Appendix K   Speke-Garston, Liverpool, UK Initiative

Sustainable Broadband Communities: Creating a solution

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This paper outlines the intention of South Liverpool Regeneration (part of the South Liverpool Housing Group) to create a new business enterprise (NBE). The intention of this paper is to inform prospective partners and customers of our business capability, capacity and solutions.

Vision:
To create a growing sustainable NBE (Your TV/Your Broadband/Your Learning) which provides high quality, sustainable jobs for local people, and technological solutions to residents and business. The NBE will become a telco and a digital TV provider, and develop digital interactive communities by generating content that adds value, enriches users lives and increase profitability to businesses.

Business Activity:
The NBE will be a:
- Broadband supplier
- Digital TV supplier
- Network design & management consultant
- Digital interactive content designer, manager and deployer
- Specialist ICT solutions provider for combating social and economic exclusion

Aims:
1. To connect homes interactively via broadband technology and a digital TV platform
2. To provide digital content for residents which inspires use, enjoyment and interaction
3. To sell broadband and its profit-making capabilities to Small Medium Enterprises (SME's)
4. To utilise the network for further profit making enterprise
5. To provide a new access route to the services provided and information held by public and not-for-profit organisations
6. To create sustainable jobs and training opportunities
7. To demonstrate sustainability within 3 years
8. To develop a model, which can be tailored to the needs of partners nationwide
9. To develop a regional/national business footprint

Background: 'Your……' – an overview:
"your….." is a project of South Liverpool Regeneration, which is itself a part of South Liverpool Housing Group. The group's main focus is that of being a Registered Social Landlord that owns over 4000 properties in the Speke and Garston areas of Liverpool.

"your….." started out following the recognition that there was a need to improve communication between the organisation and its tenants, and to increase the level of their participation in the organisations activities. From this the Speke/Garston "Key" was launched.

The Speke/Garston "Key" had 2 main threads, the setting up and operation of local UK-online ICT learning centres, and the development and operation of a broadband, TV based local information and entertainment service. This would be used to meet the Public Sector requirements for the delivery of services electronically by 2005, and provide new and innovative ways of working within the organisation itself. Unfortunately,

for Speke and Garston there was no existing broadband communications infrastructure hence the need to provide it.

The Key opened its four learning centres in August 2002, and since then work has been focussed on developing their operations and finalising plans and architectures for the wired-up element of the project. During this process it became apparent that "Speke Garston Key" was not an ideal brand for the project hence the "your……." was born.

"your….." consists of 3 main component operations:

- Your TV
- your Broadband
- your Learning

Your TV: This is the community based residential information and entertainment service that has four main content areas, which are: Free to view digital TV and radio, broadband internet and e-mail services, local information services such as travel, housing, advice, housing, etc and the fourth area is "local Stars". This consists of both live and recorded programming that focuses on local people doing local things. An example of this is "Spot Kick" which focuses on local junior league football. 'Your TV' runs on an ADSL network. 'Your TV' is free to 100 residents during its pilot phase and thereafter it will be subscription based with separate rates for Speke & Garston residents, compared to others.

Your broadband: In order to make 'Your TV' sustainable, there is a need to generate revenue. The easiest way to do this is to sell broadband network solutions to local businesses who at this time are unable to get such services from other providers save by costly leased line installation. This makes sense since we already need to provide the DSL network for 'Your TV'. This network is provided through the process of local loop unbundling, using an existing telecoms provider who holds the required telecoms licences. SME's pay competitive market rates for their services.

Your Learning: This strand takes in the operation of the four existing learning centres, but also reflects their role as content creation engines for the "local stars" elements of 'Your TV'. In that guise they will focus on developing large scale, interest based learning programmes, to entice residents back into learning.

These three elements together create the capacity to become a major regeneration force within the area through the upskilling of residents, increasing demand for new media services within the area, and new media business start-ups, and finally through the increased potential competitiveness of all local businesses through the increased availability of state of the art communication services.

Technology - the network:A wide range of potential network solution was examined including wireless, fibre, DSL. For residents the service needs to deliver 4Mb downstream into each home for the effective streaming of MPEG2 TV, and high quality video on demand (VOD) services. Upstream speeds can be significantly lower in the order of 256 to 512kb. These speeds should not be confused with Internet speeds, which will be limited to 512kb downstream. This can be compared to local area networks in most organisations which are connected internally with fast Ethernet 100Mb connections but which are connected to the Internet via much slower connections.

In the case of businesses, they will have the option of either an ADSL (asymmetric DSL service) of SDSL (symmetrical DSL service). ADSL usually provides faster access to data downstream than upstream and is well suited to Internet usage, whilst SDSL provides the same upstream as downstream speeds. This service is ideally suited to organisations

that send out considerable volumes of data and expect to large amounts back, such as publishers etc.

DSL uses BT's existing copper infrastructure to deliver data over the "last mile" with data being brought into or close to the exchange using fibre optic links. These links are known as "backhaul". Our model uses Independent Networks as our telecom provider, and they will install a street cabinet outside the phone exchange. This is then connected to the copper in the exchange via a tie cable. In the street cabinet sits a device called a DSLAM. This is a high-speed switch that prepares the data for transmission over the copper phone lines to homes and businesses. DSLAMs can be populated with different electronic cards according to whether ADSL or SDSL services are required. A DSLAM can deal with up to 900 line connections, and up to 2 DSLAMs can be fitted in a street cabinet. Cabinets are air conditioned and heated so they have monthly running costs associated with them.

Having got the data on to the copper phone lines it will then be received in homes and businesses, and it then needs to be taken off the copper using a DSL modem. This is otherwise known within the industry as CPE (Consumer Premises Equipment). This presents the data in an Ethernet format for delivery to Set Top Boxes (STBs) or to PCs or network hubs. To still use the phone line for phone calls, a splitter is required (£3) these are usually bought by consumers. Most of the above elements appear in both capital and revenue sheets of the forecasts as they involve both purchase and or installation costs, and operating costs.

In terms of different user groups, the types of equipment provided will be as follows:

- SME – CPE only
- Non Speke & Garston Resident – CPE only
- Speke & Garston Resident – CPE & STB.

The Head End:This term describes the equipment needed to serve the services across the network.

STBs are relatively dumb animals. They contain little in the way of processing or storage capability, hence the need to serve them only what they need, and the moment it is no longer needed the serving must stop. Compare this to the PC environment, which is processing and storage rich, and allows for relatively inefficient use of the machine, and the option of running lots of different programmes at once.

Our head-end can be split into three main areas, Free view TV, Video on demand, and Internet, e-mail and other applications.

Free to view TV: Provided by Tandberg, this equipment is extremely expensive since it has to deal with 26 concurrent channels hence 26 times the amount of equipment! There are lower cost solutions to providing this if the network has a greater bandwidth, but that is even more expensive to provide.

Video on Demand (VOD): This service has hardware provided by Sun Microsystems, and software provided by Kasenna. Licence fees are based on bandwidth available from the unit.

Internet, E-mail & Other Applications: This has hardware and software provided by Sun. The initial configuration is adequate for up to 10,000 users.

Other services and applications can be added on to the above such as gaming, voice services, pay per view TV etc. These will incur extra head end expenditure, and will bring

additional income. The viability of these will be dealt with on a case-by-case basis according to demand.

Area of deployment:
Initially within the multiply deprived, Speke & Garston Areas of Liverpool, the area borders John Lennon Liverpool Airport (fastest growing in Europe) and is surrounded by high-density retail and small to medium enterprise (SME).

Project Rollout: The project will be rolled out on an exchange-by-exchange basis, starting with Hunts Cross, then moving onto Cressington and Hale within Speke & Garston. After that exchanges in neighbouring areas such as Netherly Valley and Runcorn will be enabled. Broadband sales to residents and SMEs from outside Speke & Garston do not all however have to wait for later exchanges to be enabled since Hunts Cross & Cressington exchanges are located near the boundaries and connect to significant cross boundary areas.

Local Market (Speke and Garston):
16,000 residents
600 SME's

Partners:
As Joint Venture partners with South Liverpool Housing Group:
- International Centre for Digital Content (part of Liverpool John Moores University)

As Project Delivery Partners:
- Sun Microsystems
- Tandberg Television
- i3 Micro
- Kasenna
- Independent Networks

As funders
- Government
- North West Development Agency
- Housing Corporation
- SRB Partnership
- GMLSC
- Glaxo
- South Mersey Partnership

As Advisors:
- The Housing Corporation

The project is overseen by a Steering Group with representation from 15 local enterprises and community organizations.

The Bigger Picture (our business)- The Main Program
We are developing a business that will focus on providing solutions to a market of:
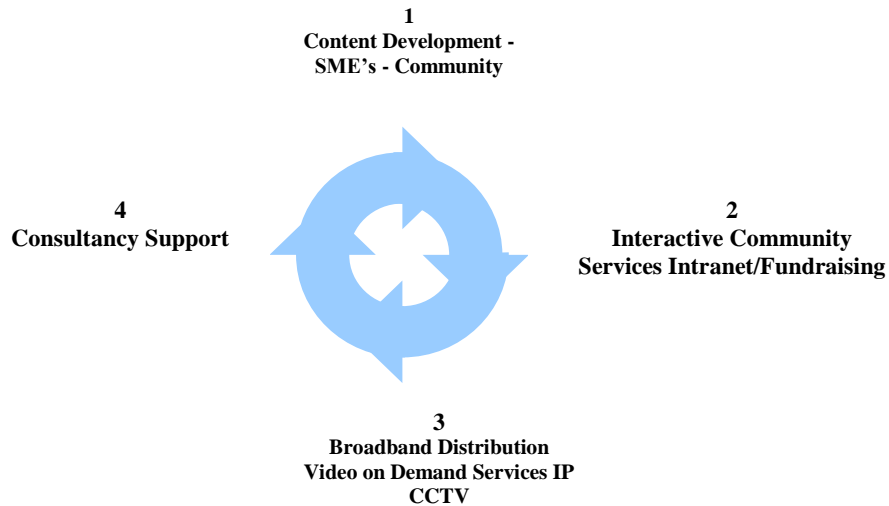
Local
- Housing Associations (30,000 homes in Liverpool)
- Local Authorities (60,000 homes in Liverpool)
- SME's (20,000)

National
- Housing Associations nationwide
- Authorities nationwide

So far these markets are under-developed, lack co-ordination, and technical knowledge to secure the best deal from private sector service providers.

The 'Your TV/Your Broadband/Your Learning' NBE Model:

1
Content Development -
SME's - Community

4
Consultancy Support

2
Interactive Community
Services Intranet/Fundraising

3
Broadband Distribution
Video on Demand Services IP
CCTV

Our model will have 4 component elements:

1. We will design, develop and sell content to other providers
2. We will continue to fundraise into the project
3. We will buy and retail broadband to business and residential users. Other revenue generating services such as Video on Demand and Voice over IP are being researched to be deployed, after the pilot phase.
4. Consultants and solution providers to our partners and customers (other HA's and Developers)

**We will have a designated sales team to create the market and manage demand.

Other supporting Information: Partners and suppliers

In bridging the digital divide and wiring up communities, no one organisation can achieve sustainability. It will require greater economies of scale and increased partnership/network collaboration because of the cost and complexity of deploying the technology and infrastructure.

We have researched the technology for over 2 years and have gathered a network of suppliers who have in many cases developed an international customer portfolio. We are now in a position to move forward with our own localised network and in tandem develop the main programme business case.

Your part: As partners

'Your TV/Your Broadband/Your Learning' are now seeking the involvement of other organisations.

We can provide solutions, which generate both social and economic benefits to residents & businesses. To date we have identified and understood the market and built our business accordingly. We now have the opportunity, capacity and resources to continue our growth and construct an enterprise, which will produce enormous benefits across sectors.

Join us in our vision.

All questions arising from the paper should be directed to:

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