

RSP Cross-Cutting Issues 2006: Skills and Innovation

Key Findings

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Innovation can support economic competitiveness, growth and regional prosperity, acting as the ‘transformational element’ in the economy. Key routes to innovation are the exploitation of an invention, adaptation of a technology or idea from another sector, reconfiguration of existing products and services or a completely new business approach.

The Region’s innovation performance

Given the concentration of manufacturing activity in the West Midlands comparatively high rates of innovation would be expected relative to the rest of the country. However although the rate of generation of new and novel products is above the national average in some manufacturing industries:

- The R&D expenditure of West Midlands businesses is the third lowest in the country
- The proportion of the working population deemed to be ‘entrepreneurially active’ is falling

Innovation and skills

The West Midlands also lags behind other regions in relation to other ‘innovation input’ factors, notably limited access to appropriate skills. Skills that underpin innovation include:

- Entrepreneurship skills: encouraging creativity, risk taking and an innovative ‘ideas culture’
- Leadership skills: the motivation, inspiration and empowerment of others
- Multi-skilling: people becoming adept in a range of roles, adaptable to changing circumstances and open to new ideas
- Creativity - which is based on openness to new thinking, sharing of knowledge, an unconventional but results driven approach, the sharing of knowledge and an effective flow of information
- Skills in networking and collaboration

Innovation and skills in key target sectors for the ITC

A range of specific skills and attributes to support innovation have been identified in key target sectors identified in the Region by the Innovation Technology Council (see Table 1).

Table : Skill Needs in key target sectors	
Target Sector	Skills and attributes for innovation
New and advanced materials in manufacturing	<p>New product development and introduction: The acquisition of specialist expertise in leading edge techniques, developing close relationships with customers, exploitation of ICT for design, simulation, prototyping and testing</p> <p>Developing ‘smart’ consumer products: new horizon watch, market appraisal, competitor analysis, technology and knowledge transfer, product development expertise and leadership and management of innovation</p>
Transport technologies	<p>Technical skills within the automotive supply chain: project engineering, specialist ICT including simulation software, E-business</p> <p>Developing the ‘digital factory’: materials technology, micro-manufacturing, virtual engineering, simulation, advanced materials, CAD, quality assurance</p> <p>Leadership and management: strategic, programme, project and supply chain management, motivation, coaching and team building, networking, negotiation and developing customer-supplier relationships</p>
Medical & healthcare technologies	<p>Among existing SMES: marketing and market knowledge, knowledge of the NHS procurement process, business development, training and recruitment</p> <p>To attract additional start up and growing companies: business management and development, legal skills, commercial acumen, supply chain, production and project management, health and safety knowledge, knowledge of medical compliance/regulations</p>
Construction & the built environment	<p>ICT: procurement and logistics, the development and use of smart technologies and robotics</p> <p>Modern construction methods: modular wiring in preassembled pods, dealing with flat pack buildings</p> <p>Building services: system design and pumping, water treatment, power flushing, energy efficiency and sustainability, photovoltaic energy sources and environmental technologies</p>