- All students of (initially) WM schools, further and higher education will be invited to register (students under 16 will be represented by their school)
- BESStv

Further and higher education

- Each institution will be supported to identify at least one project of interest (problems in their school; local housing development; derelict buildings; community problems; health problems)
- Students could also chose to engage with a project identified through a construction business
- There is no competition for the 'best' suggestions – students can chose to focus on areas they are interested in, as all information and support is provided online
- Pack and workbooks for schools including map of regional projects
- Students to host planning/ resident consultations, where appropriate
- Students to work with local companies to map projects/assets in the area, where appropriate
- Students to visit active development sites, proposed sites or previous developments, where appropriate

Built Environment Businesses

- Engage all businesses to share their current and recent projects in the region
- Create profiles for each project to demonstrate scale, skills, etc

- Professional and Skills database – created from the perspective of school-level subject basis
- Database of Professionals and Trades – what do they do on a project?
- Site visits, procurement meetings, tours of supplier facilities, etc
- Active community engagement
- Problem-solving ideas and suggestions for nominated student projects
- Access to all schools/colleges/universities in England

Supporting organisations and communities

- Shared experiences from stakeholders on previous projects
- Identify local problems
- Collate as central resource for regional economic plan etc
- Input from police, NHS, Councillors, etc to discuss the impact of developments

Collectively, this information will populate the BESS social impact industry analysis

WHEN

Launched as a fully functioning pilot scheme from January 2015; currently seeking funding, Advisors and input
Be in place across the West Midlands by summer 2015

Launch in other regions from September 2015, with full toolkit and resources in place

ROI measures for employers

- Awareness
- Apprenticeships
- Graduates
- Trainees
- Fresh new ideas and approaches
- Opportunities to meet
- Hearts and minds
- Reduced skills gaps
- More efficient recruitment pipeline
- Stronger skill base through diversity
- Account manager providing opportunities and ideas
- Profile pages, projects and employee videos on skills database
- Relationship with local and national educational institutions
- Relationship with communities
- Increased recognition of professionalism and skills
- CSR and community engagement opportunities for staff development
- Better, more popular proposals and projects
- Mentoring
- More 'intelligent clients'
- Live projects will include site visits, planning discussions, consultations, design meetings, community engagement, asset register collation, 3D augmentation development, etc

ROI measures for education

- Employment readiness for students
- Parental engagement
- Improved employability statistics
- Secure online social network environment for students
- Career development opportunities
- Relationships with businesses and employers in the Built Environment sector
- Understanding of future careers landscape in construction
- Live projects and Built Environment issues to focus on
- Opportunity for students to create the role they want, if it doesn't already exist

Broader community benefits

- Addressing issues of local employment and dwindling skills
- Addressing issues of community cohesion and integration
- Addressing potential weaknesses in proposed or current developments
- Strengthening the understanding of the Built Environment, and recognition/respect for those working in it

CONCLUSION AND NEXT STEPS

- The skills shortage in construction is currently everyone's biggest challenge
- All companies approached (so far) would support this, and all schools/colleges are actively seeking support in promoting construction/engineering careers. Therefore, I am currently seeking funding, Advisors and input
- This proposal outlines an interactive project, operating initially across the whole of the West Midlands (in order to start somewhere!), and using the live canvas of the Built Environment. All schools and further education institutions will be invited to participate, as will all construction businesses with a presence in the area.
- All the content of this proposal platform will be hosted online via the Hot500 social network website, which is a platform for 16-35 year old students, visionaries and entrepreneurs, connected through their schools, colleges and universities.

Step 1) This programme has launched in the West Midlands, with resources and frameworks being finalised to move national by summer 2015.

Step 2) The Hot500 social network launched formally in December 2014, currently being trialled by several schools

Step 3) A high profile launch event will be held at Coventry University in Spring 2015

Step 4) A proposal pack for all schools, further and higher education institutions will be circulated in December 2014

Step 5) I will continue to seek input from key players in the Construction Industry to develop and hone the project, and identify sources of funding

Step 6) Budgetary proposals are being completed, but I anticipate this programme being financed by grants, funds and commercial businesses, as well as generating revenue through industry analysis and event coordination. To that end, I will continue to identify and secure financial support

REFERENCE LIST

Hot500	www.thehot500.co.uk
NAWIC	www.nawic.org.uk
CITB report	Educating the Educators, February 2014
Building Magazine	Issue 44, Stephen Beechey article
Dr Vince Cable's speech	Government Construction Summit, July 2014
	www.governmentconstructionsummit.co.uk
Design, Engineer and Construct GCSE	www.classofyourown.com
Open Doors	www.opendoorsweekend.co.uk/#what-is-opendoors
STEMNET	www.STEMNET.org.uk
WISECampaign	www.wisecampaign.org.uk
Prince's Foundation for Building Community	www.princes-foundation.org
HM Government	Construction 2025 Industrial Strategy

APPENDIX

Communications and Consultation Toolkit
NAWIC Careers Book, "Ask The..."