

South Yorkshire Creative & Digital Industries Study

Section 1 Performance & Potential 2000-2015

Sero Consulting with EKOS Consulting & Inspiral

for Renaissance South Yorkshire

November 2007

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Thanks

When **Sero, Ekos and Inspiral** were appointed by Renaissance South Yorkshire to undertake this study, it was recognised that local businesses, CDI sector experts and public stakeholders should make an essential contribution to the value of the outputs.

We received an outstanding response from across Barnsley, Doncaster, Rotherham and Sheffield.

The **business consultation** involved a survey to which there were 186 responses from South Yorkshire businesses and sole traders, of which 20 agreed to participate in follow on interviews:

- Capex Health
- Deviate Design
- FD Hospitality
- FD Tek
- Finger Industries
- Fluent Europe
- Idigicon
- Iris Associates
- Jennic
- Music Factory Entertainment Group
- Northend Creative Print Solutions
- Quba New Media
- Riviera Multimedia
- Tech Dept
- TechnoPhobia
- The Designers Republic
- The Workshop
- Tuna Technologies
- Wired Workplace
- Zoo Digital Group

A total of 33 **stakeholders**, from the public sector and also intermediary organisations and CDI sector experts, took part in 6 focus groups and a number of personal interviews:

- Catherine Adcock, Rotherham MBC
- Andrew Ainsworth, Barnsley MBC (BDA)
- Steven Bird, Doncaster MBC (3D)
- Colin Bryant, University of Sheffield
- Huw Champion, Consultant to DKE
- Carol Cooper-Smith, Barnsley MBC (BDA)
- Andy Curtis, Creative Sheffield
- Steve Dann, Doncaster MBC
- Graeme Dent, Digital Region
- Mike Dunne, Barnsley MBC (BDA, Creativity Works)
- Keith Evans, CIDA (Creativity Works)
- Darren Green, Sheffield Hallam University
- Andy Gutherson, Doncaster MBC

- Jack Hobbs, Digital Region
- Malcolm Kay, DKE
- Chris King, Fluent Europe
- Simeon Leach, Rotherham MBC
- Geoff Link, Rotherham MBC (RIDO)
- Richard Lukey, BLSY
- Martin Manning, MSquared Ventures
- Yvonne O'Donovan, Ambel
- Amanda Parris, Rotherham MBC
- Mark Pittaway, Learning Light
- Mark Sanderson, University of Sheffield
- Chris Scholey, Renaissance South Yorkshire
- Paul Thorpe, DKE (LETS)
- Bill Webster, Doncaster College
- Nick Wild, Music Factory Entertainment Group
- Rob Wilmott, Quba
- Peter Wood, Sheffield Technology Parks
- Lucy Wurstlin, Melt
- Chris Wyatt, Barnsley MBC (Remaking Barnsley)
- Simeon Yeats, Sheffield Hallam University

Consultation and validation also included presentation of the draft findings to the **Renaissance South Yorkshire Board**, chaired by Sir Hugh Sykes, and also to the RSY inward investment partners in the four Local Authorities.

Last but not least we are grateful for the support of the **Steering Group** established by RSY to guide this assignment, which included representatives from each local authority and from Yorkshire Forward, chaired by Tony Newson of RSY.

We trust you will value these contributions as we do.

David Kay, Sero Consulting (Project Director)
Karl Dalglish, EKOS Consulting
Grant Keir, Inspiral

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Executive Summary

1. Scope

The 2007 GVA Grimley 'South Yorkshire Land & Property' study for Renaissance South Yorkshire (RSY) identified the Creative & Digital Industries (CDI) as one of four sectors with the potential to drive the growth of a high value knowledge economy in South Yorkshire. The significance of CDI lies in high GVA, pervasive impact on other sectors and suitability for city and town centre locations. This perspective has been reinforced in the sector strategy adopted by Yorkshire Forward (November 2007).

The principal objective of this study is to assess the current CDI sector position and the prospects for growth, thereby identifying niche (or sub-sector) strengths and areas of potential growth, across the sub-region and in each of the four Local Authorities. The study represents a vital opportunity to develop a selective focus for specialist and differentiated support.

The scope of the study was restricted to the four YF sub-sectors regarded by RSY as most significant to South Yorkshire in terms of volume and business value – Design, ICT, Media & New Media, Print & Packaging.

With these objectives in mind the study gathered evidence from

- economic research and projections (Section 2)
- a local business community online survey yielding 180 responses (Section 3)
- interviews with 20 key respondents (Section 3)
- 6 district and sub-regional stakeholder focus groups (Section 4)
- high level research on comparable UK and European regions

2. Findings

Official statistics for the South Yorkshire CDI sectors indicate strong growth in companies, jobs and value to 2005 from a low starting point in 2000. Whilst closing on Northern leaders such as the Leeds and Manchester city regions, the position of Bristol, Cambridge and the South East remains beyond easy reach. It is significant however, that growth is evidenced as continuing to 2005, without the dips experienced by other regions around dotcom boom and bust.

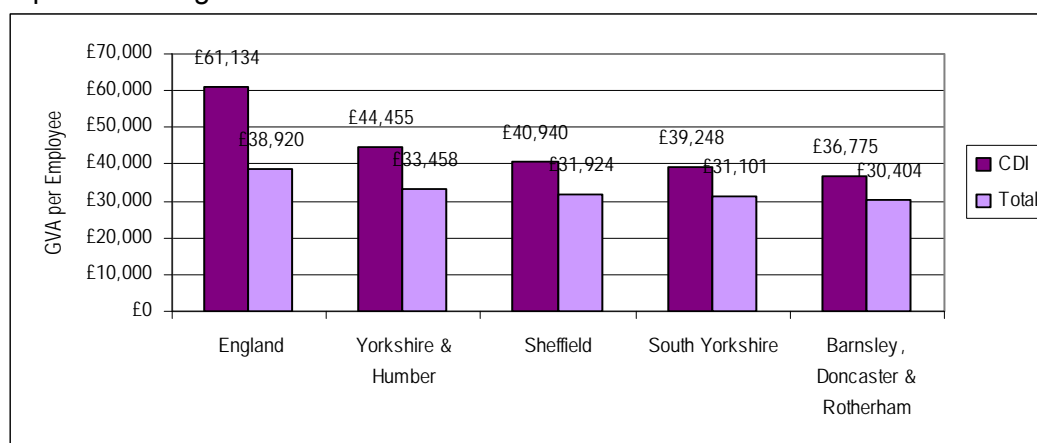
Businesses	In 2005, there were 3,239 SY CDI businesses.
	The 15% growth rate of SY CDI businesses (2000-05) is far higher than the regional CDI growth rate of 5%. Nationally CDI businesses fell by 4%.
	93% of SY CDI businesses are micro-enterprises (1-10 staff).
Employment	There has been a 25% increase in SY CDI employment from 12,361 to 15,465. This is a faster increase than in the SY economy as a whole.
	This is a skilled workforce of which 54% are associate professional and technical employees and 32% are professionals

GVA	The GVA of the SY CDI sector (the value of wages and profits) is approximately £610m.
	The SY CDI GVA per employee is £39,248, higher than the average for South Yorkshire of £31,101 across all industries. GVA of the CDI sector in South Yorkshire is therefore more than 25% higher than for the economy as a whole.
Locations	Sheffield, North Derbyshire and North Nottinghamshire have driven the employment growth in the Sheffield City Region from 2000-05.
	The 9,174 employees in Sheffield in 2005 represent 59.3% of all CDI employment in the sub-region, greater than its 40.4% share of population.
	Sheffield is the fastest growing UK City Region (2000-05) in this sector.
Sub-Sectors	The ICT sub-sector dominates SY CDI in employment terms (49%) and is even more significant in terms of GVA.
	The largest percentage growth in employment (2000-05) within SY CDI is in the Design sub-sector,
Growth Scenario	A mid-range economic scenario projects an increase of over 5,500 new high skilled jobs in SY CDI from 2005-15, raising CDI employment to over 21,000.
	Based on current levels of GVA (nearly £40,000 per employee), this would produce an extra £220m GVA by 2015, rising from £610m (2005) to £830m (2015).

Most significantly, the projected growth scenario is in line with the views of businesses. As illustrated in the following table, over 90% of survey respondents predicted long term growth. The breakdown by sub-sector is closely aligned to the trends indicated in the 2005 statistics, with a high proportion of ICT and Design businesses expecting to experience strong to moderate growth.

	Grow a lot	Grow a little	Stay as it is or shrink
Next year	42.3%	46.4%	11.3%
In the longer term	62.9%	30.3%	6.7%

Furthermore, the GVA statistics not only illustrate strength relative to the wider sub-regional economy, but also a level of regional and national competitiveness indicative of potential for growth.



Within the CDI grouping, overlapping functions and changing processes cause some businesses to be classified in a misleading manner. This may be a positive result of computerisation of processes and roles, convergence of design, ICT and media and the emergence of specialist web and cross-platform businesses. Analysts should therefore look for combinations of Design, ICT & New Media, in these convergent and mutually dependent growth areas.

Furthermore, we should not be backing any one of these three against the others. We will however argue, in terms of the South Yorkshire CDI proposition and the core capability of the sub-region, that Design represents a most important focal point and catalyst for continuing growth. This is strongly illustrated in the growth of the web and related demands for e-commerce, systems integration and graphic design. This type of activity is explicitly reported by 44% of businesses and will be a driver for more.

Whilst Sheffield represents almost 60% of all CDI employment, there is clear evidence of growth throughout the sub-region.

- **Barnsley** has benefited from strong growth in CDI, especially in Design and ICT related activity
- **Doncaster** shows least distinction between sub-sectors though Design is significant
- **Rotherham** has a growing CDI sector, highlighted by Design performance
- **Sheffield** has experienced continued growth, based particularly on IT and Design

The prognosis of continuing growth is reinforced by our knowledge of developments that have taken place in 2005-07, not yet reflected in the statistics but evidenced by

- Inward Investors
- Performance of High Growth companies
- Mergers & Acquisitions on the international stage
- Positioning of local players in advanced markets
- Growth of the internal sub-regional ICT market

Based on this evidence, the sub-regional commitment to the CDI sector should be predicated upon

- Growth track record with predicted continuity in the short and medium term, evidenced by both economic statistics and individual business plans
- The role of CDI as a principal enabler of the knowledge economy in terms of workforce, services and innovation
- The pervasive importance of CDI across all growth sectors, from AEM to tourism, from healthcare to logistics.

3. Recommendations

The report makes recommendations involving public intervention in 6 areas:

- Location
- Premises
- Niches
- Business Support
- Innovation
- Market Proposition

3.1 Location

Evidence of other successful UK and European locations with a strong CDI focus, survey evidence and interview feedback, indicates that CDI sector growth is particularly dependent on 7 environmental drivers:

- HE Synergy
- Workforce
- Quality of Life
- Premises
- Transportation
- Industry Players
- Local Market

In each of these areas, there is evidence in South Yorkshire that public intervention has made and can continue to make a vital difference to CDI performance. The recommendations focus on 15 interventions of specific value to CDI businesses and practitioners. Several are already in hand, having considerable momentum, but should be reviewed in the light of this study. Others require strategic focus if South Yorkshire is to fulfil its CDI potential – notably the role of Higher Education, the workforce and transportation.

Area	Recommended Intervention
HE Synergy	1. Engagement - match research and commercialisation capability with CDI focus and vice versa
	2. Landmark Centres – ensure key HE centres, such as the Design Futures CIC, are part of the sub-regional landscape
	3. Progressions – ensure there are relevant courses from Foundation Degree to Masters
Workforce	4. Incoming Pool - draw in and retain more intermediate & higher skilled workers
	5. Indigenous Pool – ensure young learners from 14 are offered CDI opportunities
Quality of Life	6. Town centres – emphasise transformation of residential, business and leisure use
Premises	7. Ownership – open up the potential for ownership of prime small business premises (e.g. 2000 -5000 sq ft)
	8. Availability – evidence suggests businesses will be attracted to high spec modern premises with a broad focus on CDI
	9. Digital Suitability – use the ‘ICT Active’ digital kite mark to differentiate premises
Transportation	10. Usefulness of airport – improve access and expand business destinations
	11. Rail links and train types to London – improve services to Rotherham and Sheffield
Industry Players	12. Attractors – consider the supply chains and networks that may build around significant local SMEs
	13. Extended families – exploit the businesses that spin out of established winners as important catalysts
Local Market	14. Demand stimulation – support growth of the local ICT market, especially amongst SMEs to create a virtuous circle
	15. Specific incentives – the local authorities can ‘incentivise’ use of online processes

3.2 Premises

In order to provide for predicted growth and to enhance the South Yorkshire CDI proposition, it is recommended that partners should

- Ensure each borough has flagship CDI property for start-up & grow on
- Consider the wider CDI presence in town centre planning
- Develop the local premises ladder
- Embed key organisations in major builds
- Promote 'ICT Active' accreditation
- Review availability of freehold property

Related to these recommendations, two local authority developments should be considered

- **Doncaster DKE build** - The onward potential of Doncaster may be restricted by the failure to develop the CDI proposition and notably the property element. Doncaster needs a CDI-centric build, focused on the needs of CDI companies which will also appeal to a wider range of applied technology organisations (for example, in design). It is emphasised that this is not the same as a building akin to a technology institute, focused on a tight niche with an implied pattern of shared activity and 'public' use.
- **Rotherham Technology Corridor:** A broader based CDI property strategy should be considered in the next phase of the RMBC master plan, which might involve one or a combination of developments along the corridor from the civic centre to the M1

3.3 Niches

Five niches are identified within the footprint of this study which demonstrate significant potential for CDI growth and for wider cross-sector impact.

- Design
- Interactive Media
- Mobile
- ICT Services
- Healthcare Technologies

Beyond the scope of this study, we note two leading opportunities relating to wider CDI strengths in the music industry and next generation computer hardware.

The predicted growth will involve jobs, company births, inward investment and strong GVA. The scale of growth to 2015 is projected as follows

	To 2015	New Jobs	New Companies	GVA	Company Range
Design		1000+	c.100	High	Micro>Small
Interactive Media		100s	10s	Very High	Small>Medium
Mobile		100s	10s	Very High	Small>Medium
ICT Services		1000+	c.100	Good	Micro>Large
Healthcare Technologies		1000+	10s	High	Small>Large
Total		c. 4000	c. 250	High	

These high growth niche prospects, potentially 4000 new jobs and 250 new companies, do not represent the full CDI-wide growth potential and take no account of the ripple effect of such technologies and services across the wider CDI sector and in the wider economy. The five niches do however represent a high proportion of the 'middle ground' estimate of 5000 new jobs projected in the Economic Analysis section of this study.

There is a high degree of synergy between these niches in terms of technology and market opportunity and potential cross-benefits. Nevertheless, each has its specialist challenges and opportunities. It is therefore recommended that sub-regional partners should tailor interventions ranging from business support to innovation strategy to the specific requirements of innovators, entrepreneurs and businesses in each of these niches.

3.4 Business Support

The study has identified a portfolio of 14 business support activities, falling into 5 areas. Very little, if any, of this business support can be generic. It demands specialist inputs. It is therefore recommended that these inputs will require a combination of CDI focused business support organisations and key individuals.

Business Support Recommendations	Recommended Niches				
	Design	Inter-active	Mobile	ICT Services	Health Tech
1. Specialist Market Making					
1.1 Technology & Trend Tracking					
1.2 Sales & Marketing Skills					
1.3 Value Chain Development					
1.4 Business Model Identification					
1.5 Specialist Mentor Roles					
2. Capacity & Capability					
2.1 Key Employee Breakthroughs					
2.2 Graduate Pull Through					
2.3 Just in Time Skills (all levels)					
3. Innovation					
3.1 R&D Seed Corn					
3.2 University linkages					
4. Finance					
4.1 Money with Management					
4.2 Funding & Exit Strategies					
5. Inward Investment					
5.1 Track influential players					
5.2 High Speed Reaction					

3.5 Innovation

Given the historical and economic context of the SY CDI sector, there is a clear requirement for a distinctively sub-regional flavour of innovation support. Whilst the South Yorkshire approach will be wholly aligned to the objectives of the RIS, it should neither assume that the key knowledge and expertise lies mainly in the universities nor that a traditional demand stimulation model is applicable.

Most fundamentally, the cultivation of an innovation strategy of value to the South Yorkshire CDI sector should take account of business-to-business and practitioner-to-business as well as HE driven channels.

The priority is to ensure sustainable future growth for this vital sector, based on the capability of businesses, entrepreneurs and inventors to operate within a culture of innovation, opportunism and commercialisation. In this context, three areas of intervention are recommended.

- **Innovation Centres** – providing physical focal points for high impact themes (e.g. design, advanced connectivity) and catalytic opportunities (e.g. next generation computing, healthcare technologies)
- **Supply Chain Support** – using such as Innovation Specialists to provide specialist support to connect technologies, to build supply chains and to access markets ahead of the breaking wave
- **Innovation Competitions** – broadening the Melt programme model to create windows of opportunity to support the smallest businesses and for individual inventors and entrepreneurs to research and develop speculative ideas, individually and in partnership

3.6 Marketing Proposition

Local Authority feedback on developing the CDI marketing proposition shares common ground in terms of vision and requirements. Emphasis is placed on developing **reputation** (especially sector reputation), enhanced through a compelling **brand** and linked with sub-regional **quality of life**. This must be backed by confidence in and evidence for the breadth and depth of **skills and expertise**. These shared perceptions lead to recommendations that

- The partners should work together to develop a South Yorkshire CDI brand linked to a marketing strategy that can be applied flexibly as development and investment opportunities occur.
- The sub-regional CDI proposition should take account of lessons learned from successful CDI locations, avoiding both the meaninglessly generic and the microscopically focused, ideally selecting a theme with multi-faceted connotations and leveraging historic strengths.
- RSY might assist the wider process by engaging marketing experts to explore, further detail and test the idea of 'Design' as the core CDI proposition in the local and the sub-regional contexts. The 'Design' theme may be replaced by any alternative which emerges during this process.

1. The Creative & Digital Industries Sectors in 2007

1.1 Introduction

1.1.1 Background

The 2007 GVA Grimley 'South Yorkshire Land & Property' study for Renaissance South Yorkshire (RSY) identified the Creative & Digital Industries (CDI), as one of four sectors with the potential to drive the growth of a high value knowledge economy in South Yorkshire. The particular significance of CDI lies in

- Delivery of high GVA employment across the sector
- Ripple effect on most other sectors as ICT and digital media become pervasive in business
- Suitability of city and town centre locations, compatible with master plans

This recognition of the digital industries as a growth driver has been reinforced in the forward sector strategy adopted by Yorkshire Forward (November 2007).

Consequently, CDI and Advanced Manufacturing are the two sectors identified at both regional and South Yorkshire sub-regional levels.

The principal objective of this study is to assess the current CDI sector position and the prospects for growth, thereby identifying niche (or sub-sector) strengths and areas of potential growth, across the sub-region and in each of the four Local Authorities.

The previous phase of investment was focused on broad sector (or 'cluster') development in terms of business support, sector networks, finance, skills and underpinning property and digital infrastructure – as in Objective 1 Priority 1. Despite attempts to drill down in specifying business plans for such as e-Campus (2003), the emphasis has been on overall growth – across the sub-region and across the breadth of the 6 sub-sectors within the Yorkshire Forward CDI definition.

This study represents a vital opportunity to align economic development strategy with new ways of working and investing, involving selective focus leading to specialist and differentiated support.

1.1.2 Scope

The scope of this study was restricted to the four YF sub-sectors regarded by RSY as most significant to South Yorkshire in terms of volumes (Electronics being most significant in West Yorkshire) and business values (notwithstanding the global success of South Yorkshire music acts in the wake of the Arctic Monkeys, Music and the Performing Arts exhibit a very different economic model).

Design	√
ICT	√
Media & New Media	√
Print & Packaging	√
Electronics	X
Music & Performing Arts	X

There is no doubt that the cluster has grown in the period 2002-7. However, there is a strong case in 2007 to be made for building sustainable specialty on top of those broad foundations. Specifically, South Yorkshire partners need to identify

- The potential for growth above and beyond Sheffield, taking account of connections with West Yorkshire, North Nottinghamshire and North East Derbyshire
- Niches that present opportunities suited to Barnsley, Doncaster & Rotherham as well as Sheffield, taking account of such as the indigenous CDI base, focal employers, supply chain and geography opportunity
- Ways to shape support packages to these individual needs and niches
- Means of presenting that proposition, not simply to traditional inward investors but to any business with potential to break through to the next level

As well as providing the right strategy, the resulting approach must impact RSY and wider public investments – notably identifying the target niches and support required to leverage the specialised workspace investments at the Barnsley Digital Media Centre (DMC) and the proposed Doncaster Digital Knowledge Exchange (DKE).

With these objectives in mind the study gathered evidence from

- economic research and projections (Section 2)
- a local business community online survey yielding 180 responses (Section 3)
- interviews with 20 key respondents (Section 3)
- 6 district and sub-regional stakeholder focus groups (Section 4)
- high level research on comparable UK and European regions

1.1.3 Sector Growth

Official statistics for the South Yorkshire Creative & Digital Industries sectors indicate strong growth in companies, jobs and value to 2005 from a low starting point in 2000.

It is most significant that the growth is evidenced as continuing to 2005, without the dips experienced by more advanced regions (e.g. London and the Thames Valley) around dotcom boom and bust (2000-3).

Businesses

- In 2005, there were 3,239 SY CDI businesses.
- The **15% growth rate of SY CDI businesses** (2000-05) is far higher than the regional CDI growth rate of 5%. Nationally CDI business numbers fell by 4%.
- 93% of SY CDI businesses are micro-enterprises (1-10 staff). This is especially true for Design (95% micro). ICT has experienced significant growth in the proportion of small businesses (11-49 staff).

Employment

- There has been a **25% increase in SY CDI employment** from 12,361 to 15,465. This is a faster increase than in the SY economy as a whole in which CDI employment has increased from 2.6% to 2.8% of the employment base.
- At 2.8% employment, SY CDI is smaller than the national average of 4.8%;
- This is a skilled workforce of which 54% are associate **professional and technical** employees, 32% are professionals and 14% are in the skilled trades. The profile is broadly similar regionally.

GVA

- The turnover of SY CDI businesses is approximately £1.18bn.
- The **GVA of the sector** (the value of wages and profits) is approximately £610m.
- The SY CDI **GVA per employee** is £39,248, higher than the average for England across all industries (£38,920).
- The SY CDI sector is less productive per employee than regionally (£44,455) and nationally (£61,134), though this is not wholly negative

Sub-sectors

- The **ICT sub-sector** dominates SY CDI; this sector is significant in employment terms (49%) and even more significant in terms of GVA.
- The largest percentage growth in employment (2000-05) within SY CDI is in the **Design sub-sector**, increasing by 65% from 1,500 to 2,500. Nationally and regionally Design growth has been more modest – 21% and 10% respectively.

Locations

- **Sheffield, North Derbyshire and North Nottinghamshire** have driven the employment growth in the Sheffield City Region from 2000-05.
- The 9,174 employees in Sheffield in 2005 represent 59.3% of all CDI employment in the sub-region, greater than its 40.4% share of population.

Comparators

- Sheffield is the **fastest growing UK City Region** (2000-05) in this sector.
- From 2000-05 the Sheffield City Region experienced a major increase in employment (up by 32%) whereas both the Leeds and Manchester City Regions experienced a decline, significantly in Manchester (-6%).
- CDI businesses only make up 6.4% of all SY businesses compared with 9.6% nationally. This is a large gap but there is tangible evidence of significant and **ongoing growth**.
- At 2.8% SY CDI is catching up with the UK in CDI employment but remains behind the national average of 4.8% (Y&H employs 3.3%).

Growth Scenario

- A mid-range economic scenario projects an increase of over **5,500 new high skilled jobs** in SY CDI from 2005-15, raising CDI employment to over 21,000.
- Based on current levels of GVA (nearly £40,000 per employee), this would produce an extra **£220m GVA** in 2015.

1.1.4 Clarity & Focus

The comparative performance of the six CDI sub-sectors defined by YF is open to misinterpretation on account of

- Inadequate classifications – a large number of business report themselves under the generic 'other' codes
- Diversity within the high level SIC groupings – this is particularly true of Print & Packaging (ranging from digital print to mechanical packaging, the latter being distant from any CDI scoping)
- Business change - Overlapping functions and changing business processes cause businesses to be classified in a misleading manner. For example, web operations are likely to be covered under ICT or Design and not New Media. This is a positive result of computerisation of processes and roles,

convergence involving design, ICT and media and the emergence of specialist web and cross-platform businesses

This simple observation illustrates that we should be looking at elements of Design, ICT & New Media together in order to track these convergent and mutually dependent growth areas.

Furthermore, we should certainly not be backing any one of these three against the others.

We will however argue, in terms of the South Yorkshire proposition and the core capability of the sub-region, that Design represents a most important focal point and catalyst for continuing growth.

1.2 Comparative Performance

1.2.1 Other City Regions

The Sheffield City region is identified as the fastest growing UK City Region over the period 2000-05 in terms of growth in this sector, notably outperforming both Leeds and Manchester, with reported evidence of continuing growth to the current time.

At 2005	CDI Employment	Proportion Total Employment	% Change 2000-05
Sheffield CR	20,790	2.9%	32%
Newcastle CR	22,954	3.2%	16%
Nottingham CR	15,472	4.7%	8%
Liverpool CR	29,830	3.3%	7%
Glasgow CR	27,801	3.3%	5%
Bristol CR	28,305	5.4%	5%
Birmingham CR	41,130	3.2%	-1%
Leeds CR	50,428	3.9%	-1%
England	1,090,021	4.8%	-3%
Edinburgh CR	19,790	4.5%	-3%
Manchester CR	58,848	4.0%	-6%

This might be explained in terms of cyclical growth patterns – Leeds and Manchester made a better start in the 90s based on core strengths respectively in such as ICT underpinning financial services and entertainment. It is argued that Sheffield is in turn finding its level, which will lead to a steadier pattern in the period following catalytic city and town centre regeneration.

Furthermore, analysis should take account of the influence of Objective 1 investment and the extent to which new businesses, jobs and rates of growth are sustainable after the cessation of interventions such as IFG (Invest For Growth) and JIGSAW (Job Interview Guarantee Scheme).

However, South Yorkshire should be encouraged by related factors:

- The sub-region and / or specific districts is well placed to take advantage of the reported 'overheating' of Leeds, Manchester and even Cambridge, on account of quality of life, cost of living and other business factors
- Core strengths in advanced materials and manufacturing and in logistics are powerful cross-sector drivers for ICT and design specialties
- The Sheffield universities have considerable strengths in the application of digital technologies both to high end futures (in such as bioscience, nanotechnologies, materials and electronics) and to the core demands for applied IT across all business sectors.
- The continued strength in small and medium sized indigenous businesses, albeit reflecting historic negatives, is a particular characteristic of CDI in South Yorkshire; this may prove to be a significant asset contributing to longevity in the longer term.

Finally we should understand the nature of the next cycle and target growth sectors in our neighbouring city regions so South Yorkshire can grow with them rather than

afterwards (as we witnessed in the past decade). The developments around BBC North in Salford present a vital example.

1.2.2 Beyond the UK

A dozen European regions and cities have been identified that provide a useful comparison to South Yorkshire and its CDI sector, illustrating show either a well developed strategy or evidence for predicted growth.

- Austria, Salzburg
- Bulgaria, Plovdiv
- Finland, Tampere
- France, Sofia Antipolis
- Germany, Baden Wurttemberg
- Ireland, Shannon
- Italy, Sestri Levante
- Italy, Turin
- Netherlands, Amsterdam
- Netherlands, Eindhoven
- Netherlands, Utrecht
- Spain, Barcelona

The more developed regions have focused on areas of specific economic strength, consistent with our focus group recommendations. The less developed regions, significantly so in most cases, exhibit a tell-tale generalised view of CDI strengths and / or focus on very specific specialties (e.g. e-learning) which clearly relate to individual companies, research units or policy ideas.

There are several overarching themes that can be identified in the case of those regions that have achieved a high level of visibility:

- Funding has been allocated to specific targets.
- Historic factors have been leveraged as the backbone of regeneration and development.
- Having achieved a level of maturity and sense of direction and specialty, a strong, cohesive and innovative regional identity and branding is created.
- The most apparently successful avoid generic statements, focusing on a broad niche and it's components

The following websites are selected to be of interest from CDI, regional economic development and marketing perspectives.

Austria, Salzburg – A focused profile in Technology

Salzburg Research

http://www.salzburgresearch.at/company/index_e.php

The Salzburg Technology Centre

<http://www.salzburg.gv.at/en/en-index/en-wirtschaftsbg/en-technol.htm>

Bulgaria, Plovdiv Region – a CDI Sector with “huge potential”

GrowthClusters.com

<http://www.growthclusters.com/index.html>

Bulgarian Association of Information Technologies
<http://www.bait.bg>

Finland, Tampere – A region of hi-tech and scientific specialty
The Finish Funding Agency for Technology and Innovation
www.tekes.fi

France, Sophia Antipolis – A purpose-built technology R&D Park
Sofia Antipolis
<http://www.sophia-antipolis.org>

Germany, Baden-Württemberg – a German home for IT and Media
Fazit Forschung
<http://www.fazit-forschung.de/index.php?id=1&L=3>

Baden Wurttemberg
http://www.baden-wuerttemberg.de/en/Our_State/86236.html

Karlsruhe Institute of Technology
<http://www.kit.edu/fzk/idcplg?IdcService=KIT&lang=en>

Republic of Ireland, Shannon – A well-developed knowledge network
Shannon Development
<http://www.shannonireland.com/>

Italy, Torino Internazionale – ‘Creativity and knowledge led regeneration’
Torino Internazionale
www.Torino-internazionale.org

URBACT website
<http://urbact.eu/>

Netherlands, Amsterdam – “I Amsterdam”
Kennisland | KnowledgeLand
<http://www.kennisland.nl/en/index.html>

I amsterdam
<http://www.iamsterdamcard.com/>

Netherlands, Eindhoven – “Brainport”
Brainport Eindhoven
<http://www.brainport.nl/>

Netherlands, Utrecht – ICT roots, growing a gaming culture
Utrecht Investment Agency
<http://www.utrechtinvestmentagency.nl/idcce/welcome>

Utrecht SmartSite
<http://www.utrecht.nl/smartsite.dws?id=89560>

Dutch Creative Industry and figures
<http://crossmediacommunication.blogspot.com/2005/12/dutch-creative-industry-and-figures.html>

Spain, Barcelona – The enterprise capital of Catalonia

Barcelona website

<http://www.bcn.es/english/ihome.htm>

Barcelona: Innovation

http://w3.bcn.es/V42/Home/V42HomeLinkPI/0,3555,83057194_83070514_3,00.html

Barcelona Business

http://w3.bcn.es/V44/Home/V44HomeLinkPI/0,3655,71420027_75408511_3,00.html

Barcelona Knowledge

http://w3.bcn.es/V48/Home/V48HomeLinkPI/0,3839,70731677_70768215_3,00.html

1.2.3 Looking East

In the face of competition from cheaper and more agile locations, there is understandably an underlying concern about future projections for any digital sector, especially with reference to commoditisation and replicable services (e.g. software coding, volume content and service centres).

In the current cycle, the threat from the East is potentially debilitating – from the accession countries, from the Indian sub-continent and perhaps ultimately from China. Combating competition from highly cost-competitive economies is the subject of macro-economic research beyond the scope of this study.

In this context, the sub-regional commitment to the CDI sector should be predicated upon

- Growth track record with predicted continuity in the short and medium term, evidenced by both economic statistics and individual business plans
- The role of CDI as a principal enabler of the knowledge economy in terms of workforce, services and innovation
- The pervasive importance of CDI in all growth sectors, from aerospace to tourism, from healthcare to the logistics.

Given that 'bleed' of CDI technologies and skills across our economic base, it is essential that the sub-region keeps the faith and applies support in a manner that is informed by the wider potential as well as the proven and projected CDI business growth. In this respect it is hugely encouraging that areas of greatest CDI growth include widely applicable design and convergent media capabilities as well as critical mass in core ICT.

1.3 Local Business Validation

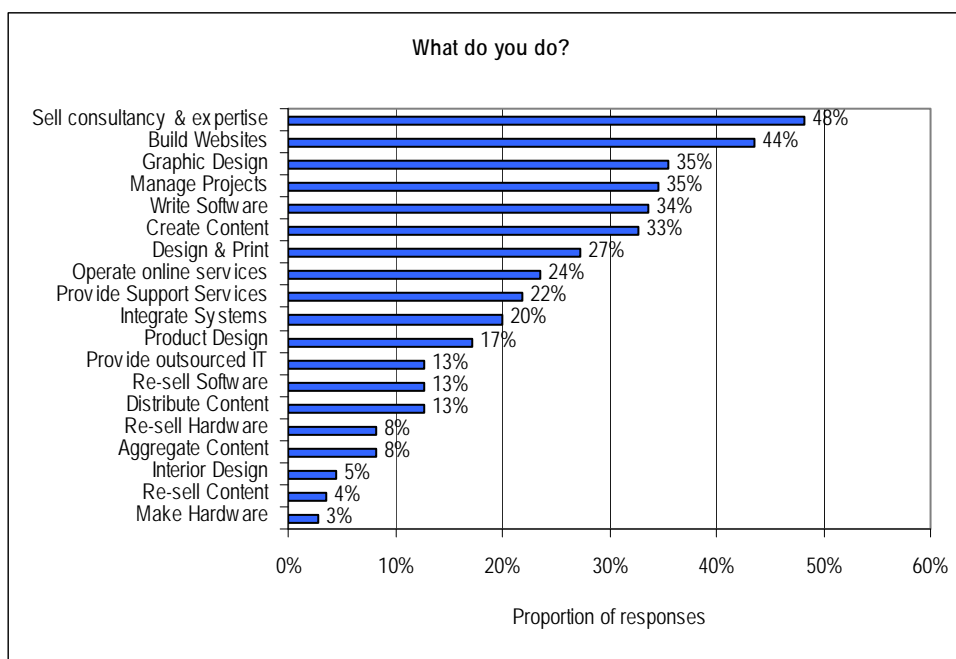
The sub-regional CDI business survey provides validating evidence of

- Focus & speciality
- Continuing growth from 2005
- Current capacity
- Future Prospects

The results are detailed in Section 3 of this report.

1.3.1 Business Focus

The range of businesses responding is not untypical of the profile of the sector derived from the economic analysis in Section 2. The following table illustrates the balance of activities, with businesses making multiple choices.



1.3.2 Business Prospects

Most significantly, over 90% of the survey respondents predict significant long term growth.

	Grow a lot	Grow a little	Stay as it is or shrink
Next year	42.3%	46.4%	11.3%
In the longer term	62.9%	30.3%	6.7%

These predictions are even stronger in the four target sub-sectors.

By district, around 50% of these Barnsley, Rotherham and Sheffield businesses predict high growth prospects in the next year, whilst Doncaster businesses are less optimistic at 38%. Meanwhile Rotherham has more businesses expecting to stand still or shrink in the next year than the other districts. We should however recognise that this is affected by a relatively small sample size.

The prognosis by sub-sector is closely aligned to the trends indicated in the 2005 economic statistics. A high proportion of ICT and Design businesses expect to experience strong to moderate growth. Digital Media is more mixed with a high number of businesses predicting strong growth but a relatively high number foreseeing decline.

1.3.3 Areas of Strength

The business areas expected to grow most strongly span the IT, design and new media sub-sectors

- IT**
- ICT support
- ICT integration systems
- Convergent middle ground**
- Writing software
- Building websites
- Design & New Media**
- Graphic design.
- Design & print

The growth of the web and related demands for e-commerce, systems integration and graphic design continues to have a strong and positive impact. This type of activity is explicitly reported by 44% of businesses and will be a driver for more.

Selling consultancy, project management and other expertise is also high on the list, typically reflecting high value added revenue streams being developed by successful businesses in areas ranging from IT to corporate design. This type of activity is reported by 48% of businesses. It is an encouraging trend, illustrating credibility, confidence and differentiation from competitors simply supplying products or low level services.

Conversely, South Yorkshire businesses are typically not involved in intermediate markets involving low volume / high value activities such as reselling hardware or software and aggregating / distributing content.

Relatively few businesses supply directly to consumers, by far the largest exception being those offering photography services, though this may change as digital technologies become more prevalent across society, especially in the area of IT services.

Finally, businesses confirm that there are few if any originators of core technologies in South Yorkshire. Whilst this presents food for thought for the university community and in shaping the Regional Innovation Strategy in the South Yorkshire context, it does not necessarily diminish from overall CDI prospects. Businesses are however active in exploiting breaking market technologies in specific areas. Most cited technologies are: Wireless & mobile services (39%); Social networking (Web 2.0) (34%); and Web Services (SOA - service oriented architecture) (30%). In addition Cross-platform developments are rated highly in the IT sub-sector and HD video in the media sub-sector.

1.4 Growth Pipeline

1.4.1 Developments not reflected in 2005

The prognosis of continuing growth is reinforced by our knowledge of developments that have taken place in 2005-07, which are not yet reflected in the statistics.

Highlights are as follows.

- Major Inward Investors and Growth Companies
 - Bull (Barnsley)
 - Capex Health (Barnsley)
 - Johnston Press (Rotherham)
 - Line (Sheffield)
 - Polestar (Sheffield)
 - Seams (Sheffield)
 - Thales (Doncaster)
 - Zoo (Sheffield)
 - Small but potentially influential developments, including Eon Reality in partnership with DKE (Doncaster).

- Mergers & Acquisitions in the international stage – all significantly planning to maintain or build on the acquired South Yorkshire base, as previously with ARM and Tribal
 - FDI Solutions to OCLC
 - Fluent to Ansys
 - Lightworks to Autodesk
 - NCS to Pearson

- Strong positioning of local players in advanced markets
 - E-Commerce
 - Mobile
 - Cross platform
 - Public Sector IT solutions in education, healthcare and utilities

- Ripple effects of growth or of ‘overheating’ elsewhere
 - Leeds overspill to Barnsley & Wakefield
 - CDI presence on the Don Valley and Parkway corridors

- Growth from a very low base of the internal sub-regional digital market
 - SME adoption of the ICT systems such as accounts
 - SME web presence
 - SME use of email
 - The public sector market remains a possibility of unfulfilled potential

1.4.2 Planned developments with future impact

Adding to the predicted growth profile, we have identified significant areas where the public sector can and should make a vital contribution. This section lists a ‘Top 20’ of developments, interventions and trends known to be under consideration that have the potential for a catalytic impact leading to ongoing CDI growth.

Higher Education Presence

1. University College Barnsley, providing a pipeline of local and incoming students
2. Doncaster College, building on the High Melton bridgehead and leading to University College and eventually University status

World Class Innovation

3. University of Sheffield III/V Centre and potential for future generation computing, linked to nanotechnology and bio-science excellence
4. Positioning of the Sheffield Hallam University Design Futures CIC
5. Potential partnerships around the Digital Region and Doncaster DKE entities

Specialist Property

6. The Barnsley portfolio, developing strongly in both town centre and motorway business park locations
7. Rotherham plans for Templeborough with its Magna technology link, presenting potential for a technology themed corridor linking to the town centre riverside development
8. Doncaster has potential projects suited to different types of technology businesses in the proposed new DKE build, the next phase of DBIC and the Airport business park
9. Sheffield Digital Campus, enhancing growth on opportunity as well as benefits of scale and proximity to SHU, CIQ as well as city centre and rail links
10. Potential to build on nationally recognised incubation excellence, as demonstrated by Sheffield Technology Parks

Digital Region

11. A world class infrastructure for doing business, including stimulation of the internal consumer and business markets
12. Opportunity for 'close to market' R&D and market making in applied digital services

Geographic linkages

13. Barnsley opportunity in the Leeds City Region
14. Extended potential of the Sheffield City Region, incorporating North Notts and NE Derbyshire, including Chesterfield, Worksop and Junction 30
15. Position of Doncaster on the potential 'A1 Technology Corridor', linking Cambridge and York
16. Global business access through Robin Hood Airport

Market Making

17. The established international profile of the Documentary Film Festival, potentially linked to wider Creative Sheffield objectives
18. Learning Light, facilitating market opportunity for Sheffield's world leading e-learning niche
19. BBC North, adding significant value to the digital media supply chain and acting as an inward investment driver beyond Salford
20. Synergies with the 'Yes' Project based on capability of consortium partners such as BT & DKE to create a high profile public demonstrator platform

These public developments are incorporated in the Recommendations set out for each of Sections 2 to 7.

2. Successful Locations

2.1 CDI Criteria

Review of the performance and the outward facing propositions of successful locations (not only regional capitals) in the UK and Europe gives rise to the following observations:

- **Niche identification is very important**, though low level focus can be detrimental in terms of both vision and image – compare, interactive media or even cross-platform with content (too high) or e-learning (too low)
- **Size is not everything** – for example, home counties towns like Reading in the Thames valley seized a unique moment in ICT
- **Growth can be driven through very small locations and niche support** – ICT success in NE Derbyshire is closely related to M1 Junction 30 developments
- **Conjoined neighbours can deliver mutual benefits** – the relationship between Gateshead and Newcastle has positive lessons for such as Sheffield and Rotherham which should be studied in depth.

Based on a review of other UK and European locations with a strong CDI focus, survey evidence and interview feedback, we suggest that sector growth is particularly dependent on seven environmental drivers, all of which are 'must haves' in the CDI proposition:

- HE Synergy
- Workforce
- Quality of Life
- Premises
- Transportation
- Industry Players
- Local Market

Given all seven, a region may have the platform to differentiate itself from leading competitors. In the case of the UK, from the Sheffield City Region perspective, those competitors might be Bristol, Cambridge or Manchester.

Whilst it is arguable that they are important to other sectors and more generally in ensuring a platform for growth, the seven factors are reported for their specific importance to the Creative & Digital Industries.

2.2 South Yorkshire Assessment

The 7 driving factors are presented in descending order of perceived status in 2000, with a high level indication of the 2007 prognosis.

Driver		2007 Prognosis
<p>HE Synergy</p> <p><i>We need three things, two out of three would help but none of these are certainties.</i></p>	<p>We need the annual priming of the entrant workforce, corporate commitment to relevant world class research and strong working engagement with the applied technology sectors (such as new media and materials). As a rapidly advancing technology driven sector, CDI should be inextricably entwined with the HE agenda. The Sheffield HE community however suffers from a legacy of looking in other directions in the 1990s when the cards were dealt for IT and digital media as we now know it. However, we are on the verge of two new plays – with digital technologies pervading all sectors and with the long haul challenge of life beyond silicon. Both Sheffield universities currently excel in this context (e.g. Design Futures, Materials CIC, AMP linkages, nano- and bio-computing). Furthermore, the engagement of the universities of Hull in Doncaster (especially in logistics) and Huddersfield in Barnsley (notably in digital media) is a becoming a practical reality.</p>	<p>Low momentum</p> <p>but potentially rising</p>
<p>Workforce</p> <p><i>The knowledge economy is about people, full stop.</i></p>	<p>It is increasingly recognised that applied ICT and digital media present opportunities for an intermediate workforce and not exclusively for graduates. Whilst that trend may inform a long term skills strategy (underpinned by 14-19 Reform), the short term reality is that South Yorkshire has near full employment, with few people on the job market in higher qualification bands. It will be increasingly important to consider integrated strategies such as that the attraction of HE incomers to form businesses in a familiar setting – as made possible by the adjacent University College and business property developments in Barnsley.</p>	<p>Rising</p> <p>but potentially blocked without incomers</p>
<p>Quality of life</p> <p><i>The lifestyle of CDI practitioners at work and play is driven by flexibility, educated taste and disposable income.</i></p>	<p>The types attracted to these sectors typically have a higher than average interest in the countryside, active sports and the cultural offer. It is highly attractive when these can be enjoyed from the same location – as is the case in South Yorkshire but not in London.</p>	<p>Rising</p>

Driver		2007 Prognosis
<p>Premises</p> <p><i>Premises and property issues inhibit longevity more than preventing inward investment.</i></p>	<p>An appropriate business premises strategy should recognise that</p> <ul style="list-style-type: none"> • CDI businesses are predominantly small (less than 10 employees) and that will remain the case on balance • CDI businesses see benefits in loose clustering in terms of culture, networking and supply chain. However, that does not mean that managed workspaces should mandate a black and white SIC code entry ticket. • CDI owners will aspire to acquire business property to increase assets (digital assets count for very little in balance sheet terms) and as a pension strategy • Whilst local players would welcome being in a landmark building with a significant anchor tenant, price, place and parking will always be paramount. 	<p>Rising</p> <p>but potentially blocked without ownership opportunity</p>
<p>Transportation</p> <p><i>The digital industries are not so virtual that they don't travel.</i></p>	<p>Consider the assets of the Thames Valley, Cambridge and Bristol. Perhaps driven by the weak internal ICT market in the 90s, our growth companies are heavily involved with London and overseas markets. In this respect we should question whether the prognosis is as good for Sheffield as it is for Doncaster in terms of road, rail and air transport.</p>	<p>Rising</p>
<p>Industry Players</p> <p><i>Given access to all the world, the network you can see and touch is of increasing importance.</i></p>	<p>The presence of catalytic industry players is important – but not necessarily in the typically assumed sense of majors in the same sector, such as a Microsoft or the BBC. Whilst these present a location selling point, as far as businesses are concerned, similar benefits can accrue from the relationship of digital niches with other high growth sectors of local strength and world class potential. In South Yorkshire we should look to the relationship of digital specialists with AMM, BPFs & and logistics.</p>	<p>Potentially Rising</p>
<p>Local market</p> <p><i>Local business demand is a driver of critical mass to complementing underlying world class specialties, offering some guarantee of sustainability amidst wider cycles.</i></p>	<p>The biggest inhibitor of CDI growth in South Yorkshire has been the very weak internal market arising from the collapse of traditional industries and exacerbated by the mindset of surviving SMEs and relative failure to access local public sector business. The annual regional Business ICT Survey indicates visible but slow recovery, illustrated by the upturn of businesses with websites. We can therefore predicate steady CDI growth on the close-to-certainty that a massive majority of businesses will be IT, e-commerce and web dependent by 2012.</p>	<p>Rising</p>

2.3 Scope for Improvement

Based on the qualitative feedback gathered through interviews and focus groups, the relative standing of the 7 factors introduced above may be presented as follows.

The 2015 projections identify likelihood and opportunity for further improvement of SY CDI conditions, distinguishing between the two forces for change and transformation

- **Momentum** – developments naturally building on critical mass and achievements to date, including the results of public intervention; for example, private sector commercial property development (See Premises)
- **Policy On** – developments dependent on ongoing public sector investments; for example, city and town centre regeneration programmes (See Quality of Life and Premises)

These forces are seen to operate both sequentially (see Premises) and concurrently in a mutually dependent manner (see Workforce).

Most significantly, it is suggested in all 7 areas that continued public and institutional intervention can lead to sustained momentum in the medium term.

Key

2015 - Possibility	?
2015 – Policy On	*
2015 – Momentum	+
2007	
2000	

S C A L E	South Yorkshire as a Successful CDI Location						
	7 Factors						
	HE Synergy	Work-force	Quality of Life	Premises	Trans-port	Players	Local Market
10			?				
9	+	+*	*	+			
8	*	*+		*	*	+*	+
7					*	*	*+
6							
5							
4							
3							
2							
1							

Building on change achieved in the period from 2000 to 2007 and the systemic momentum generated, there is justified expectation of ongoing progress above and beyond merely keeping up. This is especially the case in 4 areas [marked '+']:

- **HE** – despite the national downturn in traditional computing applications, HE activity in the sub-region is increasingly better aligned to the knowledge economy in general and to CDI in particular in terms of both range of provision (from FD to Masters) and research focus
- **Workforce** – the sub-region is expected to experience to pull through from the improvement of the digital elements of secondary education, arising not only from broad policy ('Harnessing Technology') but also the specific Objective 1 investment in SYeLP and Pathways
- **Premises** – local authorities observe increasing interest in high specification commercial schemes from private developers
- **Local Market** – according to YF annual surveys (2005-7) ICT adoption in local businesses, including web and e-commerce, is catching up with leading areas of the UK

It is therefore predicted that specific public and institutional intervention ('Policy On') can make a vital difference for the CDI sector, with a ripple effect across other digitally rich sectors (ranging from logistics and engineering to healthcare and financial services), in all seven areas [marked '**']. The identified interventions are set out in the next section.

2.4 Recommendations - Location

In each of the 7 areas that make a successful CDI location, there is evidence that specific public intervention has made and can continue to make a vital difference to CDI performance.

Based on the business survey and consultation evidence, the recommended focus of interventions of specific value to CDI businesses and practitioners is set out in the following table. This highlights 15 recommended actions, set out in the table below.

- Several are already in hand, but require to be reviewed in the light of this study – for example, Town Centre regeneration (See 6) and Inward Investment (See 11).
- Others require strategic review if South Yorkshire is to fulfil its CDI potential – notably the role Higher Education (1-3), the Workforce (4, 5), Transportation (7, 8) and Premises (9, 10).

Subject to the lines of responsibility in the sub-regional partnership, it is therefore recommended that the South Yorkshire partners should establish working groups to act on this study for Higher Education, the Workforce and Transportation as a matter of urgency.

The South Yorkshire partners should also work with the local authorities and Yorkshire Forward to ensure that the property portfolio is proactively and imaginatively developed to reinforce the quality of life that is so important to this sector. This recommendation is further detailed in Section 3.

Area	Recommended Intervention	Status
HE Synergy	1. Engagement - Match research and commercialisation capability with CDI focus and vice versa	In planning - Potential arising from RIS and the next round ERDF P1 (Innovation)
	2. Landmark Centres – Ensure that key HE centres, such as the Design Futures CIC, are part of the sub-regional and corporate landscape, involving ongoing recognition of CICs and other centres in the Yorkshire Science & Technology and RIS frameworks	Not explicitly planned – there appears to be an assumption that the HE sector knows its place in the CDI future. The AMRC provides a proven model from the AMM sector.
	3. Progressions – Ensure there are relevant courses from Foundation Degree to Masters to attract incomers and to serve CPD for technology and business	In hand – but currently ad hoc and may benefit from strategic review
Workforce	4. Incoming Pool - Draw in and retain more intermediate & higher skilled workers	Not explicitly planned – developing the University / University College role in B, D & R is essential
	5. Indigenous Pool – Ensure young learners from 14 are offered CDI opportunities	In hand – a proactive approach to the 14-19 Diplomas & other curriculum changes will have significant direct and knock-on effects
Quality of Life	6. Town centres – transformation of residential, business and leisure use	In hand – but local authorities must ensure CDI has a place in the plans and the image
Premises	7. Ownership – open up the potential for ownership of prime small business premises (e.g. 2000 -5000 sq ft)	Low priority – but should be a consideration in the next phase of planning and perhaps subject to a trial
	8. Availability – evidence suggests that businesses will be attracted to high spec modern premises with a broad focus on CDI	In hand – whilst Sheffield may be in danger of over supply, Doncaster would benefit from availability and Rotherham perhaps more capacity, as demonstrated in Barnsley
	9. Digital Suitability – use the 'ICT Active' digital kite mark to differentiate premises	In hand – the local authorities are all involved and there is opportunity for wider leverage

Area	Recommended Intervention	Status
Transportation	10. Usefulness of airport – improve access and expand business destinations	In hand – but developments in road access may be too slow
	11. Rail links and train types to London – Rotherham and Sheffield are poorly served	Unknown – currently Midland Mainline offers a price advantage but falls short on quality of and speed of trains
Industry Players	12. Attractors – consider the supply chains and networks that may build around significant local SMEs	In hand – every public property investment seeks such opportunities, but this study requires sharper focus
	13. Extended families – the businesses that spin out of established winners are important catalysts	In hand – business support is valuable to corporate spin outs; a more pre-emptive approach may be disruptive
Local Market	14. Demand stimulation – growth of the local ICT market, especially amongst SMEs, will create a virtuous circle	In hand – ICT Yorkshire and other YF interventions focus on this issue, but more may need to be done
	15. Specific incentives – the local authorities can ‘incentivise’ use of online processes	Under discussion – e-procurement has been considered as a driver and there may be other opportunities

3. Inside the Sub-Region

This section contains observations based on statistical data to 2005, highlighting distinct patterns and potential opportunities for sustainable growth under the right conditions - for each area as well as for the sub-region as a whole.

3.1 Barnsley

Summary: Strong growth in CDI, but comparatively slower than in the broad Barnsley picture

Creative & Digital Industries accounted for 2.0% of employment in Barnsley in 2005, an increase of 0.2 percentage points from 2000. This compares to change of 0.5 points for Sheffield and -0.7 points for Leeds over the same period. However, this somewhat disguises the strong volume growth rate of 11% that CDI employment in Barnsley has experienced.

The difference between volume employment growth in CDI and the growth in the share of employment suggests that some other sectors are growing faster. This may be a timing issue as CDI sector specific investment, such as BDMC, is now underway.

Of note, Barnsley has the highest level of part time employment in CDI in South Yorkshire at 29% (against a SY average of 21%), especially in Design.

Considering employment by sector, Design saw a 92% increase in businesses, despite this being from a relatively low base as one of the weakest CDI sectors in Barnsley.

ICT has experienced an upward surge in the UK, and Barnsley corresponds with a 59% growth. An 8% increase in ICT businesses is second only to Doncaster. Growth is especially strong in "Other Software Consultancy and supply".

In the UK MNM has experienced a gentle decline, whilst Barnsley has seen an increase of 29% from a low base. There are still low levels of business and employment in the sub sector. Whilst this may be an early growth spurt, it is part of a continuing upward trend.

3.2 Doncaster

Summary: There is less distinction between sub-sector strengths and weaknesses in Doncaster than elsewhere.

Overall, CDI represents 1.5% of total employment in Doncaster and this is the lowest of all the proportions in South Yorkshire. Since 2000, this proportion has only increased by 0.1 percentage points but by volume it has grown by 18%.

Along with Barnsley, it has a high level of part time employment at 26% of CDI employment. After Sheffield, Doncaster has the highest number of businesses in the CDI sector in South Yorkshire.

By sector, Doncaster has the largest proportion of SY CDI employment in Design at 26%, although this is measured from a low base. Since 2000, the sector saw a 62% growth rate and in numbers, this equated to growth from 272 to 439 jobs.

Regarding ICT, growth has been lower than the average for SY but on a par with the UK rate at 14%, plus this has been from a higher base than Design. Along with Barnsley, Doncaster has a high concentration of female employment in the ICT sector (increasing from 42-54%)

MNM has shown less growth than Design and ICT. It should also be noted that various facets of the music industry are strong in Doncaster, including retail.

3.3 Rotherham

Summary: A growing sector highlighted by design performance

CDI employment has grown by 16% between 2000 and 2005 in Rotherham and at 2.3% of all employment, this proportion is the second highest in the sub-region. Rotherham has the lowest levels of part time CDI employment in SY.

Although there has been volume growth in the CDI, it has not corresponded with a growth in its share of overall employment in Rotherham, which actually fell by 0.2%.

Considering sector mix, Design is a particular strength with growth of 149% from a low base (166 to 412 jobs)

ICT has grown by 17% over the period, particularly for those industries identified as "Other Software Consultancy and Supply)

Challenges facing CDI in Rotherham are that MNM employment has experienced a drop of 2% between 2000 and 2005 whilst P&P has seen a drop of 11% - this may be partially set against the increase in Design though.

3.4 Sheffield

Summary: Continued growth, closing the gap on strong CDI city regions such as Leeds & Manchester, particularly in IT and design.

Sheffield is the dominant CDI employer in the sub-region accounting for 59% of SY CDI employment. Between 2000 and 2005, the proportion employed in CDI increased by 0.5 percentage points from 3.1% of all employment to 3.6%. By volume, this amounted to a growth rate of 33%.

Also reflecting the city's strong position, CDI employment growth in Sheffield accounts for 30% more than Barnsley, Doncaster and Rotherham combined. Employment is growing on a par with England.

Regarding sector performance, ICT is the dominant sector in Sheffield with 83% of CDI employment compared to 66% across the city region.

Design has experienced a growth rate of 63% growth, and the rate for the city region is even higher.

Challenges facing CDI in Sheffield include a slightly weaker P&P employment base although the 30% growth is relatively strong. Also, MNM has experienced a drop of -31% in employment from 2,436 to 1,688 jobs. The city region had a markedly smaller drop in MNM at -18%

3.5 CDI Premises Portfolio

Since 2000, there have been major steps forward regarding the availability and the quality of premises suited to the Creative and Digital industries, especially at the technology based end of the spectrum.

Developments such as Barnsley Digital Media Centre, Rotherham Moorgate Crofts and Electric Works on the forthcoming Sheffield Digital Campus have been specifically geared to CDI needs. Meanwhile, the wider stock of modern office premises and flexible workspace, especially in city and town centres and close to the motorway network, is clearly of interest to CDI companies.

It is suggested that the public developments with a CDI focus experience strong levels of occupancy and enquiry based on

- Flexibility of space, lease and grow on conditions
- Value for money
- Links to business support, sometimes on site
- Virtual tenant facilities
- High levels of digital services
- Broad definition of business type and sector fit, whilst avoiding dilution

Furthermore, local authorities report increasing interest from private developers in extending this portfolio.

3.6 Recommendations - Premises

In order to provide for predicted growth and to enhance the South Yorkshire CDI proposition, it is recommended that the five aspects of the sub-regional portfolio are addressed

- **Ensure each borough has flagship CDI property for start-up & grow on:** Subject to current masterplan developments, Barnsley and Sheffield are well placed. Rotherham has successfully launched Moorgate Crofts. Doncaster currently lacks this capacity, which could be provided through options detailed in section 3.7.
- **Consider the wider CDI presence in town centre planning:** Whilst CDI is not a candidate for a specific quarter in every town and city, emphasis on CDI businesses in terms of premises types and amenities (sometimes as simple as the right coffee shops) should be part of all town centre planning.
- **Develop the local premises ladder:** Progression from incubation, including hot desks, to grow-on should be covered in each borough and ideally in the town centre. This may be encapsulated within a single building, so long as the operator is tasked with providing the range (subject to demand) and not just 'selling out' to the easy options. The Doncaster DKE may provide that opportunity for CDI in Doncaster, with DBIC Phase 2 serving broader sectors.
- **Embed key organisations in major builds:** Anchor tenants come in all shapes and sizes, not just large or renowned inward investors. Local authorities considering occupancy strategies for new developments should consider options such as small companies with a big idea that may stimulate (but not dominate) the development, or close to market technology organisations or sector agencies which will generate visitors

- **Promote 'ICT Active' accreditation:** The 'ICT Active' project (YF / Objective 1) is kite marking premises for their digital infrastructure and services. This is positively regarded as a benefit by both supply and demand sides and should be leveraged in the CDI proposition.
- **Review availability of freehold property:** CDI businesses are typically owned locally by high worth individuals with financial planning considerations that differ from a global financial services corporation. Growing CDI companies may regard property investment as providing both balance sheet assets (digital assets are problematic, especially for borrowing purposes) and a corporate pension plan. Local authorities should therefore consider the value of creating such assets in suitable locations.

Related to these recommendations, two local authority developments should be considered

- **Doncaster DKE build:** detailed in Section 3.7
- **Rotherham Technology Corridor:** A broader based Rotherham strategy should be considered in the next phase of the RMBC master plan. This might involve one or a combination of the following developments along the corridor from the civic centre to the M1
 - Development of CDI and broader technology focus on the Magna site as part of the Templeborough plan, where proximity to the M1 is a major attractor
 - Inclusion of CDI type build as part of the town centre riverside development, potentially linked to the relocation of RCAT

3.7 Recommendations - Doncaster DKE Build

This study provides background information and forward trend analysis that should inform the decision on the potential DKE build in Doncaster town centre.

3.7.1 Conditions

This study reports on CDI trends:

- CDI is growing and will continue to grow in South Yorkshire
- Whilst starting from a low base in 2000, Doncaster is no exception
- 1.5% of the Doncaster workforce is employed in CDI with a high level of part time and female employment (along with Barnsley)
- Doncaster has the largest proportion of SY employment in Design at 26%, enjoying 62% growth from 2000-2005

Important supporting capabilities are also observed:

- Doncaster College, working with the University of Hull, has successfully developed and recruited to a range of highly specialised provision from Foundation Degree to Masters in such as games technologies, digital design and performance
- The DKE LETS (Leading Edge Technology Solutions) project has achieved an unusual level of national and international reputation in the fields of visualisation and virtual reality
- These capabilities are well aligned to the local growth in design, to the sub-regional strengths in advanced manufacturing and to Digital Region ambitions

The onward potential of Doncaster may be restricted by the failure to develop the CDI proposition and notably the property element:

- Doncaster alone lacks the centrally located premises that have been successful in Sheffield and are proving so in both Barnsley & Rotherham; these were developed on the assumption in a growth climate that 'the people will come', so long as the supporting factors are in place
- Whilst Sheffield businesses report low interest in relocation to Doncaster, the converse is also significant
- Doncaster has its own natural catchment area for attracting new businesses, which may be extended by the influence of the airport and rail links
- DBIC is reported to be consistently full and draws business from wider sectors than CDI alone, such that a Phase 2 development could be justified on a number of market models
- Town centres may benefit from overspill and overheating of urban centres and other hotspots; Leeds overspill to Barnsley and Wakefield will only be replicated in a Doncaster context if the proposition is in place
- An 'A1 Technology Corridor' which links Doncaster to Cambridge and to York has potential with Doncaster's air, rail and road links; it is noted that the high cost Cambridge technology cluster is less than 90 minutes from Finningley
- The town centre Doncaster College build provides opportunity to review the college property portfolio to maximise links to high growth business leading to achievement of University College and then full University status based on a 21st century knowledge economy model; a DKE would be closely linked to these objectives

3.7.2 Response

It is recommended that RSY should work with DMBC and YF to recognise that a CDI-centric business premises build on Doncaster is an essential missing piece in local and sub-regional CDI jigsaw.

It is important to distinguish between two options:

- a CDI-centric build, focused on the needs of CDI companies which will also appeal to a wider range of applied technology organisations (for example, in many areas of design)
- a building akin to a technology institute, focused on a tight niche with an implied pattern of shared activity and 'public' use.

Doncaster needs the former. The latter addresses a vision for which there is poor business case without a major university or global technology partner.

The partners are therefore recommended to develop the town centre DKE property as a matter of urgency. Addressing the key premises recommendations in Section 3.6, the DKE should

- Provide the **physical focal point** for the wider CDI presence in town centre planning
- Cover the **premises ladder** from progression from incubation, including hot desks, to grow-on

- Embed **key organisations**, candidate anchor tenants in this case being
 - DKE LETS – viewed as a small company with a big idea that may stimulate but not dominate
 - The potential Digital Region Research Centre - a close to market technology organisation which will generate visitors and which has strong synergies with DKE LETS

- Exemplify the highest level of '**ICT Active**' accreditation to benefit tenants and to be leveraged in the Doncaster 'leading edge technologies' CDI proposition

4. Achieving Focus

4.1 Recommendations – Niches & specialties

Five niches are identified within the footprint of this study (ICT, Design, Media & New Media, Print & Packaging) which have significant potential for CDI growth and for wider cross-sector impact.

On account of convergent technologies and business processes, these niches involve hybrid capabilities which cut across established industrial classifications. We have labelled the niches as follows:

- Design [Des]
- Interactive Media [IM]
- Mobile [Mob]
- ICT Services [ICT]
- Healthcare Technologies [HT]

The selection has been based on a combination of evidence (* Implicit, ** Explicit), as follows:

Source of Evidence	Des	IM	Mob	ICT	HT
South Yorkshire CDI growth patterns	**	*		**	
South Yorkshire CDI business survey	**	**	**	*	*
Trends in other sectors or downstream services	**	**	**	**	*
Changing lifestyle & SME business processes	*		*	**	
Demographics (aging population)			*		**
Growing digital literacy (service use)		*	*	**	

There is a high degree of synergy between these niches in terms of technology, market opportunity and a range of potential cross-benefits. Nevertheless, each has its particular specialist challenges and opportunities and would be identified separately by investors and analysts.

The predicted growth will involve

- Jobs
- Company births
- Inward investment
- Strong GVA

The scale of growth of these niches in the 5 years to 2012 is projected as follows

	To 2015	New Jobs	New Companies	GVA	Company Range
Design		1000+	100-	High	Micro>Small
Interactive Media		100s	10s	Very High	Small>Medium
Mobile		100s	10s	Very High	Small>Medium
ICT Services		1000+	100+	Good	Micro>Large
Healthcare Technologies		1000+	10s	High	Small>Large
Total		c. 4000	c. 250	High	

These high growth niche prospects, potentially 4000 new jobs and 250 new companies, do not represent the full CDI-wide growth potential and take no account of the ripple effect of such technologies and services across the wider CDI sector and in the wider economy. The five niches do however represent a high proportion of the 'middle ground' estimate of 5000 new jobs projected in the Economic Analysis section of this report.

It is an overarching recommendation of this study that the sub-regional partners should tailor interventions ranging from business support to innovation strategy to the specific requirements of innovators, entrepreneurs and businesses in these five niches, taking account of both the differences and the common ground. This imperative is instantiated in the further recommendations for business support and innovation.

In the following niche overviews, mappings to the SIC areas and the current location strengths are coded as follows

High	Medium	Low
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4.2 Design

Contains	<p>Design encompasses such as</p> <ul style="list-style-type: none"> • Graphic design for all media (print, web, mobile) • Specialist sectors (e-learning, architects) • Product & artefact design (all scales and materials) • Animation & video games • Virtual Reality & visualisation <p>Whilst there is danger in the breadth of specialties, high end computer aided techniques have introduced common ground across traditionally discreet sectors (e.g. Marketing, Video Games, Architects, Products, Engineering) and have collapsed and integrated lifecycles (idea > product > marketing)</p>				
Linkages & Opportunities	<p>Design underpins and adds value to other highlighted niches</p> <ul style="list-style-type: none"> • Cross-platform • Mobile <p>It repositions a traditional regional 'backbone' strength</p> <p>Links to high visibility platforms such as Digital Region and the Yes project</p>				
SIC Areas	ICT	MNM	Design	Print	Other – AMM
Current Locations	Barnsley	Doncaster	Rotherham	Sheffield	
Evidence	<p>ABI – Design and related ICT growth in all locations</p> <p>Globally identified trends in vendor research (e.g. Abobe, Autodesk)</p>				
Opinion	<p>Strong potential for local authority engagement with this theme</p>				
Projection	<p>New Jobs</p> <p>1000+</p>	<p>New Companies</p> <p>100-</p>	<p>GVA</p> <p>High</p>		
Inward Investment	<ul style="list-style-type: none"> • Leeds spinouts evidenced in Barnsley • University graduates – Barnsley, Doncaster & Sheffield • Specialist businesses may be attracted but the opportunity is not dependent on such cases • DKE LETS and their Eon partnership offer a high end focus 				

4.3 Interactive Media

Contains	<p>Interactive services, applications and content bring together the worlds of computing, the web, mobile phones and console games, linked with the repositioning of media such as TV and radio – thus sometimes labelled as the ‘cross platform’ or ‘360 degrees’.</p> <p>Alongside e-commerce, interactive potential is driving web development towards more effective solutions, drawing on such as games, e-learning and Web 2.0 social networking. Consider this niche therefore as the commercial lead edge of web development as well as a specialised vehicle for such as games.</p>			
Linkages & Opportunities	<p>Cross-platform is linked to all the highlighted niches</p> <ul style="list-style-type: none"> • Design – very strong • Mobile – very strong • ICT Services • Healthcare Technologies <p>Games technology convergence with e-learning and next generation of cross-platform media, using the full range of delivery platforms from immersion to mobile, could also be a specialist focus of the DKE Digital Region Research Centre.</p> <p>It is important that South Yorkshire is central to the interactive media and cross-platform media brief of Screen Yorkshire.</p>			
SIC Areas	ICT	MNM	Design	Print
Locations	Barnsley	Doncaster	Rotherham	Sheffield
Evidence	<p>Focus of</p> <ul style="list-style-type: none"> • leading web developers such as DESQ and Quba • content commissioners <p>YF, leading to the Screen Yorkshire business plan</p>			
Opinion	<p>Whilst the web has been ‘dumbed down’ by simpler tools and personal publishing, there remains an almost infinite scope for innovators and integrators to develop compelling applications for commercial use.</p>			
Projection	<p>New Jobs</p> <p>100s</p>	<p>New Companies</p> <p>10s</p>	<p>GVA</p> <p>Very high</p>	
Inward Investment	<ul style="list-style-type: none"> • Leading web companies such as Line have chosen South Yorkshire • Quba has been developed through a major locally based investment • This is a very attractive niche for the specialist early round investor 			

4.4 Mobile

Contains	<p>Growing from the worlds of PDAs and mobile phones, the horizon for 'always on' applications on the move is expanding continually. The impact of music players and small form games players has been transformational. In parallel, developments in wireless technologies, such as RFID, have opened opportunities in tracking and security.</p> <p>The challenge lies in the identification of markets, which may involve</p> <ul style="list-style-type: none"> • Messaging and data services • content from TV to e-learning to games • a wide range of applications, including security, tracking and medical 				
Linkages & Opportunities	<p>Mobile is closely linked as an enabling platform to each of the other niches selected here:</p> <ul style="list-style-type: none"> • Design • Interactive Media • ICT Services • Healthcare Technologies <p>It is at the heart of future healthcare and cross-platform applications, it requires significant design capabilities and ongoing support in the field.</p>				
SIC Areas	ICT	MNM	Design	Print	Other – AMM
Current Locations	Barnsley	Doncaster	Rotherham	Sheffield	
Evidence	<p>Volume uptake of mobile platforms in both business and consumer markets.</p>				
Opinion	<p>The breakthrough opportunities for South Yorkshire are in applications and services, less in content and certainly not in hardware. The shortage of specialist programmers (e.g. PHP) is however noted.</p>				
Projection	<p>New Jobs</p> <p>100s</p>	<p>New Companies</p> <p>10s</p>	<p>GVA</p> <p>Very high</p>		
Inward Investment	<ul style="list-style-type: none"> • SY has little track record of inward investment in this niche • A number of local players (such as DKE, Dialogue, Zoo) will have significant connections with market majors 				

4.5 ICT Services

Contains	<p>Services required to support the take up of computers and networks in more homes and businesses of all types</p> <ul style="list-style-type: none"> • Installation • Repair & replacement • Help desk & Callouts • Broadband & bundled services 				
Linkages & Opportunities	<p>ICT services can be closely linked to growth in two of the other highlighted niches</p> <ul style="list-style-type: none"> • Mobile – more devices, integration, complexity • Healthcare Technologies – focus on automated services in the home <p>Take up will benefit from digitally aware young people entering the workforce with intermediate skills</p> <p>Accelerated growth of this service market should bring a virtuous circle of benefits to both the supply and demand sides of ICT and digital media</p>				
SIC Areas	ICT	MNM	Design	Print	
Locations	Barnsley	Doncaster	Rotherham	Sheffield	City Region
Evidence	Annual Regional ICT Business Survey (Yorkshire Forward) Consumer and household surveys				
Opinion	This is a high volume market with significant opportunities for the technician with intermediate skills, both self-employed and in small companies. The nickname 'Digital Plumber' indicates something of the type of work. Despite IT equipment becoming a disposable commodity, users will recognise the value of support in making it work well. The lack of a trade industry certification is an interesting market gap – both opportunity and threat.				
Projection	New Jobs 1000+	New Companies 100+	GVA Good		
Inward Investment	<ul style="list-style-type: none"> • Majors such as PC World and utility companies will set up regional centres • Franchise and sub-contract models will emerge 				

4.6 Healthcare Technologies

Contains	<p>This globally significant area of applied IT and digital technologies covers</p> <ul style="list-style-type: none"> • Products and services relating to the NHS National Programme for IT, 'Connecting for Health' • Technologies for diagnosis, remote treatment and monitoring • Medical devices and surgical processes, involving such as high precision imaging • Exploitation of bioinformatics in patient diagnosis and records <p>Significant cost savings and service benefits are associated with</p> <ul style="list-style-type: none"> • Supporting an aging population, including automated diagnostics, home and mobile services • Information and self-help services at the point of entry and diagnosis 				
Linkages & Opportunities	<p>Healthcare Technologies draws heavily on all four of the other highlighted niches</p> <ul style="list-style-type: none"> • Design (in the form of Imaging & Visualisation) • Interactive media (especially in remote services) • Mobile • ICT Services 				
SIC Areas	ICT	MNM	Design	Print	Other – Healthcare
Current Locations	Barnsley	Doncaster	Rotherham	Sheffield	
Evidence	<ul style="list-style-type: none"> • Public commitments and cost drivers to transform services • Aging population • European RTD focus • YF selected growth area, evidenced in the forthcoming Medipex report 				
Opinion	<p>The challenges of entering the NHS, private healthcare and associated consumer markets are steep. However there is much opportunity for innovation and for local implementation of home based services. Global innovation typically will need local implementation.</p>				
Projection	<p>New Jobs</p> <p>1000+</p>	<p>New Companies</p> <p>10s</p>	<p>GVA</p> <p>High</p>		
Inward Investors	<ul style="list-style-type: none"> • Capex Health is at the heart of a growing Barnsley cluster • The Sheffield MediLink network is well connected • Links in to Connecting for Health and associated contractors will be crucial • Research groups & Teaching hospitals are drawing on R&D funding • Local NHS can drive the market 				

4.7 Related Opportunities

Beyond the scope of this study, we note two leading opportunities relating to wider CDI strengths in the music industry and computer hardware.

4.7.1 Music Industry

Headlines are as follows

- Possibly South Yorkshire's biggest CDI export in 2006-7
- Even stronger than the previous heyday of 1982-4
- Led by the Arctic Monkeys, Jarvis Cocker, Richard Hawley
- Also Long Blondes, Milburn, Reverend & the Makers
- Not only the musicians but also strength in infrastructure such as recording, management and promotion
- This outstanding level of success cannot be manufactured and there is no guarantee it can be repeated
- Nevertheless, opportunities to support the industry infrastructure and to develop publicity to the benefit of the wider cluster should be reviewed with such as Creative Sheffield

4.7.2 Next Generation Hardware

Headlines are as follows

- Specialised semiconductor design and fabrication
- Local commercial expertise – ARM & Jennic
- Interest from the far east and global OEMs
- Research – University of Sheffield III/V Centre
- Nationally significant 'clean' facility on University of Sheffield North Campus
- Computing developments 'beyond silicon' will be linked to University strengths in nano-technology and bio-science
- Next generation breakthrough computing technologies will have synergies with sub-regional strengths in AMP, medicine, bioscience, etc
- Strong Regional Innovation Strategy fit - World leading not just world class
- Further information and recommendation are in the **Innovation** section of this report (Section 6)

5 Business Support

5.1 CDI Business Support Targets

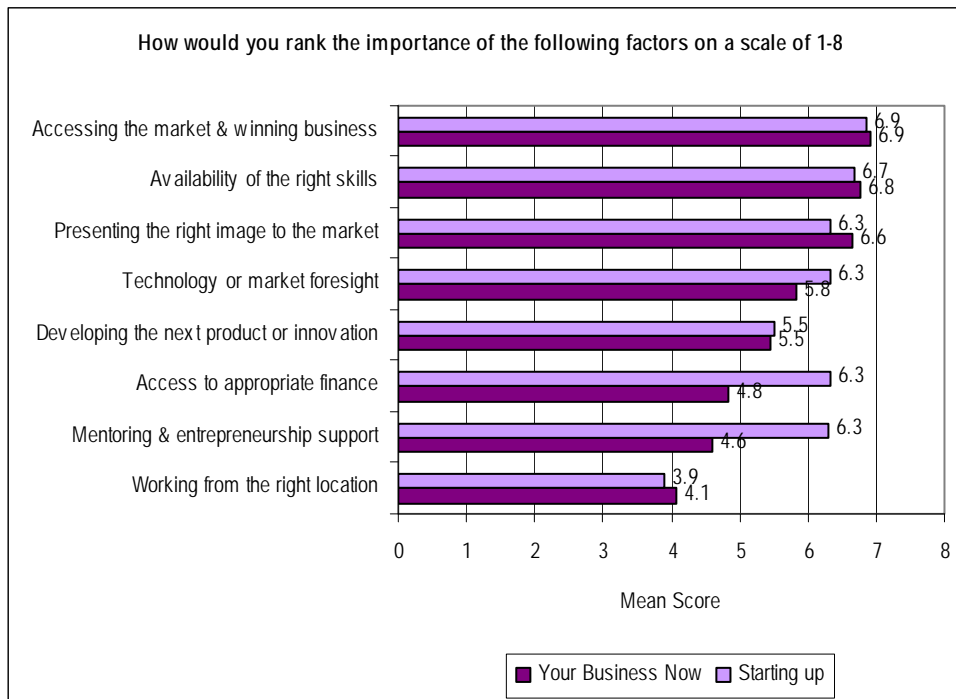
It is essential to agree the priority targets in terms of beneficiaries for business support in the context of the findings and recommendations of this study.

- The recommendations regarding business support are linked explicitly to the needs of the **4 sub-sectors** which are the focus of this study and to the 5 recommended **growth niches** (see Section 4); similar recommendations however are likely to benefit other CDI players.
- They do not exclude **micro-businesses and sole traders**, who are reported in both economic statistics and business responses to play an essential part in the sub-regional CDI ecosystem; it is recognised that even though not every business seeks growth, their economic activity is very often an essential contribution to growth and wealth creation elsewhere in the local supply chain.
- They recognise that **corporate spinouts and breakouts**, both supported and opposed, have been and should continue to be a significant driver in the formation of companies with vital business experience and market knowledge; many hundreds of jobs may be traced back to a few influential companies such as Fretwell-Downing, PlusNet and Zoo. This pipeline requires sensitivity but should be not ignored either strategically or tactically.
- Despite successes including Flatworld, Fluent and Seams, **university spinouts** have not generally been a strong part of South Yorkshire CDI growth. Therefore these recommendations will be helpful to but are not geared specifically to university spinouts, which are more explicitly addressed under Innovation (see Section 6).

5.2 Recommendations – Business Support

A portfolio of 14 business support activities has been identified. These fall in to 5 areas which are listed reflecting the importance attributed by respondents to the business survey.

For example, the business survey respondents ranked 8 business support options as follows. It is noted that this emphasis is very similar to the feedback gathered by Yorkshire Forward from around 150 respondents in the regional CDI sector business consultation (2007).



Mappings against the six foci of the Regional Business Support framework are identified for each recommendation (see 'Focus' column), coded as follows:

- SU – Start Ups
- BI – Business Improvement
- AF – Access to Finance
- IT – International Trade
- IN – Innovation
- SK – Skills

Notwithstanding this mapping, it must be recognised very little if any of the business support in this list of recommendations can be generic. It demands specialist inputs. Experience and track record in the sector is perhaps more important than generic business expertise in an effective business support programme.

It is recommended that these inputs will be obtained through a combination of CDI focused business support organisations (with which the sub-region is well endowed) and key individuals (in tailored 'mentoring' roles ranging from Business Angels to Innovation Specialists).

Business Support Recommendations	Business Support Focus	Recommended Niches				
		Design	Inter-active Media	Mobile	ICT Services	Health Informatics
1. Specialist Market Making						
1.1 Technology & Trend Tracking						
1.2 Sales & Marketing Skills	<i>BI, SK</i>					
1.3 Value Chain Development	<i>BI</i>					
1.4 Business Model Identification	<i>BI, SU</i>					
1.5 Specialist Mentor Roles	<i>BI, SU</i>					
2. Capacity & Capability						
2.1 Key Employee Breakthroughs	<i>SK, SU</i>					
2.2 Graduate Pull Through	<i>SK</i>					
2.3 Just in Time Skills (all levels)	<i>SK</i>					
3. Innovation						
3.1 R&D Seed Corn	<i>IN, SU</i>					
3.2 University linkages	<i>IN</i>					
4. Finance						
4.1 Money with Management	<i>AF</i>					
4.2 Funding & Exit Strategies	<i>AF</i>					
5. Inward Investment						
5.1 Track influential players						
5.2 High Speed Reaction						

The 14 areas of business support activity will address headline CDI business requirements as follows:

Business Support Recommendations	CDI Business Requirement
1. Specialist Market Making	
1.1 Technology & Trend Tracking	Global market intelligence, specialist knowledge and foresight creates winners; it is costly and hard to prioritise in SMEs but vital in qualifying opportunity and averting decline.
1.2 Sales & Marketing Skills	The skills enabling businesses and freelancers to win work are essential. Small CDI enterprises typically lack the focused resources and sometimes the expertise in sales and marketing. These skills must be delivered in the context of the sector commissioning and procurement practices.
1.3 Value Chain Development	Partnership connections and access to new clients and influencers are of high value, being hard to achieve in our globalised sectors by multi-tasking SME owners. The missing link may typically be the next customer down the line, not the ultimate consumer. Experience indicates the value of bidding and delivering in consortia to achieve critical mass and requirements coverage; here the VEN model is relevant but needs adaptation to address CDI needs.

1.4 Business Model Identification	Business and value models are in a state of flux, involving complex supply chain and rights issues such as IP and Digital Rights Management.
1.5 Specialist Mentor Roles	Because CDI is diverse, fast moving & unpredictable, specialist business support is essential. This may take a variety of forms, of which the specialist mentor or non-Exec is often hard to access without shareholding arrangements.
2. Capacity & Capability	
2.1 Key Employee Breakthroughs	Micro organisations find it hard to address step changes in employment – for example, the first outsider, non-graduate, manager or administrator. A range of mechanisms should be considered. For example, JIGSAW, the ESF funded Job Interview Guarantee Scheme, has been successful in introducing new workers to CDI businesses of all sizes. There are also key CDI roles, especially in IT, to which returning women are proven particularly suited – such as Project Management and Customer Support.
2.2 Graduate Pull Through	The undergraduate and Masters boom of the early 21 st century has turned to bust in terms of course applications. The region needs to compete to attract and retain students, preferably having benefited from a niche focus to their courses.
2.3 Just in Time Skills (all levels)	‘Just in Time’ training and knowledge acquisition is essential in CDI on account of changing technology and project drivers. This challenges small enterprises & freelancers in terms of cost and organisation. The sector perception is that the Train to Gain approach does not meet CDI needs for incisive CPD for workers (including freelancers) already at Level 3 and above.
3. Innovation	
3.1 R&D Seed Corn	Whilst company R&D funding is important, collaborative R&D brings benefits of knowledge and partnership. Schemes based on the principles of Melt could offer a range of business benefits above and beyond the funding.
3.2 University linkages	It should not be assumed that the South Yorkshire CDI is best developing at a distance from the Universities. However, links are very hard to establish from the business end, the Universities being typically supply and contract driven. The business support programme can facilitate, given willingness on both sides.

4. Finance	
4.1 Money with Management	Public sector supported financial packages have been risk averse – especially regarding businesses developing digital assets. Furthermore the point of taking on finance should be linked to addressing other business support needs, notably in the areas of management and marketing.
4.2 Funding & Exit Strategies	The idea of planning an exit strategy, whether employee buy-out, merger, acquisition or flotation is not well developed in the local CDI sector. Whilst there may be good reasoning case by case, it is likely that the lack of experience in the community is already inhibiting growth. Business support specialists should bring this to the table.
5. Inward Investment	
5.1 Track influential players	CDI growth is not dependent on global or national players establishing regional offices in SY. However, significant benefits can accrue from a wide range of ‘investment’ opportunities, not only re-location or acquisition but also such as elevation of local supply chain partners (for example in a vendor network) or establishing R&D links. Influential businesses and organisations should be tracked in this broader context.
5.2 High Speed Reaction	The capacity and the authority to respond quickly to the range of investment opportunity, including inward investment, is a strong differentiator for the sub-region. This will require relevant collateral and access to expertise beyond agencies, such as the CDI Innovation Specialists, business leaders and university authorities. It will be advantageous to attach sector specialists to the district investment teams. It also demands the ability to close business in a timely manner.

5.2 Mapping to Regional CDI Consultation

The 2007 Regional CDI business consultation undertaken by Yorkshire Forward was concluded in October 2007. It involved over 150 organisations including a large number from South Yorkshire. Participants recommended over 50 ways in which the growth of the CDI sector and its businesses could be supported. This section extracts from the Yorkshire Forward report 24 of the regional recommendations which are closely aligned to the 14 areas of activity listed above.

Business Support Approach

A1. Ensure business support involves specialists	Because CDI is diverse, fast moving & unpredictable, specialist business support is essential
A3. Design the right business support for micro-enterprises & freelancers	Self-employed freelancers and micro businesses may fall outside business support focus and eligibility. They are vital to the CDI supply chain and their requirements are different from larger clients

Business Support Needs

B1. Address the inherent disadvantages of being small	Small is not so beautiful when it comes to vital business functions such as management & marketing. Some functions required by larger customers do not scale down – such as tendering, QMS, R & D
B3. Address marketing challenges – local and international	Small CDI enterprises typically lack the focused resources and sometimes the expertise to market themselves

Profile & Image

P1. Maintain a Sector Directory to discover & differentiate suppliers with a quality assured profile	Quality regional SMEs need to get in the spotlight. The Club UK On Line Directory has supported the ICT sector is an example of this. Links to a showcase portal would help overcome inherent SME shortcomings in profile and marketing
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Knowledge

I1. Anticipate change by tracking market intelligence and technology trends	Global market intelligence, specialist knowledge and foresight creates winners; it is costly but vital in qualifying opportunity and averting decline
I2. Provide expertise in changing markets and value models	Business and value models are in a state of flux, involving complex supply chain and rights issues (IP and DRM)
I3. Encourage collaborative R&D	Whilst company specific R&D funding is important, collaborative R&D brings benefits of knowledge and partnership – both locally (like Melt) and internationally (notably European FP7)
I4. Provide access to market influencers, connectors and clients	Partnership connections and access to new clients and influencers are of high value, being hard to achieve in our globalised sectors by multi-tasking SME owners

Entrepreneurship & Innovation

E3. Design and broker workable financial packages that support risk and R&D	Public sector supported financial packages have been risk averse – especially regarding digital (low capital high revenue). Appropriate packages are required
E4. Support gestation of the 'next product'	The generation of the 'difficult second product' adversely affects many small and medium sized enterprises in their development, from media to software to services - especially amidst changing market conditions
E5. Recognise models that may transform the future	Possible transformative models include such as Open Source and Creative Commons. For example, whilst Microsoft will remain important, Open Source opens up opportunities for suppliers, SMEs & consumers

Networks

N1. Facilitate Networks & Special Interest Groups	Recognise that proximity & face to face engagement are assets in the virtual world. Locally accessible groupings offer advantages in a distributed economy, providing peer support and making connections
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N2. Nurture networks for bidding & contract execution	Experience indicates the value of bidding and delivering in consortia to achieve critical mass and requirements coverage. The VEN model is relevant but needs adaptation to address CDI needs.
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Skills

S1. Broker access to experience-based business skills & mentoring	Experience and track record in the sector is perhaps more important than generic business expertise in an effective skills programme
S2. Recognise the specialist skills and re-skill requirements of CDI	The sector perception of the Train to Gain approach is that it does not appear to meet CDI needs in terms of ongoing and incisive CPD for workers (including freelancers) already at Level 3 and above.
S3. Recognise the importance of flexible 'just in time' skills & training availability	'Just in Time' training and knowledge acquisition is essential in CDI on account of changing technology and project drivers. This challenges small enterprises & freelancers in terms of cost and organisation
S4. Support specifically the development of bidding, tendering and marketing skills	The skills enabling businesses and freelancers to win work are essential. These skills must be delivered in the context of the sector commissioning and procurement practices.

Workforce

W2. Review the diminishing pipeline of local CDI graduates	The boom of the early C21 has turned to bust in terms of course applications. The region needs to compete for undergraduate and graduate students, perhaps with a niche focus
W3. Retain and develop graduates & other talent	The region generally (and some areas in particular) is haemorrhaging talent and not attracting it back. A holistic regional approach to retention should be considered.
W4. Attract women in to IT	There are key CDI roles, especially in IT, to which women are proven particularly suited – such as Project Management and Customer Support.
W5. Match new entrants to businesses – as per JIGSAW	JIGSAW, the ESF funded Job Interview Guarantee Scheme, has been successful in introducing new workers to CDI businesses of all sizes in SY. This could be replicated across the region.

Access to Markets

M1. Facilitate access to markets & buyers	Making contact with buyers and penetrating supply chains – whether locally or internationally - is a major challenge for start ups and small businesses
M5. Foster recognition of wider local markets	There exist high value local and cross-sector markets that are not typically addressed by local CDI businesses – perhaps including logistics, retail and financial services

6. Strategic Fit

6.1 Regional Economic Strategy

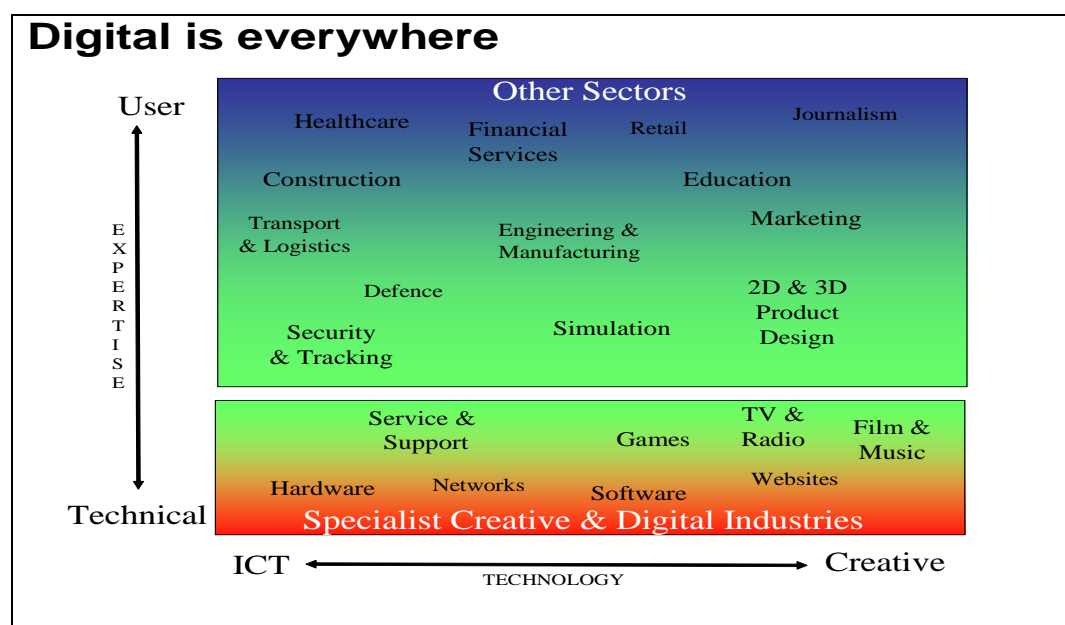
The Regional Economic Strategy (RES) for 2006 -2015 is focused on three business objectives:

- More businesses that last
- Competitive businesses
- Skills to benefit business

This study has confirmed strong CDI performance in terms of more **competitive lasting businesses**, reporting a very high percentage of businesses looking beyond survival or lifestyle aspirations to long term growth.

Businesses and individual practitioners do however express significant **concern about skills**, with respect to the available labour pool, at a time of near full employment, and also support for highly focused just-in-time skills acquisition. Interventions such as Train To Gain are not regarded as meeting the needs of this sector. The CDI sector typically employs at Level 3 and above (Intermediate & Higher Skills) and requires continuous professional updating on to address new technologies and specialised project / contract needs. Whilst this is closer to the Yorkshire Forward Higher Level Skills agenda, there is concern that the sector is missing out on highly valued 'Just In Time' support.

Having been identified as one of the five sectors to be supported from 2008, CDI is also strongly placed as the RES develops. The work of YF in shaping its sector strategies, which we can expect to be reflected in the next RES revision, places a high emphasis on sectors that underpin and feed high growth elsewhere in the economy. In that context, the pervasive cross-sector and societal impact of 'digital' (i.e. CDI), as illustrated below, will be of particular importance, in addition to the continued growth of the specialist CDI sectors.



6.2 Regional Innovation Strategy

The Regional Innovation Strategy (RIS) emphasises the need to grow an innovation culture and to develop the supporting environment, involving a close and adaptive relationship between universities and businesses.

This is tightly linked to the Innovation objectives expressed under Priority 1 of the new European ERDF programme:

1. To stimulate and facilitate increased investment in innovation and R&D, engender a culture change and promote sustainable business practices
2. To provide and support the infrastructure needed to stimulate innovation and R&D whilst ensuring the social, environmental and economic conditions are improved
3. To increase and support the exploitation and commercialization of new technologies that underpin the future sustainability and growth of new and existing businesses and target clusters

In assessing the potential of the South Yorkshire CDI sector for transformation, for continuing growth and for sustainable contribution, it is therefore important to understand the extent to which the sector is in the business of innovation or is alternatively geared to the generation of significant GVA through competitive performance in known markets.

There can be no doubt that this is an innovative sector, evidenced by the success of a number of businesses and individuals in national and even global niche markets, despite the sub-regional climate in the 20 years to 2000.

However (with notable exceptions such as Fluent, Fretwell-Downing, SEAMS) there have been few links between university strengths and local business successes. It may be argued that there is no requirement ('If it's not broken ...') or that universities elsewhere can fill the gap (especially in a 'virtual world'). It is beyond the scope of this research to predicate the alternative arguments, other than to recommend that it is precisely the intention of Lisbon that the new European programmes should be utilised to catalyse local and sustainable 'culture change'.

6.3 Recommendations - Innovation

Given the historical and economic context of the SY CDI sector, its relationship with Higher Education, its focus for growth and therefore the nature of associated R&D and product development, there is a clear requirement for a distinctively sub-regional approach to Innovation.

Whilst the South Yorkshire approach will be wholly aligned to the objectives of the RIS, it should neither assume that the key knowledge and expertise lies in the universities nor that a traditionally demand stimulation model is applicable. There may be exceptions in areas such as III/V and healthcare technologies, which should be encouraged but not treated as normative.

Most fundamentally, the cultivation of an innovation strategy of value to the South Yorkshire CDI sector must take account of business-to-business and practitioner-to-business and HE-to-business as well as HE centric channels. The Software Factory concept under consideration by both Sheffield universities could become a valuable HE-to-business and also business-to-business IP exploitation channel, given commercially driven leadership and suitable funding.

The priority is to ensure sustainable future growth for this vital sector, based on the capability of businesses, entrepreneurs and inventors to operate within a culture of innovation, opportunism and commercialisation. The business driven Net-Start model illustrates the collaborative routes to market, involving entrepreneurs alongside business support partners and academics that have currency in the Web 2.0 world.

To this end, whilst emphasis will differ from company to company, stimulation of the appetite and the pipelines for CDI related innovation will be essential as the region enters in to the new phase of European investment with opportunities under both Innovation and Business Support priorities. Therefore we recommend three areas of intervention under ERDF Priorities 1 & 2 and the RIS:

- **Innovation Centres** – providing physical focal points for high impact themes (e.g. design, advanced connectivity) and catalytic opportunities (e.g. next generation computing, healthcare technologies)
- **Supply Chain Support** – using such as Innovation Specialists to provide specialist support to connect technologies, to build supply chains and to access markets ahead of the breaking wave
- **Innovation Competitions** – broadening the Melt programme model to create windows of opportunity to support the smallest businesses and for individual inventors and entrepreneurs to research and develop speculative ideas, individually and in partnership

6.3.1 Innovation Centres

The identification of potential Innovation Centres arising from this study presents a vital opportunity.

The RIS has identified the catalytic value of selecting a small number of Innovation Hubs, formally recognised for their world class excellence in knowledge and linkages with a critical density of innovative companies. They will involve a dynamic combination of theme-specific, multidisciplinary, horizontal and vertical networking opportunities. To that end, Innovation Hubs will be deeply connected to sector networks and to innovation satellites, which will enhance their critical mass.

Using the same model, CDI related centres, potentially satellites to the RIS Innovation Hubs, might in South Yorkshire be based on

- **Design Futures CIC** at Sheffield Hallam University – the CIC was established in 2005 and has developed an approach that is well focused on opportunities in the local economy, as well as linkages to the Design Works
- **Digital Region Research Centre**, linked to the DKE – this new proposal arises from this study, combining ideas developed by Digital Region and the DKE LETS project; see panel for rationale
- **III/V Centre** and next generation computing at the University of Sheffield – emerging developments in nano- and bio-computing underscore the potential of developing commercialisation channels related to this long established facility; see panel for background

- **Medical Technologies Innovation Centre (MTIC)** – the MTIC has been designed to deliver a step change in the Sheffield Hospitals Teaching Trust and the University of Sheffield engagement with industry in the medical devices and associated services sectors, increasingly involving digital and IT components in the supply chain.

It is noted that the Y&H model is similar to that proposed for the East Midlands, where EMDA will establish a small number of Innovation Networks (iNets) geared to priority themes. The equivalent developments in the neighbouring East Midlands region are of particular importance to the Sheffield City Region. The potential of the EMDA iNets for the South Yorkshire CDI sector should therefore be investigated in terms of partnership and supply chain.

Digital Region Research Centre, Doncaster

- The Digital Region venture has identified the opportunity for SY to become an applied test bed for the latest broadband technologies and services, offering a nationally unique platform, geographically well placed for service and application testing
- This opportunity would benefit from the establishment of a Digital Region Research Centre as part of the DKE property development
- Key UK and wider Digital Region collaborations could be engaged more specifically – notably Thales
- A1 ‘technology corridor’ linkages could leverage interest from Cambridge (overheating), York (Science City), Hull (Logistics Institute)
- This would have practical synergies with the DKE LETS focus on virtualisation and visualisation
- The ‘Yes Project’ has a potential fit with a Digital Region Research Centre. The ‘Yes’ facility will involve leading edge digital technologies, such as Virtual Reality experiences. The preferred delivery consortium includes BT and DKE, with interest expressed by Sony.

University of Sheffield National Centre for III-V Technologies

The Facility

The University of Sheffield EPSRC National Centre for III-V Technologies is internationally known for the production of state-of-the-art semiconductor epitaxy and device fabrication using III-V semiconductors. III-V Technology semiconductors are so called because they are made from materials such as gallium arsenide listed in columns III and V of the periodic table – rather than silicon which is in column IV

The centre was established to provide high quality research grade grown wafers and devices to UK academic groups supported by grants from the EPSRC, but now also has Defence, DTI, EU and Industrial collaborations.

The centre can design and grow complex device structures in all the commonly used III-V materials systems including nitrides, phosphides, arsenides, and antimonides - and then fabricate device chips in prototype and short production run quantities.

The Technology

Sero with Ekos & Inspiral for Renaissance South Yorkshire - November 2007

Section 1 – CDI Performance & Potential

Typical devices and their primary applications include: high efficiency solar cells as use in next-generation satellites, the high brightness LEDs in all colours of the spectrum (including white) that are rapidly replacing incandescent and other forms of conventional lighting, and as solid state semiconductor lasers which are rapidly replacing larger, more expensive lasers in a variety of applications, especially as optical components in broadband communication fibre-optic networks.

Laser Diodes (LDs) are also used in everything from laser pointers and common barcode readers to sophisticated medical applications. LDs are the primary component used to read and write CD-ROMs, Digital Video (or Versatile) Discs (DVD) and the hard disk drives in computers. Blue spectrum laser diodes (which include green, blue, violet) show excellent promise as replacements for conventional CDs, DVDs and disk drives because they can write in a smaller space, thus significantly condense the amount of space needed for storing information on a single disk.

HBTs (heterobiopolar transistors) and HEMTs (high electron mobility transistors) are prevalent in cordless portable telephones and cell phones as well as other wireless communication devices. Essentially all these devices are compound semiconductors, created by epitaxial growth techniques, reaching performance levels not possible with silicon-based devices.

The Opportunity

III-V Technology semiconductors are particularly applicable to photonics, also known as “optoelectronics”, which is concerned with the transmission and manipulation of information and energy in the form of light (photons) rather than electricity. The application of photonic technologies can enhance the performance of a wide range of products across industries as diverse as transport, security, communications, healthcare and energy. The market for systems dependent on photonics is already over £150 billion.

Medical Technologies Innovation Centre (MTIC)

Evidence of CDI cluster strengths in digitally enabled healthcare technologies are already visible in the sub-region; for example Capex Health in Barnsley. Medipex research currently being undertaken for RSY is reviewing regional strengths in healthcare technologies. A high proportion are in SY, deriving from both Universities and the Sheffield Hospitals Teaching Trust and many are already exploiting digital technology or have the potential to do so.

The Opportunity

Opportunities exist for SY CDI businesses in the form of IP and innovation or as part of the supply chain (individually or collaboratively though such as the VEN) for large public sector investments; for example, the diagnostic PDA being developed by Toshiba for the NPfIT ‘Connecting for Health’ programme.

Particular areas of strength in the SY knowledge base are in: cardiology, urological devices, imaging and minimally invasive surgery. Technology drivers include:

- less invasive surgical procedures and devices

- robotic-guided surgical devices
- laser technology
- nanotechnology applications
- remote patient monitoring
- high intensity focused ultrasound
- high precision microscopy and applications for digital and 3D imaging.
- bioinformatics exploiting knowledge of genomic mapping and DNA sequencing in patient diagnosis and records

The key challenge and therefore the market opportunity is systems integration of all of these potential technologies and applications into a coherent and effective approach.

The Response

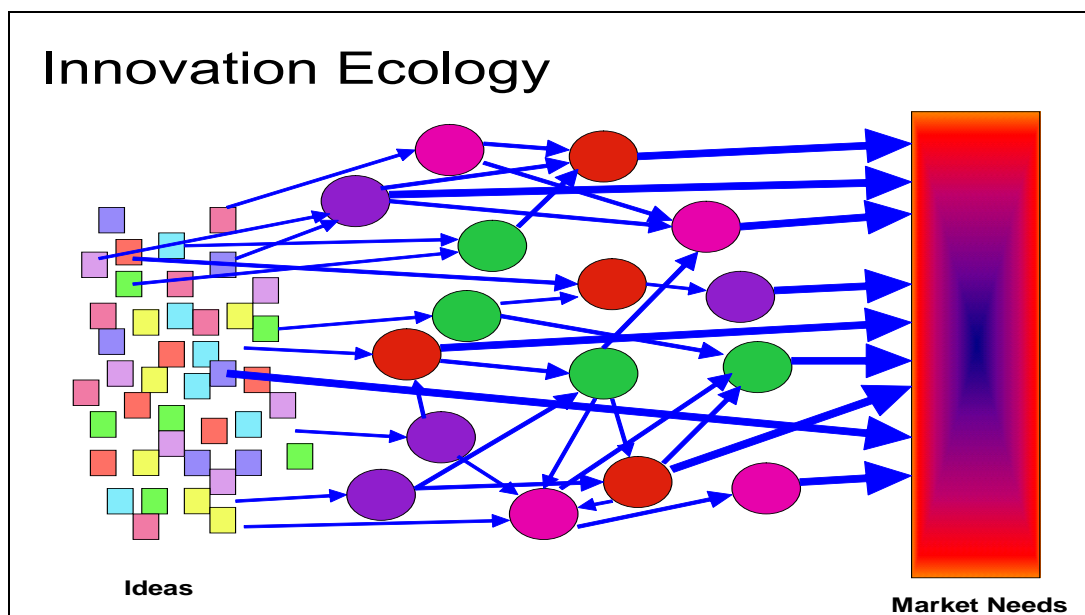
The Sheffield Hospitals Teaching Trust and both Sheffield universities are developing the concept of a Medical Technologies Innovation Centre (MTIC) to develop and exploit some of these technologies into the market place, hopefully for funding in 2008. With the right exposure and proactive local partnership brokerage, this could provide catalytic opportunities for CDI companies specializing not only in healthcare services but also in enabling mobile and imaging solutions, which draw on other growth CDI niches highlighted in this report.

At present, there are insufficient resources in the clinical and academic communities to fully address these ambitions and a consequent inability to transfer knowledge and skills to businesses in the medical devices and associated services sectors. The project funding will address specifically these deficiencies. In order to accommodate the necessary step change in the extent to which the Trust and the University can engage with industry in the medical devices sector, a catalyst is needed and the concept of the MTIC has been developed precisely to fulfil that role. The MTIC will:

- Translate cutting-edge specialist research and development for medical devices, medical techniques and manufacturing methodologies to create innovative, effective products and processes.
- Grow business in key clusters: healthcare technologies (HT), creative & digital industries (CDI) and advanced engineering and materials (AEM).
- Provide access to scientific knowledge, technology transfer and research expertise (including ethical approval and other process issues) beyond that available if purchased by businesses individually.
- Support businesses to overcome key clinical and regulatory barriers to successful healthcare technology, including opportunity to validate products.

6.3.2 Business Ecosystem Support

Feedback across the regional CDI sector emphasises the development of routes to market as the fundamental requirement for growth. Dr. Chris King’s representation of the innovation ecosystem as a complex food chain or network illustrates both the challenges and the opportunities in the CDI marketplace. In this model the winners are businesses and individuals who can identify and adapt to a range of customers and their customer’s customers. In so doing they may need to be integrators as well as being originators.



Experience suggests that this requires levels of agility and networking that are beyond the means of most locally based businesses. In this respect, the survey of SY businesses in this study reinforces the views expressed in the 2007 Yorkshire Forward regional CDI consultation that technology intelligence and access to networks and markets represent key barriers for small businesses which cannot effectively staff those functions. As highlighted in the following table, this was strongly voiced in the South Yorkshire consultation.

YF CDI Regional Consultation 2007	H U M	N Y	S Y	W Y	T O T
Top 8 Themes					
1. Sector Directory to discover & differentiate	4	4	9		17
2. Networks & Special Interest Groups		5	6	4	15
3. Networks for bidding & contract execution	9	1	5		15
4. Track market intelligence and technology trends	0	1	10	3	14
5. Facilitate access to markets & buyers	3	1	7	2	13
6. Make cultural dynamism central to Yorkshire branding	3	9			12
7. Ensure business support involves specialists	3		3	5	11
8. Expertise in changing markets and value models	1	1	8	1	11

The principal mechanism will be expert support, though specialist CDI business support providers, incubation and grow on facilities (such as Sheffield Technology Parks, winner of the 2007 UK Incubator of the Year award). Innovation Specialists (backed by i-Credits as proposed in the RIS) should play a key role, potentially linked to Local Authority investment teams. Well chosen and effectively directed Innovation Hubs, Satellites and specialist network organisations (such as ADI, Learning Light and VENS) can also make major contributions in this space.

6.3.3 Innovation Competitions

In addition, innovation capacity and conversion may benefit from the wider application of the pre-competitive R&D support modelled in the Melt programme. The key to the Melt offer is arguably the services and knowledge transfer wrapped around the award process.

This table indicates the potential value (scale from * to ***) for 'winners' and 'losers' in three columns

- Prop – Proposers who get no further
- £1k – Winners of introductory awards
- £50k – Winners of bigger awards

Melt offers ...	Prop	£1k	£50k
Experience of pitching	*	**	***
Advice from the Melt team and other mentors	*	***	***
Networking and collaboration with other participants	*	***	***
A sharp focus on the realism of an idea in terms of technology, audience, route to market	**	***	***
Opportunity to test ideas in a pre-competitive environment		**	***
Investment without forfeiting IPR		*	***
Investment without forming a company		*	***
Collaborating with partners who have other pieces of the jigsaw		*	***
Time to think and plan			***
Access to investors		*	**
Access to mainstream business support	*	*	*

It will be hard to verify impact on the cluster simply because Melt supports things which are truly pre-competitive. However the current evaluation is likely to evidence that

- Commissioners and other investors have become engaged with the SY cluster, especially important at the time of the BBC North initiative
- Links have been made between creatives and businesses (locally and beyond) that would never otherwise have occurred
- Melt ideas, successful and otherwise, get talked about, generating their own possibilities in the minds of local players

Melt offers a generally applicable model for stimulating innovation that is different from anything else on the market.

- European R&D, notably the Framework Programme (FP7), is only open to SMEs who are able to infiltrate large consortia. In FP4, a Sheffield record label built a ground breaking website in an ACTS project – but that is massively the exception.
- National schemes, run by such as Nesta, which are typically more thematically constrained

- National R&D funds, administered regionally by YF, are not open to sole traders, are subject to questionable proof of innovation and involve complex match funding and audit mechanisms
- Sub-regional R&D funds, notably IFG2, which are equally complex and require a 'close to market' business case, though IFG2 is much more open in terms of the end product
- Standard business support, such as HGSU, which is dependent on traditional business support outcomes
- Venture capitalists and business angels – not much use if you are not a business and also requiring more equity than should be given away at an early stage

Under the Innovation strand of ERDF, this model could easily be applied to other sectors, such as software, e-learning, e-commerce or product design.

7. Marketing Propositions

7.1 CDI Selling Points

Of the messages which might be embraced within the South Yorkshire CDI proposition, it is essential to recognise

- which are important (i.e. truly relevant to businesses in the CDI sector) – whether as a ‘must have’, a selling point or a value added extra
- which are current assets and which require onward development both as propositions and as tangible realities

As part of the consultation, local authority representatives from Barnsley, Doncaster & Rotherham (B,D,R) provided local responses to set of propositional options, summarised here. The responses were subsequently reviewed by Creative Sheffield.

CDI Selling Point	Current Assets			Required Proposition X = Desirable * = Must have		
	B	D	R	B	D	R
Reputation						
General reputation				*	*	X
Sector reputation	X			*	*	*
Public sector reputation		X	X	X		
A compelling brand				X	*	X
A new / fresh opportunity	X	X				*
Location						
Great place to live	X	X			*	
Great countryside	X	X				*
Cheap place to live	X	X	X			
Business Conditions						
Cheap place to run a business	X	X	X			
Great place to start a business	X	X	X	*		
Access to financial support	X	X		*	*	*
Access to business support	X	X	X	*	*	
Specific public sector advocacy		X		X		*
Skills, Knowledge & Expertise						
Access to higher level skills					*	X
Access to intermediate skills			X	*	*	
Access to knowledge					*	*
Access to Universities				X	*	*
Access to specific supply chain				X	*	
Specialist cluster of businesses				X		
Infrastructure						
Business premises	X	X		*	*	X
Transport links	X	X		*		X
Digital infrastructure		X			*	*

The **highlighted rows** represent elements of the CDI proposition where there is a significant mismatch between the current assets across the boroughs and their perceptions of what is required. Whilst this may differ for Sheffield in some aspects of 'skills, knowledge and expertise' (for example, access to Universities), Creative Sheffield recognises the same propositional challenges of reputation / branding, skills and digital infrastructure.

7.2 Recommendations - Proposition

7.2.1 Priorities

As illustrated in Section 7.1, individual Local Authority feedback on developing the CDI proposition focuses on common ground in terms of vision and requirements.

Particular emphasis is placed on

- Developing reputation – specifically sector reputation
- Enhancing reputation through a compelling brand
- Linking reputation with quality of life in South Yorkshire

Confidence in and evidence for the breadth and depth of underlying skills and expertise was a shared priority, given that core business infrastructure is no longer an inhibitor to investors.

The business support offer (especially financial support) was emphasised as an essential and currently well served element of the CDI proposition.

The availability of business premises was identified as a crucial selling point, backed by transport links and digital infrastructure.

It was a common view that the overall proposition should emphasise fresh opportunity (as opposed to traditional standing), clearly based on current and developing assets, such as quality of place.

7.2.2 Next Steps

Shared perceptions indicate the South Yorkshire partners should work together to develop a South Yorkshire CDI brand linked to a marketing strategy that can be applied flexibly as development and investment opportunities occur. In this context, a comprehensive marketing and communications plan will involve:

- A sub-regional proposition with local perspectives
- Company and expert case studies
- Links with universities, colleges and schools
- Cohesion with cultural, tourism and events strategy

The sub-regional CDI proposition should take account of lessons learned from successful CDI locations, avoiding both the meaninglessly generic (e.g. broad CDI) and the microscopically focused (e.g. e-Learning), ideally selecting a broader thematic niche with multi-faceted connotations and leveraging historic strengths.

As an immediate priority, RSY might assist the wider process by engaging marketing experts to explore, further detail and test the idea of 'Design' as the core CDI proposition in the local and the sub-regional contexts. The 'Design' theme may be replaced by any alternative which emerges during this process.

7.3 Example Proposition - 'South Yorkshire – Better by Design'

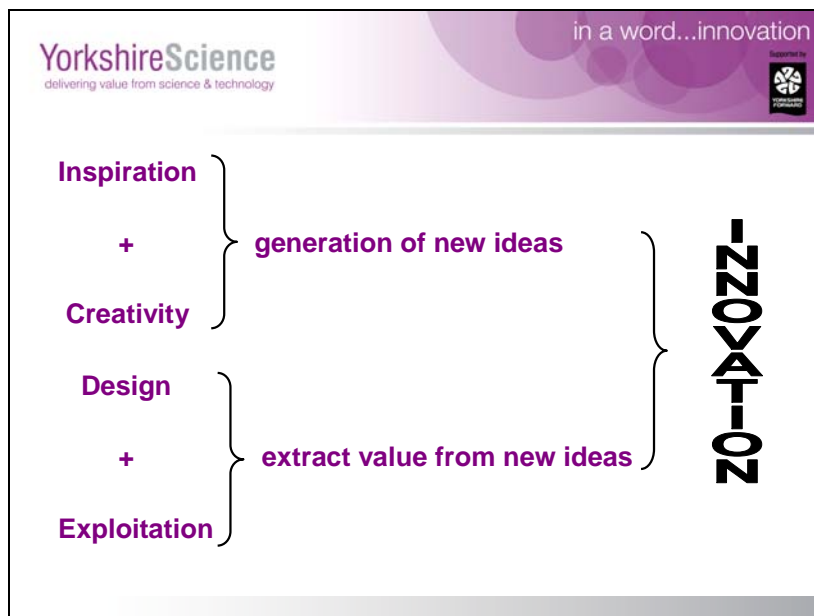
Design is essential to the success of the producer economy & its products – and South Yorkshire has design capability in abundance

Design is interwoven in the fabric of South Yorkshire culture, linking the traditional with the modern and proposing the future, spanning the analogue to digital continuum.

The branding of two leading South Yorkshire digital companies has recognised the compelling power of design - The Designers Republic ('Brain Aided Design') and FDI Solutions ('Freedom by Design').

The **Regional Economic Strategy** (2006-2015) identifies inventiveness and creativity as core values. Recollecting that "Yorkshire was at the heart of the 'Workshop of the World' that started the Industrial Revolution", the RES states that "We have a new generation of the best academics ... world-renowned entrepreneurs ... creative and progressive thinkers." (Para 3.18)

The **Regional Innovation Strategy** recognises design as the key to extracting value from new ideas in the knowledge economy.



The Design theme sets out the realistic opportunity for South Yorkshire to position itself at the forefront of the producer economy, based on its continuing tradition of creativity in cultural and industrial product design. In the new South Yorkshire, excellence in design is recognised in

- Traditional strengths in cutlery, cutting tools and advanced metals
- New applications in sports technology championed through Sports Pulse
- The visual arts benefiting commerce as well as collections
- The digital realm of products, tools, and media
- High value creative and knowledge services for the new global economy
- Physical space – both the built and the natural environment

Two complementary facets of the cultural product and its impact are of vital importance

- First, there is economic activity directly related to design - the direct impact of design activity, generating revenue and employment from products and services in both public and private realms
- Second, there is the contribution of strengths to the wider economy – the capacity of design and the associated expertise to inspire and provide essential input in to a range of broader activity in the producer economy that is dependent upon creativity, design and innovation for its distinctness and quality

South Yorkshire has a long standing and international reputation for quality products based on technical innovation and creative design, notably for cutlery, silver plate and thereafter for special steels and cutting tools. 'Made In Sheffield' still represents a powerful globally recognised brand. In 2007 'Creative Sheffield' celebrates the importance of the creative producer in 21st century South Yorkshire.

The last decades of the twentieth century were years of crisis for South Yorkshire followed by a rediscovery of the talent for design applied to new and innovative products, digital as well as material, broadly across South Yorkshire.

The celebration and promotion of design capability (for example 'Better by Design' 'Designed in South Yorkshire' or 'Created in South Yorkshire') therefore emphasises a continuum linking the historic traditions of master craftsmen with proven present day strengths and emerging opportunities in the digital world.

The theme places CDI at centre stage alongside both manufacturing and culture. It also presents significant promotional opportunity in terms of exhibitions, on-line presence and industrial sponsorship.

Potential Design Highlights

Advanced Manufacturing – Braun, Flatworld, Gripple, Sportspulse, NAMTEC
IT - Microprocessors (University of Sheffield, Arm, Jennic), Software (Fluent, Seams, Fretwell-Downing), Networks (Networks by Wireless)
Interactive Games – DESQ, Gamesauce, Zoo Digital
Print – Northend, Polestar
Web and cross-platform design for enterprise, education and entertainment – Futurate, Line, Quba, Technophobia, The Sheffield College, Learning Light
Virtual Reality and advanced visualisation – DKE, Lightworks
International design icons - The Designers Republic, Lovebytes (the International Festival of Digital Creativity & Innovation), Sheffield cutlery and silverware
Design for living - urban centres, country houses, parks & gardens, buildings for the future (Moorgate Crofts in Rotherham, the energy environmental incubator, the Winter Garden in Sheffield)
Academic excellence in creative & industrial design – Barnsley Design Centre, Design Works, Doncaster Digital Knowledge Exchange, SHU Design Futures CIC
Form & function in decorative arts – Canon Hall (Moorcroft), Clifton Park Museum (Rockingham), the Millennium Galleries (John Ruskin & Bill Brown collections), Yorkshire Art Space