IT-enabled Grand Challenges Workshop

18 September 2018 • BRE, Bucknalls Lane, Watford, WD25 9XX

Hertfordshire Local Enterprise Partnership's Envoy Programme teamed up with world-leading building science centre BRE Group to host a one-day workshop, to explore how innovative ways of working can be applied to the Local Industrial Strategy's four Grand Challenges for Hertfordshire.

Towards a Local Industrial Strategy

The Industrial Strategy sets out how to improve productivity and build a Britain fit for the future - how to help businesses create better, higher-paying jobs in every part of the UK with investment in the skills, industries and infrastructure of the future.

Local Enterprise Partnerships have an important part to play in developing Local Industrial Strategies for their areas. Thanks to their private-public partnerships, they are uniquely placed to identify some of the key challenges and opportunities locally.

The Industrial Strategy sets out four Grand Challenges to put the UK at the forefront of the industries of the future. These are:

- Artificial Intelligence and big data
- Ageing society
- Clean growth
- Future of mobility

Each Grand Challenge will bring the public and private sector together to find solutions and make a real difference to people's lives. Underpinning the success of each Grand Challenge is modern technology, with solutions enabled by IT and cloud capabilities.

Hertfordshire LEP has been working with a number of key stakeholders across local government, research institutions, higher education and local businesses to gather evidence in relation to the

Grand Challenges and what the consequences are for future productivity and performance. Its Strategic Economic Plan identified five possible contenders:

1. Stevenage Space Science
2. Open innovation and life sciences
3. Agri-tech
4. Construction technologies/approaches and the Enterprise Zone
5. Enterprising communities

Hertfordshire's assets & the Grand Challenges

AI & data economy   Future of mobility   Ageing Society   Clean Growth

We have mapped these assets in relation to the Grand Challenges and, following extensive conversations, have identified three major areas that have the 'potential to drive regional and national growth, focusing on clusters of expertise and centres of economic activity'.

These are:
1. **Innovation District**: To support the regeneration of Stevenage and maximise the cell and gene therapy (life sciences) market around Gunnels Wood Road and the London-Cambridge corridor;
2. **Enterprise Zone**: To support the development of expertise in new construction techniques, maximising clean growth for the construction industry;
3. **Enterprising Communities**: To drive the mix of enterprise and housing provision in the development of new Garden Town Harlow & Gilston and the development in East and North Hemel.

Redefining Hertfordshire

INNOVATION DISTRICT   ENTERPRISE ZONE   ENTERPRISING COMMUNITIES

This new evidence base will be presented at the LEP's **State of the Economy 2018** event at the University of Hertfordshire on 30th November. A business survey will also be launched to check and challenge this evidence and its findings will feed into the development of the Local Industrial Strategy (LIS) to be agreed with Government by 2020.

As part of this process, Hertfordshire LEP's Business Envoys have been encouraged to bring their sector expertise and networks to co-create solutions to some of the Grand Challenges in Hertfordshire. The first Envoy to take up this challenge was **Chris Luff, Chief Executive, Watford and West Herts Chamber of Commerce and founder of Freedom Communications.** The resulting workshop will form part of the wider Local Industrial Strategy consultation process.

Who attended?

Chief Technology and Chief Information Officers across public sector and private sector organisations including Hertfordshire County Council, the district and borough councils, Hertfordshire Police, NHS, University of Hertfordshire and Watford Chamber of Commerce.

Objective

To understand what long-term IT and Cloud strategies are in place and how these solutions could be multi-purposed to support public sector organisations.

Desired outcome

To share IT best practice models and facilitate greater collaboration between the private and public sector, specifically in relation to Hertfordshire's Grand Challenges.

Consultations

To maximise the effectiveness of this workshop, 1:1 consultations were carried out prior to the event to collate a high-level view of county-wide infrastructure and cloud strategies, as well as priorities for the next 12 to 18 months, innovations in the pipeline and barriers to growth.

These were held with:
- University of Hertfordshire
- BRE
- Hertfordshire County Council
- Hertsmere Borough Council
- Watford Borough Council
- Dacorum Borough Council
- Hertfordshire Police
- Watford Community Housing

Perhaps unsurprisingly, there were a number of common themes discussed such as the impact of budget trends, the potential of technology to impact citizen services and skills.

As conversations explored what reducing and re-profiled budgets might mean, it was identified that there had not been much opportunity for this group of organisations to share or pool their requirements to drive efficiencies (although there are some examples of shared services in the county). The impression is that the cycles of existing investments and differing local priorities can make sharing extremely difficult to execute successfully. We hoped that the workshop would assist in building more relstionships

Delegates were generally excited about what new technologies could deliver for their organisations (e.g. bots). However, there were obvious questions about what new technology would mean for the livelihood of staff. This was both through skills becoming obsolete and also the efficiencies that these new services offer, reducing the manpower requirements of the business. There was also concern around the lack of skills to specify or deliver technical services on new platforms (i.e. the cloud). This

would appear to be an area where good practice has yet to emerge in the sector enabling and encouraging the evolution of technical skills in staff and teams that will enhance their own career and deliver innovative services to authorities.

Other interesting points of note were as follows:

- **Property & Infrastructure**: The public sector bodies around Hertfordshire have not yet made a strategic move to share property or infrastructure. For example, the police cannot touchdown in council offices, council staff cannot touchdown in libraries. Other counties have made significant savings both through estates rationalisation and more flexible ways of working while delivering better services across a strong but unified public sector footprint.

- **Connectivity**: The criticality of connectivity to flexible working and estates rationaliation was highlighted. An enabler to this are the govroam and eduroam Wi-Fi connectivity platforms which could be deployed more widely.The University has enabled this in its own properties but it is easy to see how students might benefit from this access in libraries or police and civic staff being able to use govroam in public spaces.

- **Awareness**: The Dementia Home demonstrator was not known about at all and has relevance to all public sector attendees. Primarily to the county council and housing trusts but also potentially to district councils before a citizen comes under the care umbrella.

- **Tech requirements:** There is some but not much sharing of areas of interest or upcoming technical requirements. Some delegates (both in the 1:2:1s and at the seminar itself) thought that pooling a shared view of interests and upcoming requirements may help.

- **Procurement**: Aside from capital or operational budget pools, procurement practices and policies took different approaches. The willingness to use frameworks to accelerate procurement or reduce cost differed greatly. It would be interesting to explore when standard offerings through G-Cloud are 'good enough', particularly if that would free budget to invest in more bespoke services in other critical areas of public sector business.

- **Financing**. Public Sector practices have typically meant that capital expenditure (capex) is easier to secure than operational expenditure (opex) which seriously impacts the scope and pace of transformation. With capex cycles being so slow there is little or no responsiveness to changing circumstances meaning that innovation is unintentionally stifled. This is in strong contrast to opex where bad investments can be turned off and good investments can be developed driving more responsive behaviour all round by forcing vendors to keep their customers happy.

Workshop format

Helen Webb, Director of Webb Strategy and former UK Managing Director of lastminute.com, gave an overview of the social, economic, and technical mega-trends that are fast changing our lives at work and home. Oliver Thompson explained how organisations and individuals can achieve smarter ways of working with growth mindset. The main focus of the workshop was based around roundtable discussions to canvas opinions on what the barriers and challenges facing our public sector organisations are - and what IT can do to facilitate better partnership working.

Delegates were asked to debate three high-level questions in the context of the Grand Challenges:

> ***Question 1:***
> How can we use technology to achieve our objectives and maximise the opportunities presented by mega trends?
> ***Question 2:***
> How could collaboration help the work you're already doing to address the Grand Challenges?
> ***Question 3:***
> What barriers (in your own organisation or those of co-creation) might prevent us from addressing the Grand Challenges?

Feedback and responses

Q1: How can we use technology to achieve our objectives and maximise the opportunities presented by mega trends?

1. Improve collaboration between buyers and suppliers:
   - G-Cloud / Frameworks to save money on 'good enough' common solutions (to invest where bespoke needs matter) and simplify procurement.
   - Meet the buyer / events to drive better engagement and enable more effective procurements.
   - Share problems (Buyers) and solutions (suppliers), in an extension of sot market testing, to solicit creative ideas.
2. Pooling requirements between buyers to share insights, evaluation effort and pool requirements.
3. Encourage suppliers towards shaping white label and off-the-shelf solutons based on customer feedback.
4. Sharing data - improved AI. Data was seen as critical to success and a strategy is required to identify the problems, approach and opportunity of the user case. In particular, for analytics to find insights and demonstrate evidence.
5. Open data – how is data in the county exposed so that other organisations and businesses can use it (similar to the TfL model) to deliver services to citizens.
6. Entrepreneurship / opportunities for others to develop apps.
7. Identify a Grand Challenge which would exploit a mega-trend and benefit the residents of Hertfordshire. Identify tech projects which could help solve the issue, e.g. ageing population.

Q2: How could collaboration help the work you're already doing to address the Grand Challenges?

There is already some public sector collaboration through the Multi Agency Service Hubs (MASH) although this collaboration is focused on service delivery, not service planning.

There was agreement that there was good opportunity for collaboration within the room, across the county and even beyond – e.g. with neighbouring counties. Specific procurement collaboration was agreed in the room by some delegates (Table 1).

One group suggested some guiding principles for collaboration:
- Maximise shared data collection and analysis (manual and automated).
- Increase efficiency by sharing resources where possible.

- Ensure solutions are easily accessible – self-service where appropriate and catering for those not technically literate (e.g. the elderly or those in care).

Several specific opportunities for collaboration include:
- Creating a register of existing activity.
- Joining up the service delivery and planning.
- Strategic workshop to identify mega trends opportunities (including CEOs to ensure buy in from the top).
- Set out a community challenge for Herts.

Observation: *Further collaboration might be facilitated by the use of social media eg. Grand Challenges LinkedIn group.*

Q3 What barriers (in your own organisation or those of co-creation) might prevent us from addressing the Grand Challenges?

- Cultural - changing the organisational mindset.
- Funding/costs - we need to align initiatives where possible to the Grand Challenges to improve chances of securing funding.
- GDPR / Cyber security across governance boundaries.
- Overcoming the tendency to work in silos.
- The risk of highlighting issues without solving / offering solutions to them.
- Adoption issues for those not technically literate (e.g. the elderly or those in care).
- Low budgets mean public sector is focused on service delivery rather than strategy development.
- Buy in from the top. CEO/COO need to value the opportunity for technology to transform their services and invest in skills.

Four initiatives were identified and need to be prioritised. The first three would help deliver the fourth:
1. Herts Open Data project (HOD) - collaboration of data analysts and scientists e.g. hackathon.
2. Internet of Things / People (with particular interest in the LoRaWAN IoT network in Watford).
3. Qualify out problems - to avoid having too many ideas.
4. Set the objective of having the ***healthiest and safest elderly generation*** (Hearty Herts?). Aim to improve quality of life and reduce social care costs, which are currently a huge part of the county budget. Identify tech solutions to age-related issues such as:
   a. Use big data from NHS/police/councils for early awareness and intervention.
   b. Gamification to address loneliness.
   c. Use video / technology to address loneliness and tackle stranger danger.
   d. Use technology to encourage activity and mobility.
   e. Smart technology / wearables for health monitoring.
   f. Use technology to reduce cost of healthcare e.g. reducing missed appointments, unwanted medicine, returning equipment, improving transport etc.
   g. Carebots - using AI to help reduce the burden on carers.
   h. Use technology to monitor elderly people's routines ('virtual neighbours') e.g. bank withdrawals, medication, travel, light sensors to spot curtains not opened. Flag anomalies.
   i. Collaborate with the next generation (Power of Attorney), who feel the strain of care the most.

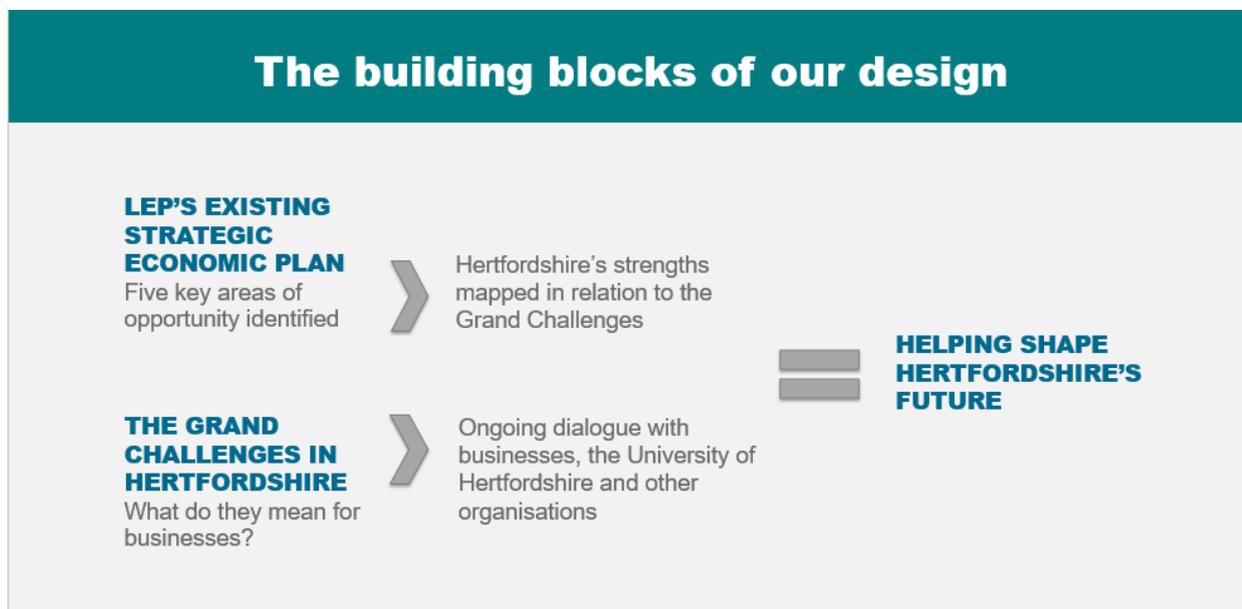j. Use familiar and existing technology wherever possible e.g. TV to minimise cost and increase adoption.

Caring for the elderly affects many across the county, not just the elderly themselves, but their friends, families and service providers. Innovation in this area would be almost universally well received.

Most adults know someone with dementia, or at least an elderly person with care needs of some sort. This particular Grand Challenge could therefore be a good place to start, in terms of uniting the community and motivating public and private sector collaboration - as well as delivering outcomes with strong impact on cost as well as customer satisfaction.

Next steps
- Hertfordshire LEP to send this summary and next steps to delegates with invitation to collaborate further on technical applications in relation to the fourth initiative (**Ageing Society Grand Challenge**).
- BRE to host hackathons to explore more fully the potential to apply tech solutions, outlined above, to the Ageing Society Grand Challenge.
- The event and any deliverables arising will be evidenced as part of the wider Local Industrial Strategy consultation and evidence-gathering process.
- Once progress has been made on this Challenge, the teams, IT expertise and processes can be applied to the other Challenges.

Industrial Strategy process

The building blocks of our design

LEP'S EXISTING STRATEGIC ECONOMIC PLAN
Five key areas of opportunity identified

> Hertfordshire's strengths mapped in relation to the Grand Challenges

THE GRAND CHALLENGES IN HERTFORDSHIRE
What do they mean for businesses?

> Ongoing dialogue with businesses, the University of Hertfordshire and other organisations

= **HELPING SHAPE HERTFORDSHIRE'S FUTURE**

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Hertfordshire Local Enterprise Partnership (LEP)

LEPs are partnerships between local authorities and businesses and play a central role in determining local economic priorities and undertaking activities to drive growth and the creation of local jobs.

Prior to LEPs, public sector-led Regional Development Agencies (RDAs) were responsible for regeneration, regional competitiveness, and the development of skills. LEPs now promote a business-led and more locally responsive agenda. Since their formation in 2011, the role of LEPs has expanded with each LEP now responsible for producing a strategic economic plan for their area, identifying barriers and solutions to growth and working with local partners to improve their business environment.

Hertfordshire LEP has, to date, secured £309m Government and EU funding to target investment where it is needed most. Find out more.

Hertfordshire LEP Envoy Programme

The Envoy Programme is made up of our private sector Board Members and a cohort of individuals drawn from a wide range of sectors, from organisations of all sizes. The Envoys work with the LEP as critical friends and external ambassadors, and help us identify and find solutions to some of the Hertfordshire's challenges. The Envoy programme is not a membership organisation, but a group of individuals with the collective aim to make Hertfordshire a better place to live, work and do business.

Watford and West Herts Chamber of Commerce

Watford and West Herts Chamber of Commerce represents the local business community – from micro to international organisations and serves to create new opportunities for all our members on an economic and social level by providing a wide range of services. Its Chief Executive is Chris Luff.

The Chamber of Conscience The Chamber of Conscience is a movement promoting companies to network for a social and environmental cause. The idea behind it stems from the need for companies to help develop the local business community and the people within it.