The Oxfordshire Economic Observatory Project

Helen Lawton Smith, Founder and Managing Director

The new economy- innovation and regional development

- Common policy targets innovation, skills, clusters, university-industry interaction, infrastructure, sustainability and urban structure
- Multiple agency delivery
- Hence need for a holistic approach to data collection and analysis

Data collection

- Up-to-date
- Indications of trends over the short and longer timescales
- Benchmarked against other regions
- Analysis should reflect different interests and their agendas: the individual, the firm and the region.

OEO

- exemplar of a university-based research centre that is located at the nexus of academic, business and government interests (triple helix model)
- An independent research centre, based both in the School of Geography, Oxford University, Department of Planning, Oxford Brookes University and Birkbeck

Mission

- to undertake world-class research providing data and analysis to major stakeholders in the Oxfordshire region and to broader communities – at regional, national and international scales.

Presentation - four themes

- process of developing the Observatory
- OEO's research portfolio
- how the findings are being utilized for regional development purposes
- the relevance of OEO to regions in developing countries.

the need for the Observatory.

- Origins in two decades of high profile research on the Oxfordshire high-tech economy from 1984

(*The Cambridge Phenomenon* was published in 1985)

- support from external agencies, for example The Oxford Trust, Oxfordshire County Council and Oxford City Council.
- always embedded in the local system of governance.

Timing

- Founded in January 2001
- Political agenda post-1997 Labour Government prioritised universities' role in economic development White Paper *Our Competitive Future: Building the Knowledge-Driven Economy 1998*
- Regional Development Agencies (RDAs) 1999
- Clusters (White Paper on Business Clusters published in 2001).

Organisational structure

- Management team
  - Four founding academics (geographers, planners)
  - Overall direction – HLS + Professor John Glasson
- Research assistants
- (Brookes, Oxford and Birkbeck
- Advisory Council
- Strategy Group
- Website http://oeo.geog.ox.ac.uk

Funding

- Initial funding

- The Oxford Trust
- Oxfordshire County Council
- Oxfordshire's district Councils

- Development Funding

- Individual projects, Higher Education Innovation Fund

Advisory Council & Strategy group

- Representatives from major local and regional organisations

- regional and local public authorities, key local entrepreneurs, senior academics and scientists from the research base

- Advisory Council meets annually,
- Strategy group quarterly.
- OEO represented on key local initiatives

Oxfordshire Community Data Observatory, Oxfordshire Economic Partnership, Oxford Networks

OEO's research portfolio

- **Database of enterprise**
- **Benchmarking Oxfordshire**
- **Employment: supply and demand**
- **Evaluating the significance of clusters for technological development**
- **Mapping university/national laboratory interaction**
- **Infrastructure and policy networks**
- **The Oxfordshire economy**
- **Urban structure and the new economy**

Projects and outputs

Oxfordshire Economic Observatory

Enterprising Oxford

- Volume 1 – Growth of the Oxfordshire High Tech Economy
- The Anatomy of the Oxfordshire High Tech Economy

Overview of High-Tech - 2001

- 1,400 firms in high-tech sectors
- 36,700 jobs in Oxfordshire
- Fastest % increase amongst English counties, 1991-2000
- 12% of Oxfordshire employees
- Size – 66% have 10 or fewer staff, but the larger firms account for bulk of high-tech jobs
- Age – 66% formed since 1991; 41% since 1996
- Origin – most are indigenous; small % of university spin-offs
- Ownership – less than 10% foreign-owned

Labour market studies

Clustering of innovation demands and creates a local highly-skilled labour market.

- Milton Keynes, Oxfordshire and Buckinghamshire Learning and Skills Council (April 2002-August 2002) 'The labour market potential of over 50s Scientists and Engineers in the MKOB region'.
- Technicians: Planning for the next generation of skills' The Oxford Trust/Oxford2Cambridge Arc (January to August 2004)
- Human capital formation in IT, engineering and management (in process)

Networks

Social networks (social capital) key medium by which technology transfer, inter-firm linkages and business support activities are facilitated.

- How many networks?
- What are their objectives?
- In which domain are they based?
- What do they deliver?
- Where are the gaps?

University-Industry Links

- Measuring the performance of Oxfordshire's academic spin-offs (2004/2005) Report, 2005
- London University spin-offs (2006)
- LocoMotive – European Commission study on R&D activities of foreign-owned companies (2006-)

Infrastructure and policy networks

- Seminars on transport, planning, sustainability for local stakeholders

Broadening OEO: The Oxfordshire Economy

- Five briefing papers on trends in the Oxfordshire economy.

- Up-to-the-minute analysis of recent trends across the Oxfordshire economy as a whole. - labour market trends and in the performance of the economy.
- Presented to the Oxfordshire Economic Partnership

- Study for Federation of Small Business Oxfordshire Branch on the Oxfordshire business ecosytem (business to business linkages)

Other outputs

- Academic articles
- Articles in government publications e.g. Egov Monitor, Parliamentary Brief

OEO's regional role and relevance to developing countries: five points

- need to create a database of activity
- embedded engagement with stakeholders is crucial
- well presented and frequent output is essential
- the right mix of skills and good working relationships between the key players
- observatories need to be funded by central sources as well as through competitive bidding.

Conclusions

- Local observatories can improve local policy making by delivering relevant information and analysis at a relatively low cost.
- Such academic research centres are established out of the long-term interests and passions of their founders
- principal advantage of such a model is that its management team build up long-term relationships with local stakeholders in both the public and private sectors + reciprocal benefits
- Profile building for region and organisations

Enterprising Oxford – The Context

- Oxfordshire's old economy
- The need to change
- Early years of high-tech (to mid-1980s)
- Reasons for change
- Take-off & growth phase (mid-1980s onwards)

Enterprising Oxford – Key Elements

- Enterprising individuals – town & gown
- Universities & government laboratories
- High-tech firms
- Support for high-tech; local catalysts
- The planning system

Background to the Report

- Growing interest in contribution of high-tech firms to local & regional economies
- Lack of up-to-date information – unlike some competitors (e.g. Cambridgeshire)
- Establishment of OEO
- Development of high-tech company database for Oxfordshire

Issues Addressed by the Report

- Defining high-tech
- Key high-tech sectors
- Distribution of activity
- Importance
- Growth
- How does Oxfordshire compare?

Characteristics of High-Tech Firms

- Involvement in innovation
- R&D-intensive
- High % of technology-oriented staff
- Intensive use of technology
- High technology content – patents, licences
- Leading-edge products or services

Defining High-Tech

- No consensus on precisely which sectors meet these high-tech criteria
- Several alternative definitions
- Most use data on R&D-intensity to identify lists of high-tech sectors (those with “high” R&D intensity)
- Lists are based on SIC categories

Existing High-Tech Definitions

- Butchart (1987) – early UK definition
- OECD (1997) – adopted by Eurostat
- US Bureau of Labor Statistics (1999)

- OEO definition – based on Butchart, but adds in some newly emerging and non-SIC based activities (e.g. biotech, motorsport)

Sectors Defined as High-Tech

- Biotech & pharmaceuticals
- Computer equipment
- Electrical equipment
- Electronic equipment
- Instruments, medical & optical equipment
- Motorsport; automotive engineering/design
- Aerospace
- Advanced materials
- Precision engineering
- Telecommunications
- Software, web/internet & other computer services
- Research & development
- Technical consultancy, testing/analysis

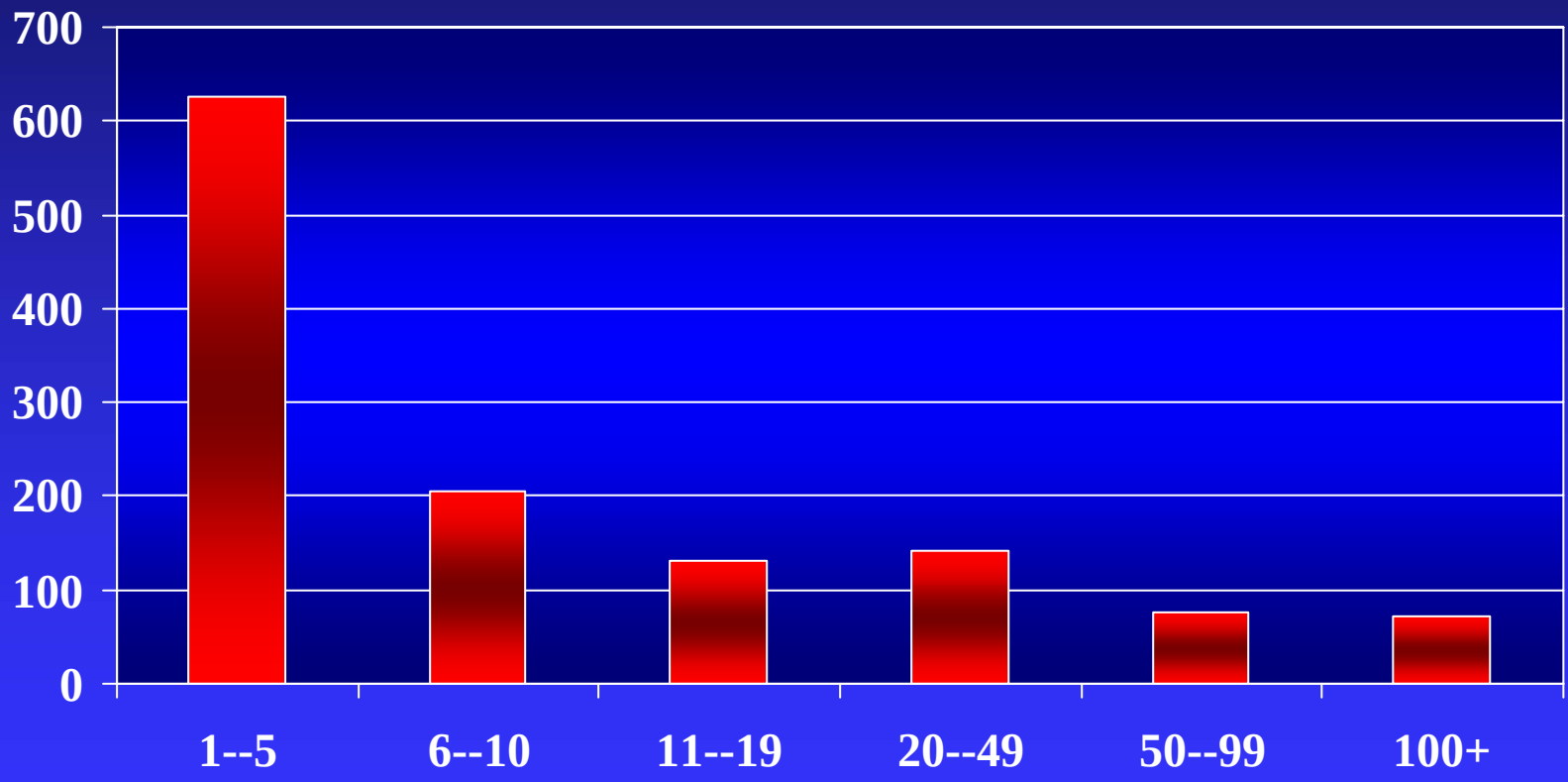
Overview of High-Tech - 2001

- 1,400 firms in high-tech sectors
- 36,700 jobs in Oxfordshire
- 12% of Oxfordshire employees

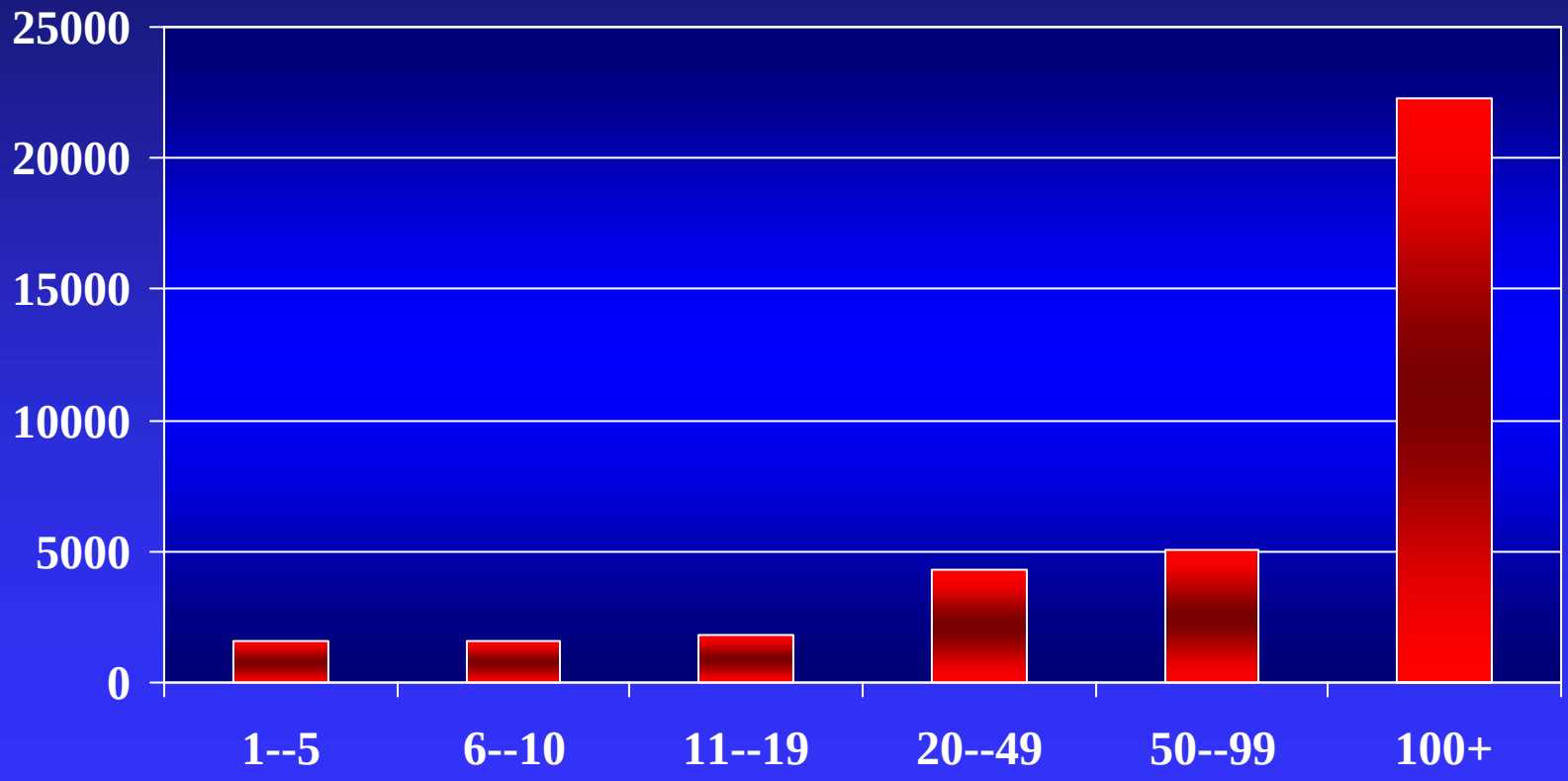
Characteristics of High-Tech Firms

- Size – 66% have 10 or fewer staff, but the larger firms account for bulk of high-tech jobs
- Age – 66% formed since 1991; 41% since 1996
- Origin – most are indigenous; small % of university spin-offs
- Ownership – less than 10% foreign-owned

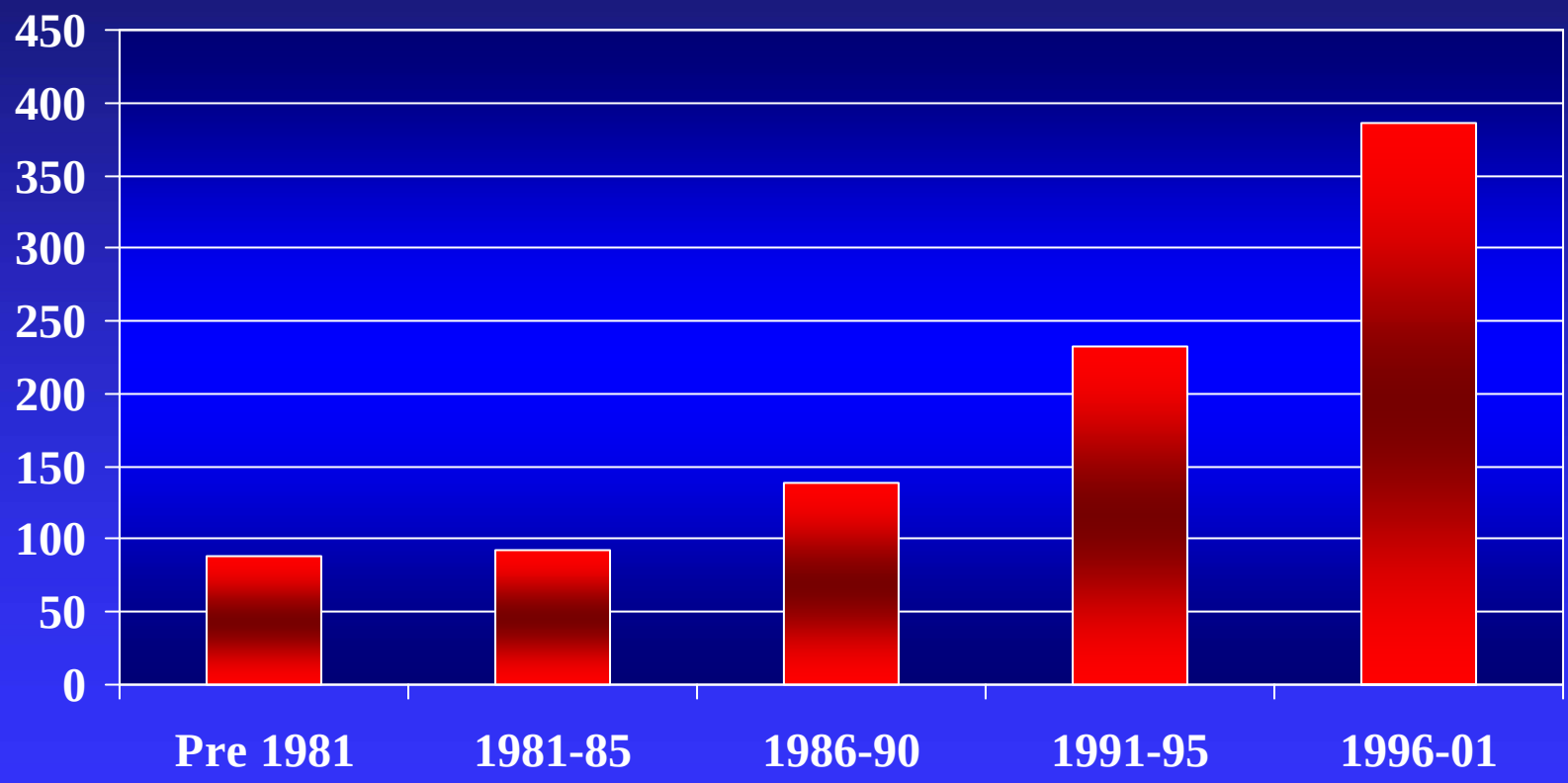
Size of High-Tech Firms (No of Employees) - 2001



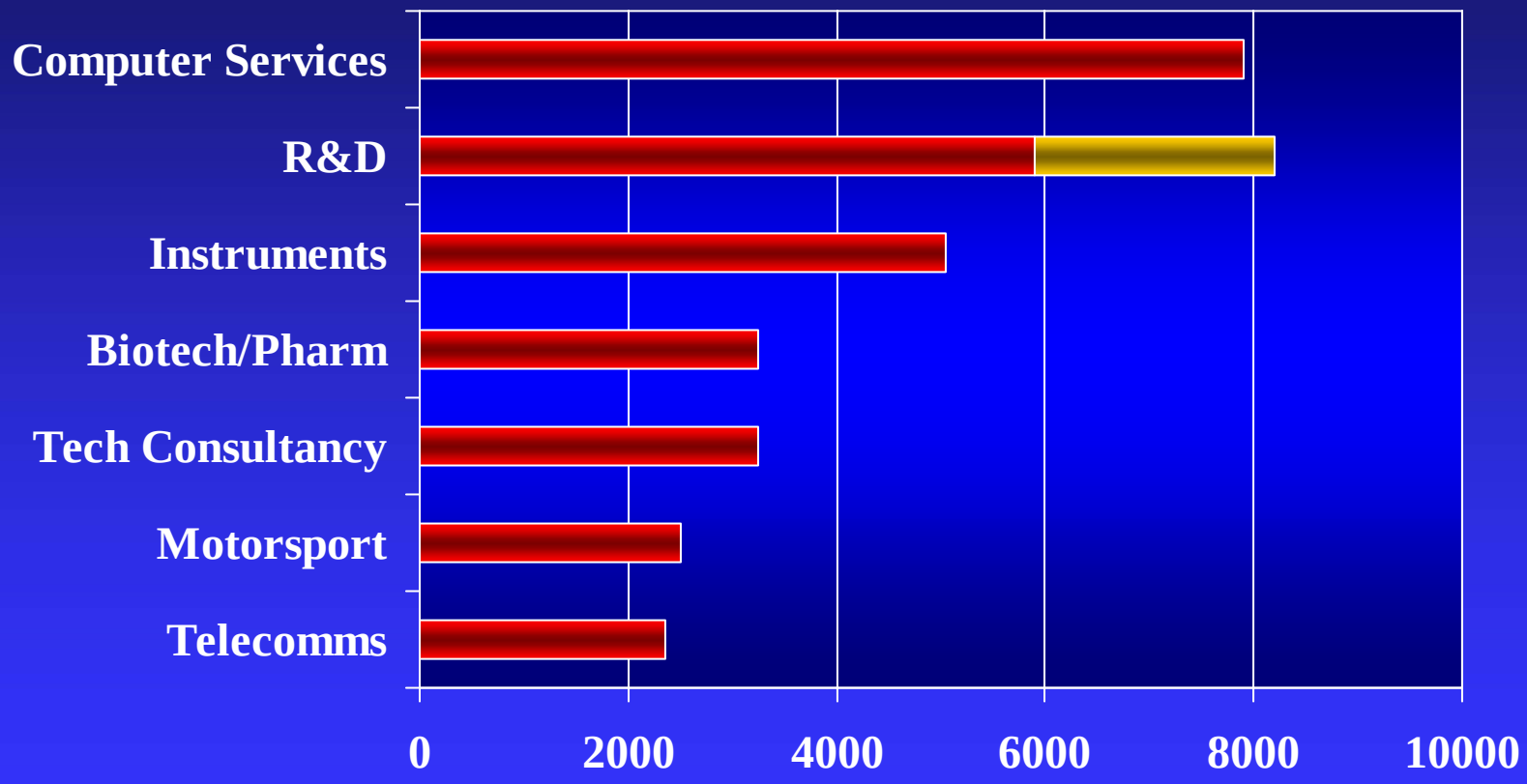
High-Tech Jobs, By Size of Firm - 2001



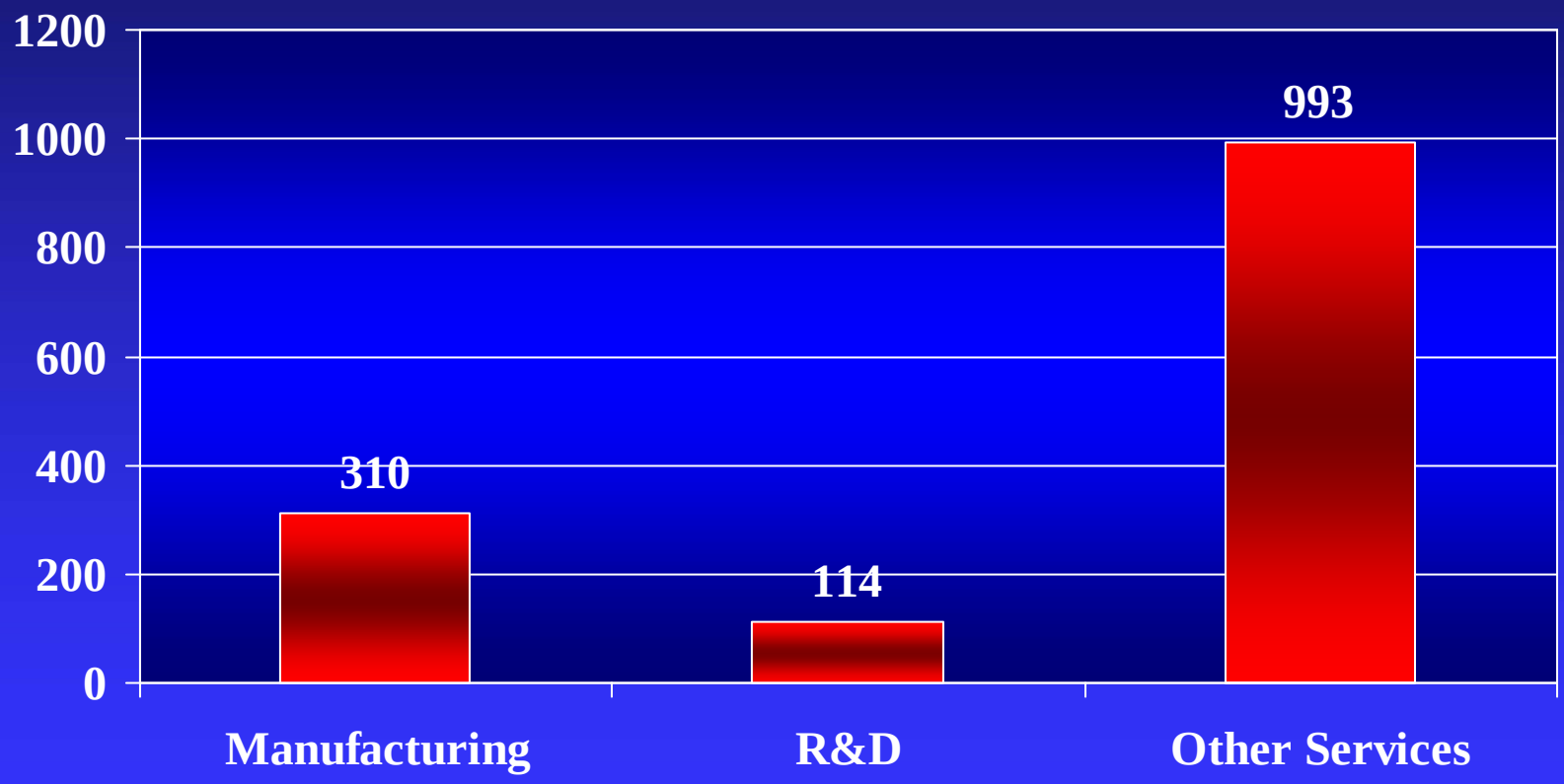
Year of Incorporation of High-Tech Firms – As at End of 2001



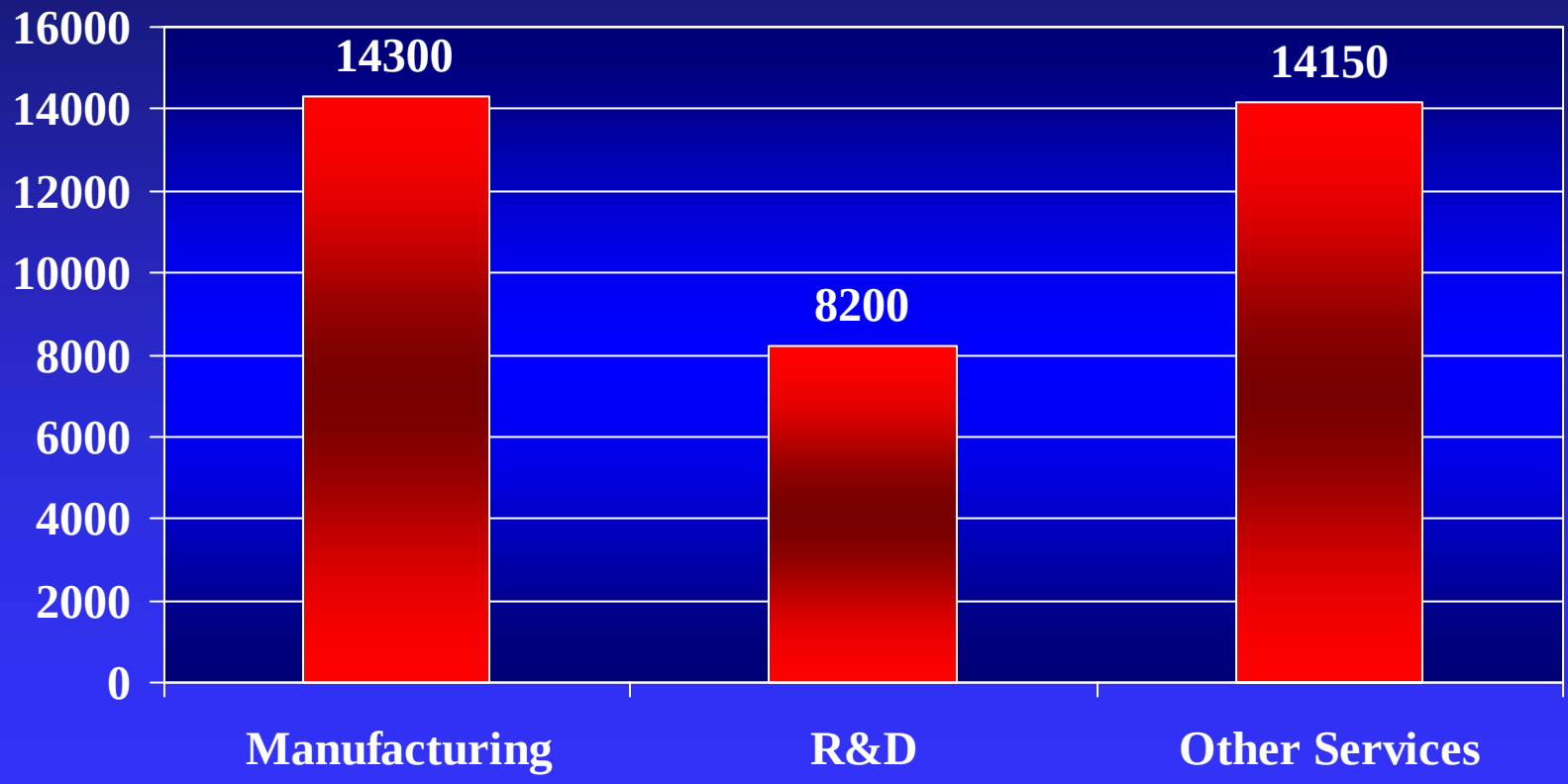
High-Tech Jobs – Key Sectors (2001)



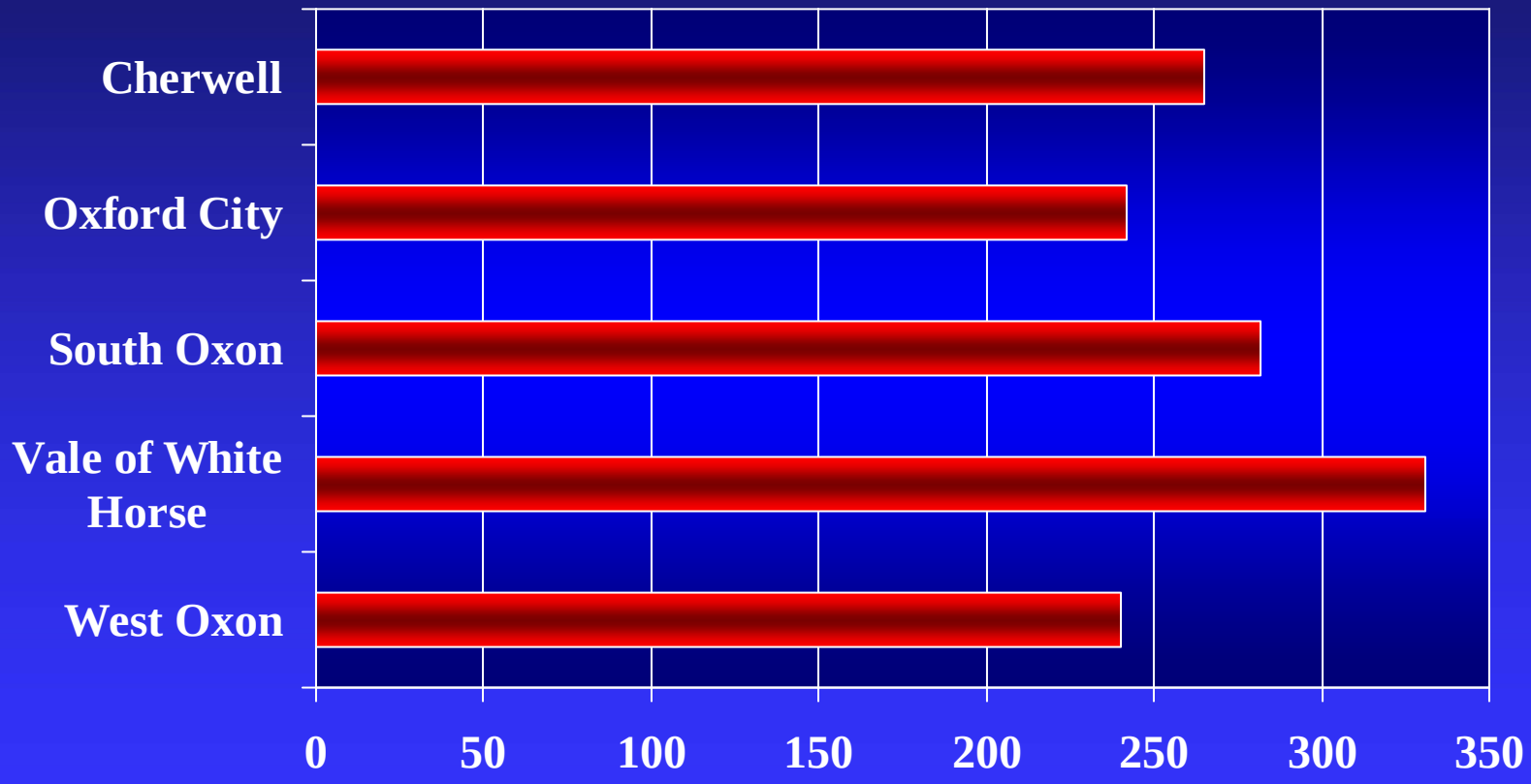
Number of High-Tech Firms, By Primary Activity - 2001



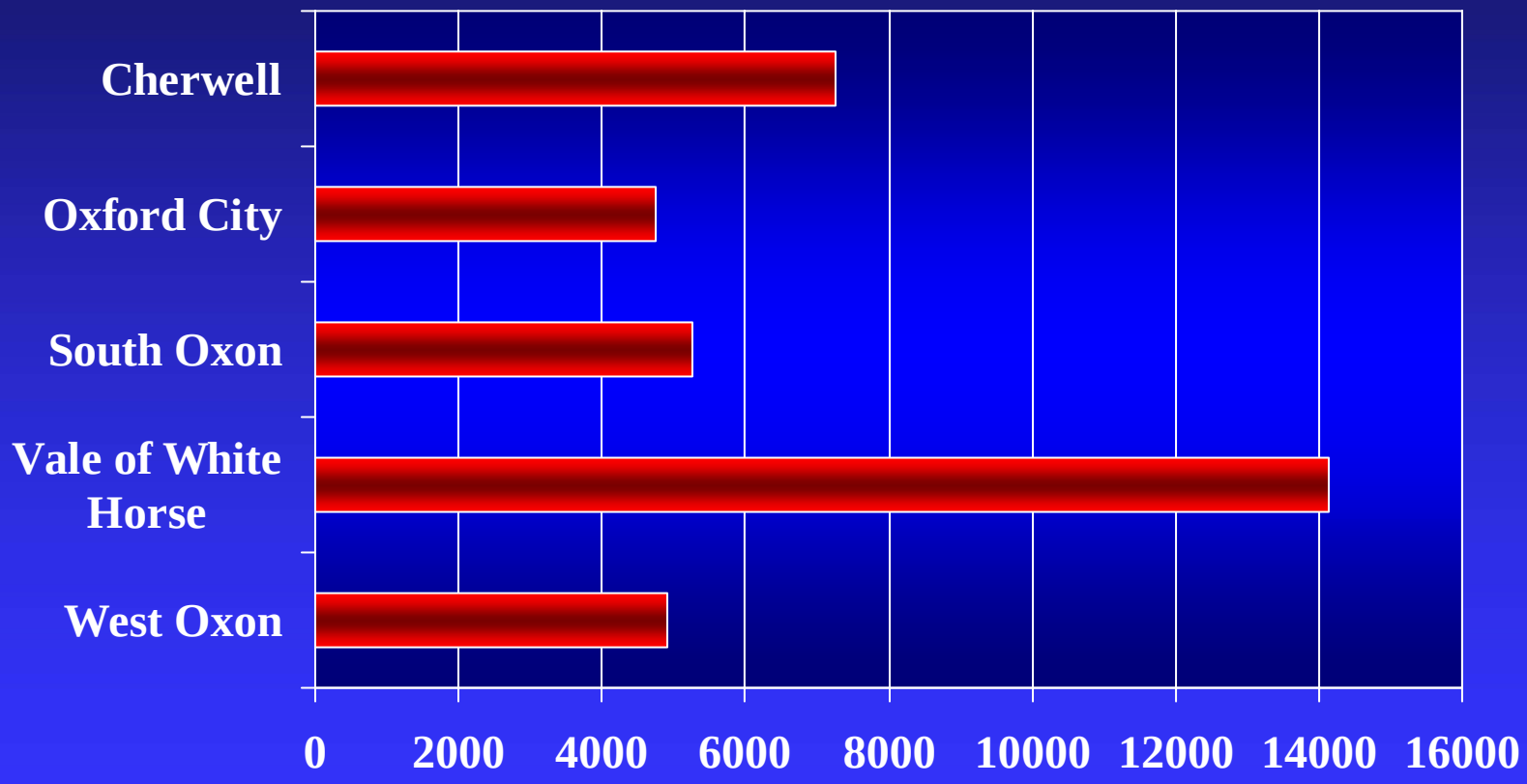
Number of High-Tech Jobs, By Primary Activity of Firm - 2001



Distribution of High-Tech Firms - 2001



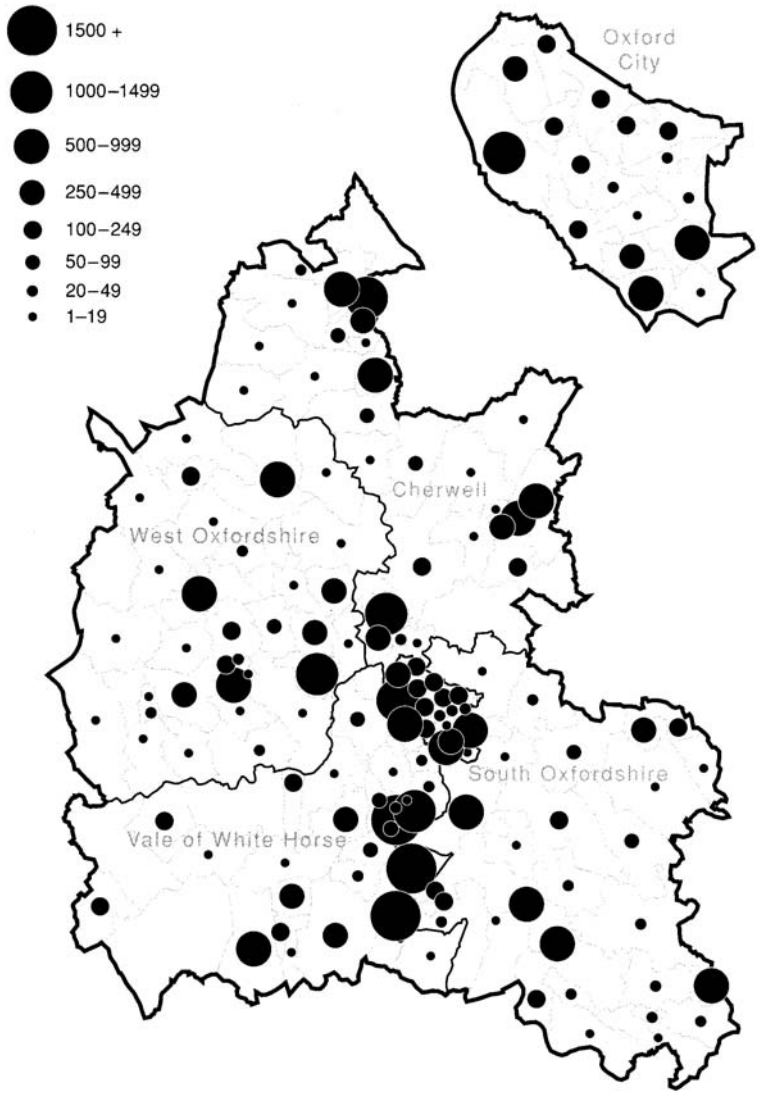
Distribution of High-Tech Jobs - 2001



Importance of High-Tech - 2001

District	No. of High-Tech Employees	As % of All Employees
Cherwell	7,250	10.7
Oxford City	4,750	5.2
South Oxon	5,250	9.1
Vale of White Horse	14,150	26.1
West Oxon	4,900	13.4

Figure 3.1 Location of High-Tech Employment in Oxfordshire, 2001



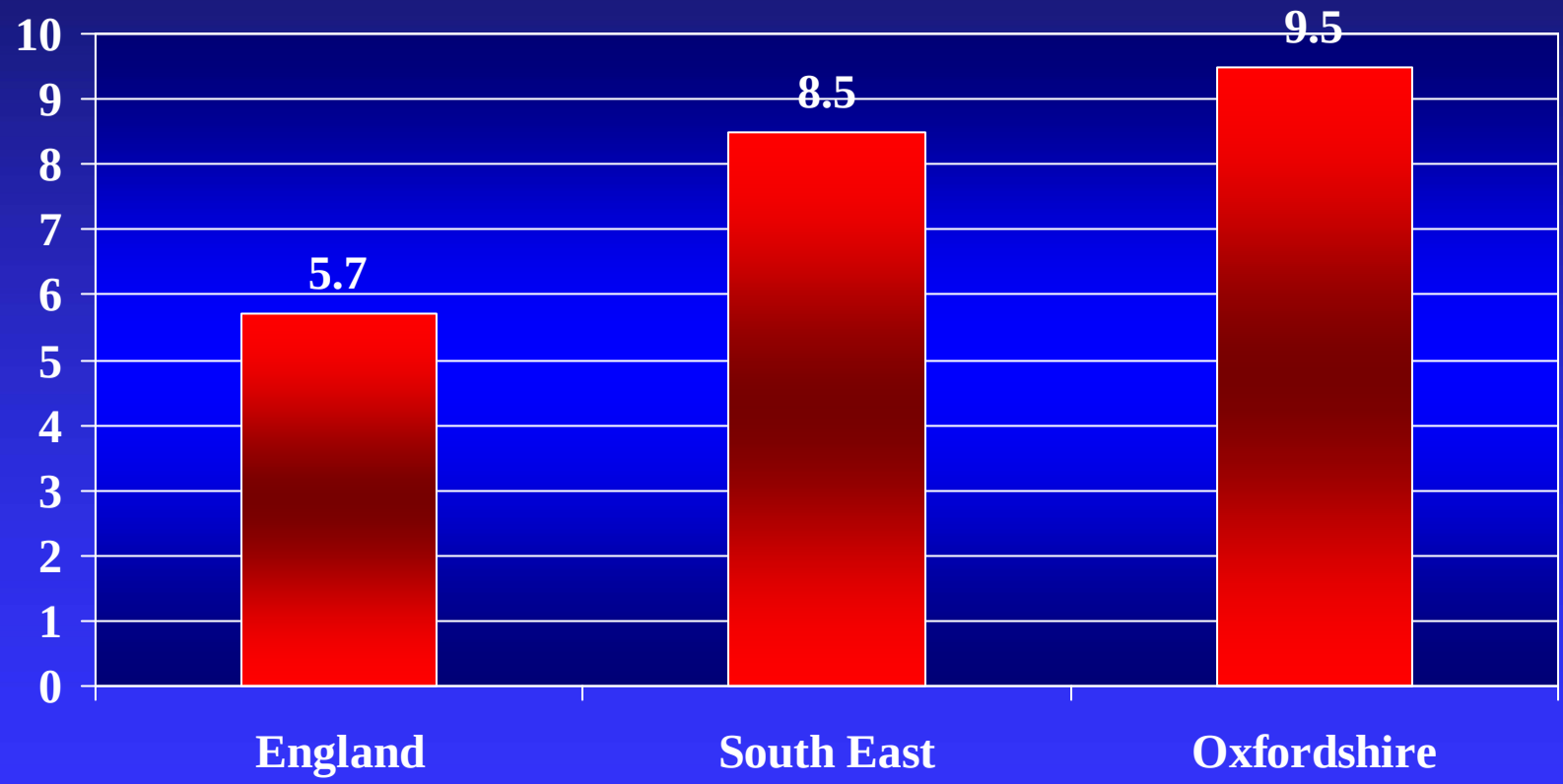
How Does Oxfordshire's High-Tech Activity Compare?

- with regional & national averages?
- with other counties in the South East?
- with all English counties?
- with other European regions?

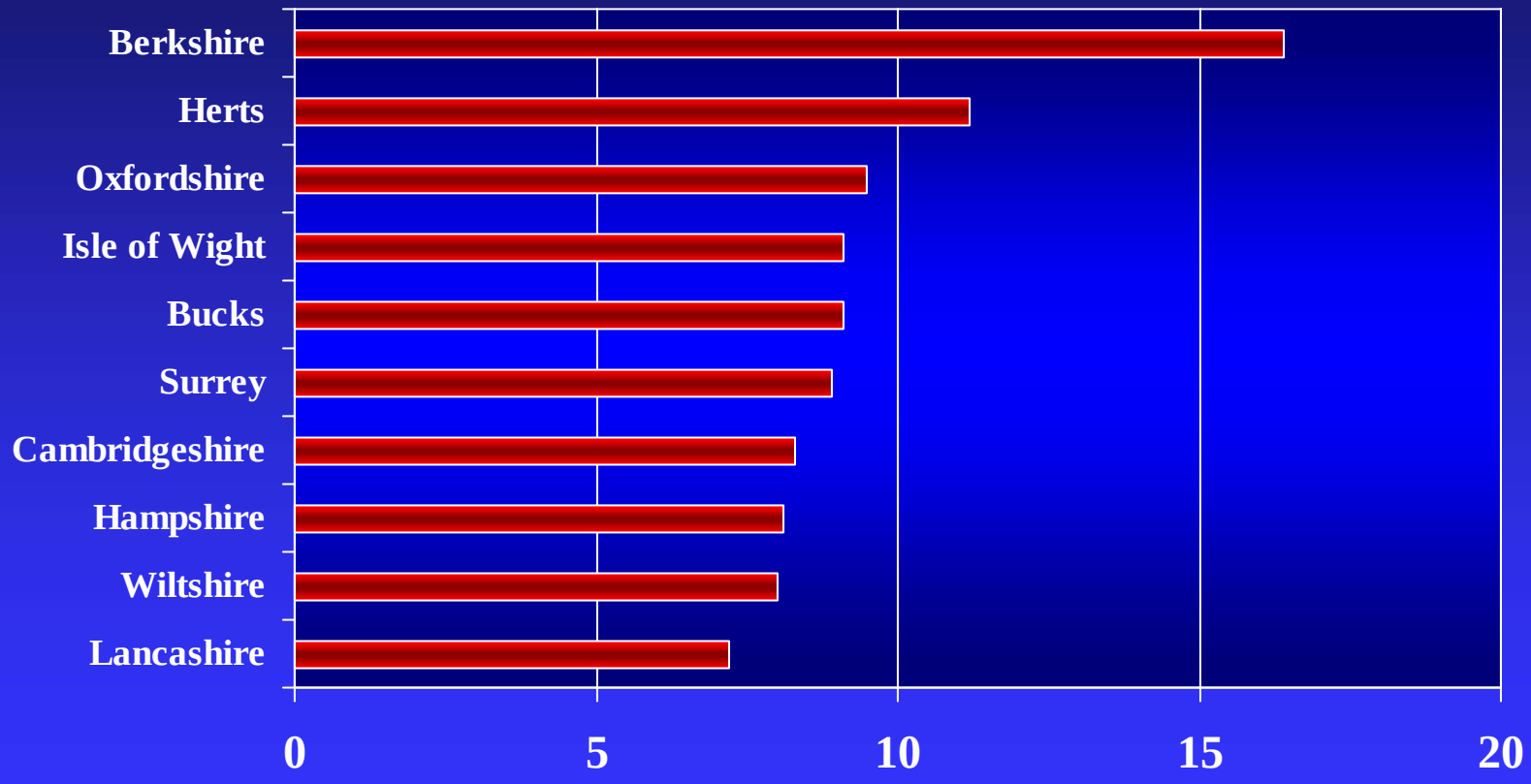
Comparisons – Key Findings

- % of employment in high tech sectors is well above regional & national averages
- Towards top of county & EU region high-tech "league tables" (based on % of jobs in high-tech)
- Reflects strength in high-tech services (mainly R&D, computer services)
- But – also need to consider absolute number of high-tech jobs

% of Employment in High-Tech Sectors – 2000 (Butchart Definition)



% of Employment in High-Tech Sectors – Top 10 English Counties (Butchart Definition)



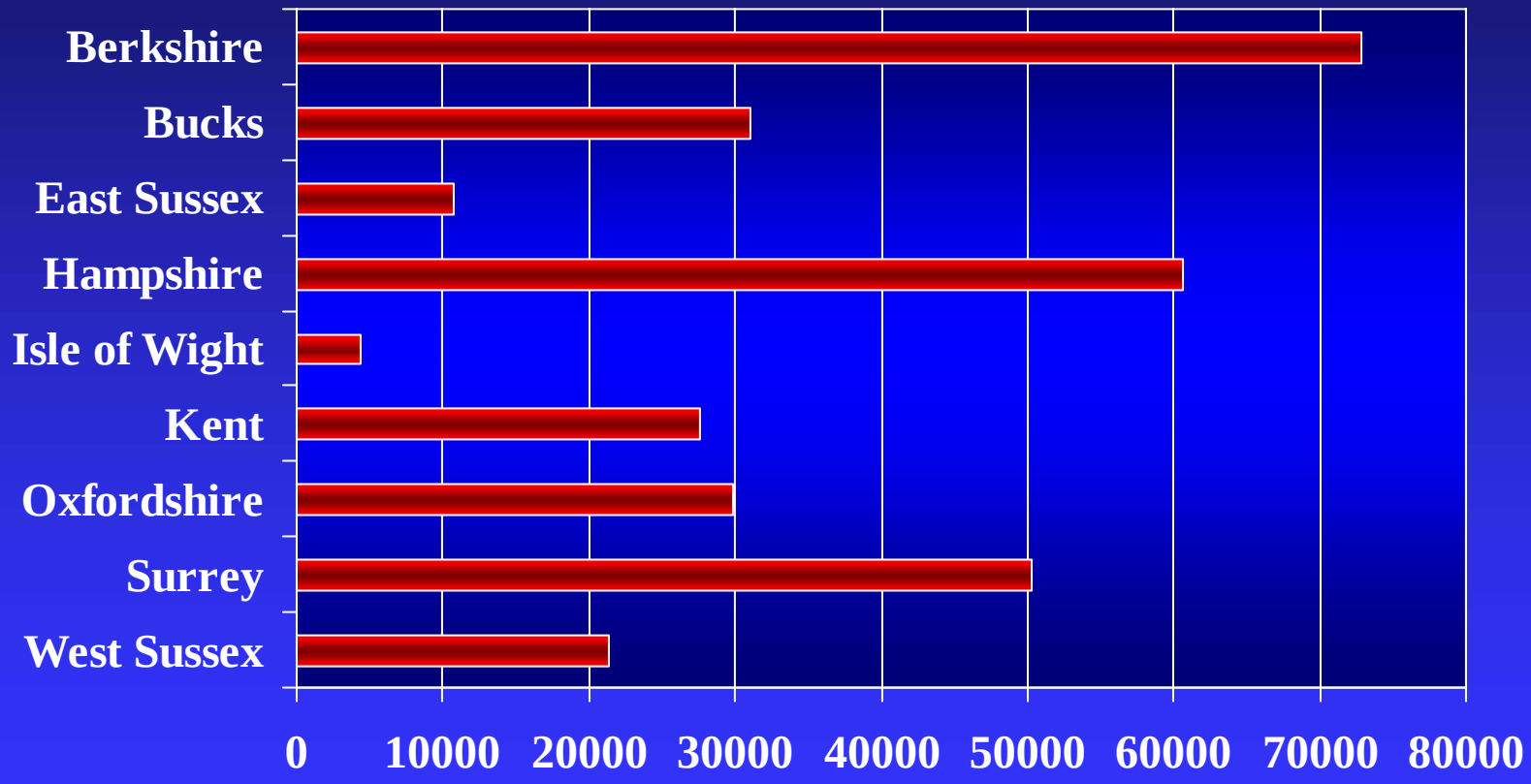
Combined Rankings – Top 5 Counties

County	OECD Narrow	Butchart	OECD Wide	OECD Wide +	Combined Ranking
Berkshire	1	1	1	1	1
Herts	2	2	4	5	2
Oxon	5	3	5	3	3
Cambs	6	7	3	2	4
Bucks	3	5	8	6	5

Summary of Combined Rankings (Using Four Alternative High-Tech Definitions)

- 1st = Berkshire (15-21%)
- 2nd = Hertfordshire (10-15%)
- 3rd = Oxfordshire (8-15%)
- 4th = Cambridgeshire (8-15%)
- 5th = Buckinghamshire (8-14%)

Absolute Number of High-Tech Jobs (2000) – South East Counties (Butchart Definition)

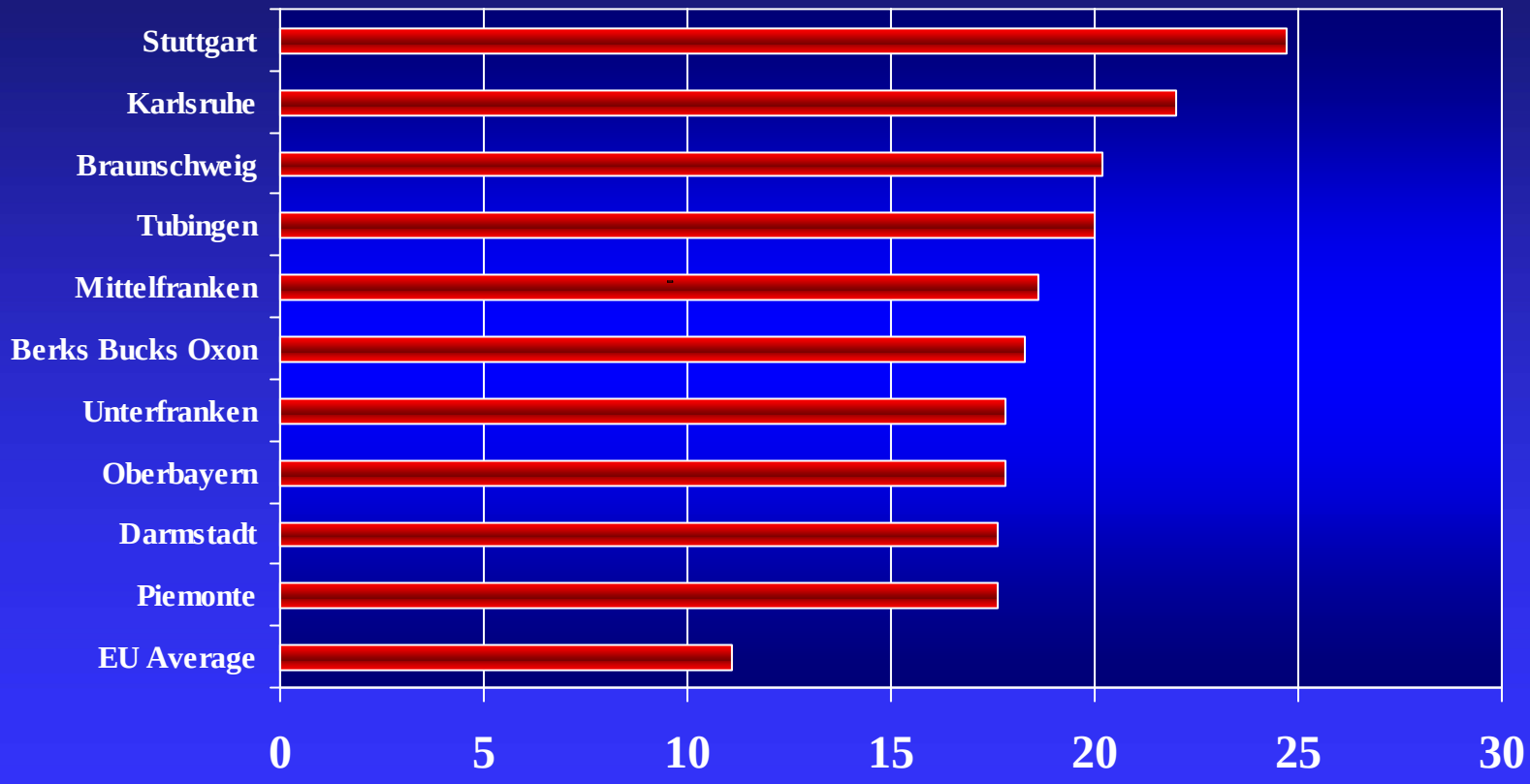


European Comparisons

- Berks, Bucks & Oxon is ranked 6th out of 209 EU sub-regions, and is the top-ranked EU region for high-tech services
- It is the top-ranked UK sub-region – Beds & Herts is the next, ranked 14th
- 8 of the top 10 sub-regions are in Germany

- Figures based on % of all employees in high-tech sectors (in 2000), using OECD/Eurostat high-tech definition

% of Employment in High-Tech Sectors (2000) – Top 10 European Sub-Regions



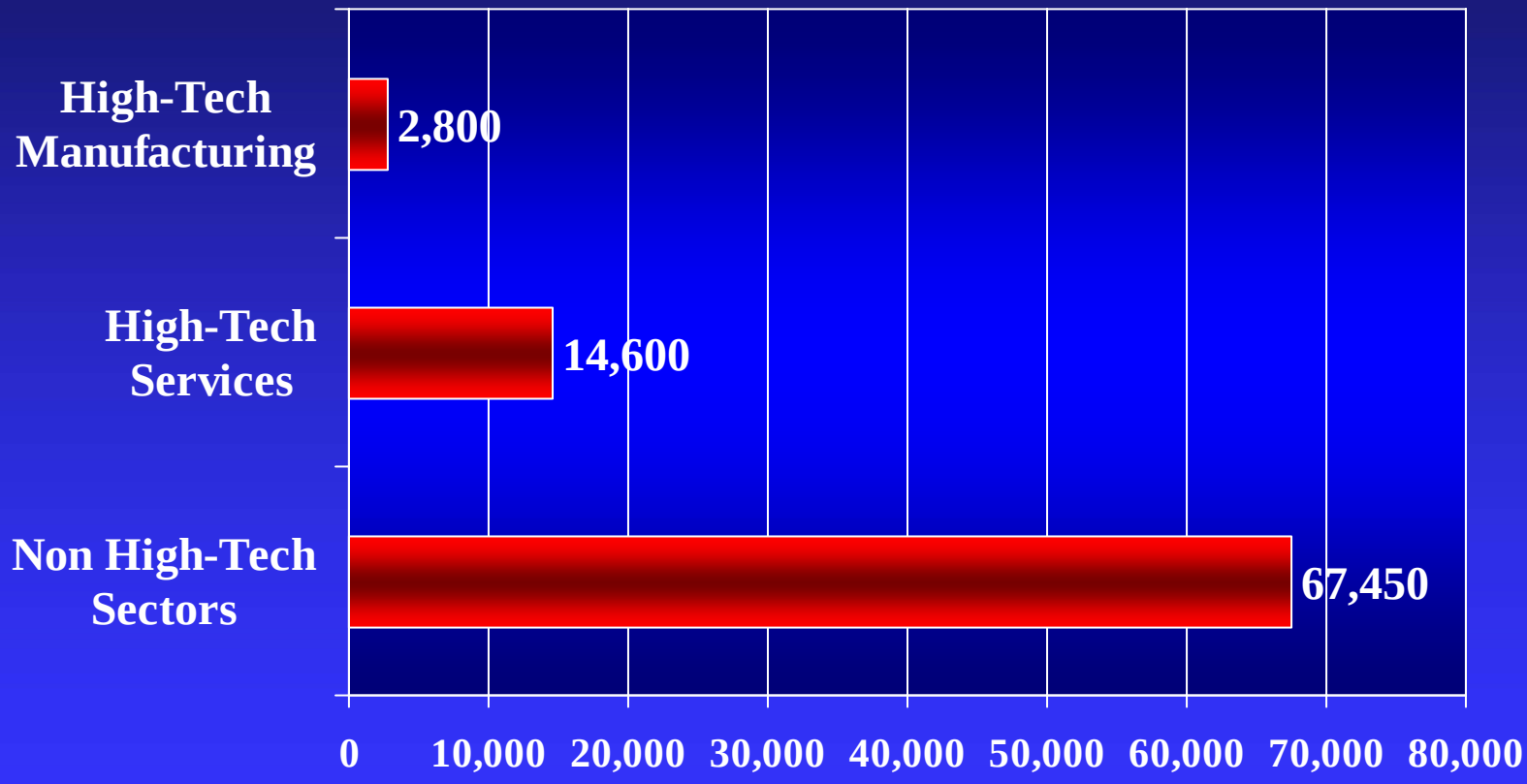
High-Tech Employment Growth

- Rapid high-tech job growth in recent years
- Fastest % increase amongst English counties, 1991-2000 – albeit from a lower base than some counties
- Reflects job growth in high-tech services
- Smaller increase in high-tech manufacturing jobs (against a declining employment trend at national level)

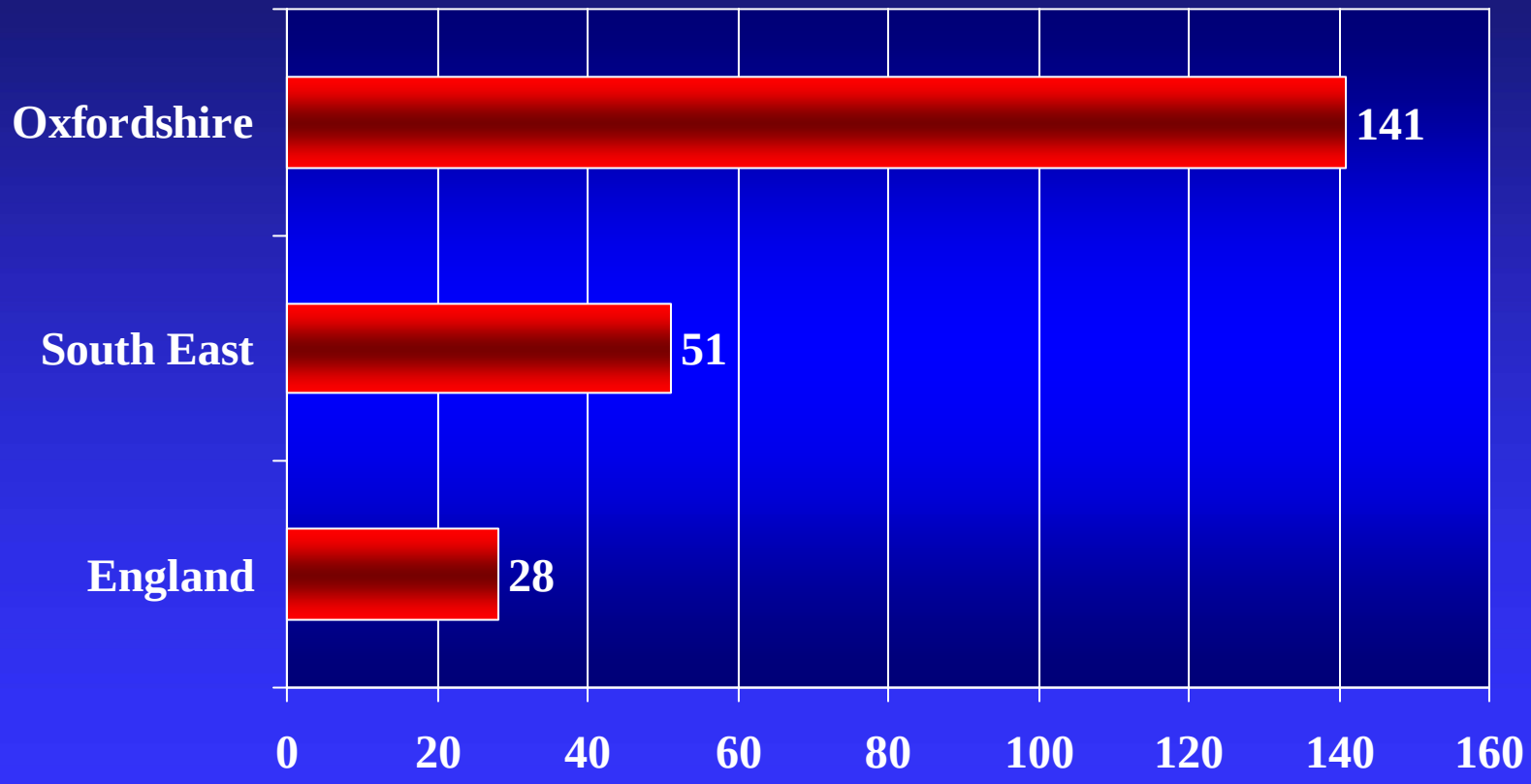
High-Tech Employment Growth – 1991-2000 (Butchart Definition)

- High-tech job growth – 17,450 (141%)
- Growth in non-high-tech jobs – 67,450 (31%)
- High-tech sectors accounted directly for 21% of net job growth in the Oxfordshire economy, 1991-2000

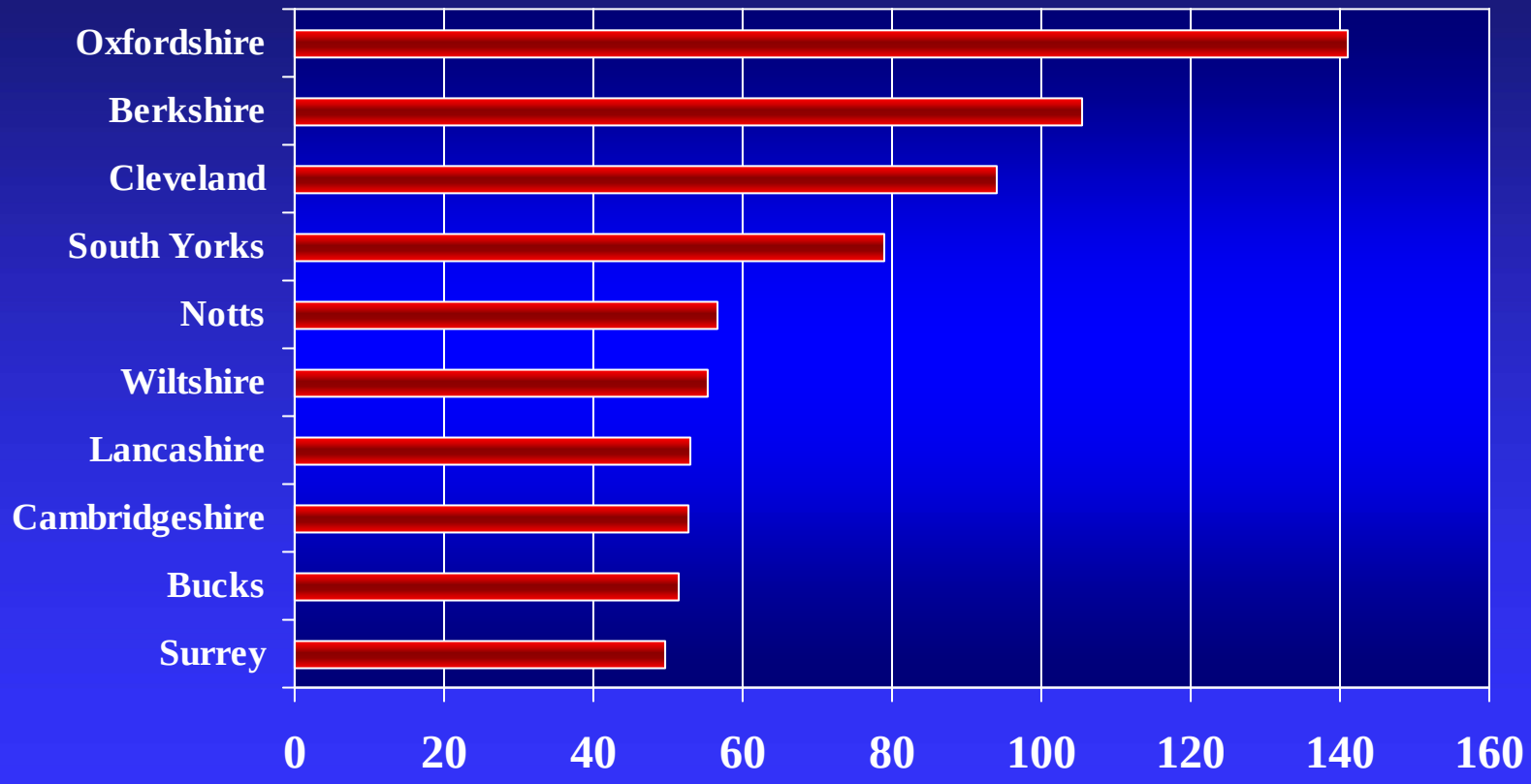
High-Tech Job Growth in Oxfordshire, 1991-2000 (Butchart Definition)



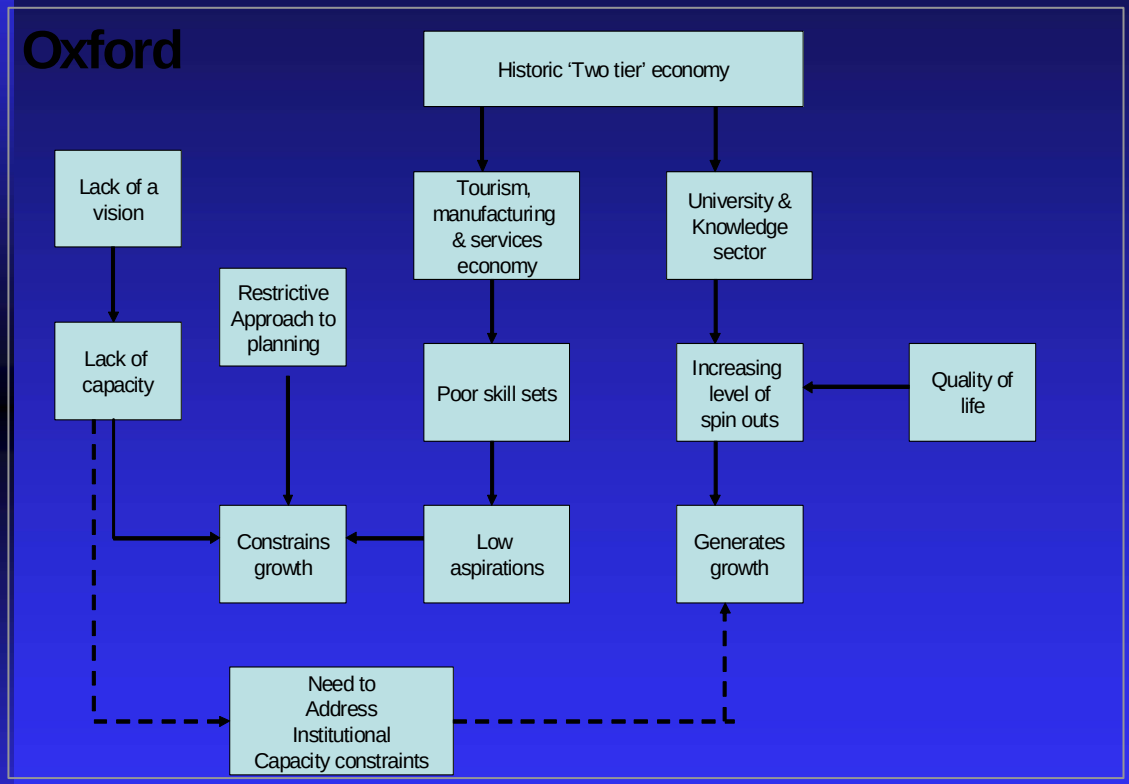
% Growth in High-Tech Jobs, 1991-2000 (Butchart Definition)



% High-Tech Job Growth, 1991-2000 – Top 10 English Counties (Butchart Definition)



Structure and Dynamics of the South East Economy, Final Report to SEEDA. Arup, MSC, RHA, 2003



- The head of Oxford University's Department of Continuing Education, Dr Mark Gray, said this of the failings in the County.

On the policy side, I should note that our representations to DfES, to SEEDA and others other last few years have all tended in one direction, namely noting that the lack of direct support (other than under special initiatives such as HEIF and HEROBAC, and from the research councils in target sectors) for skills development in high skill and high technology areas is seriously affecting the ability of the region to develop, retain, retrain and motivate key science and engineering professional staff. My own view is that the region's professional scientific and technology staff are well served in a few areas, but not served with enough volume or variety across the whole GOSE region……

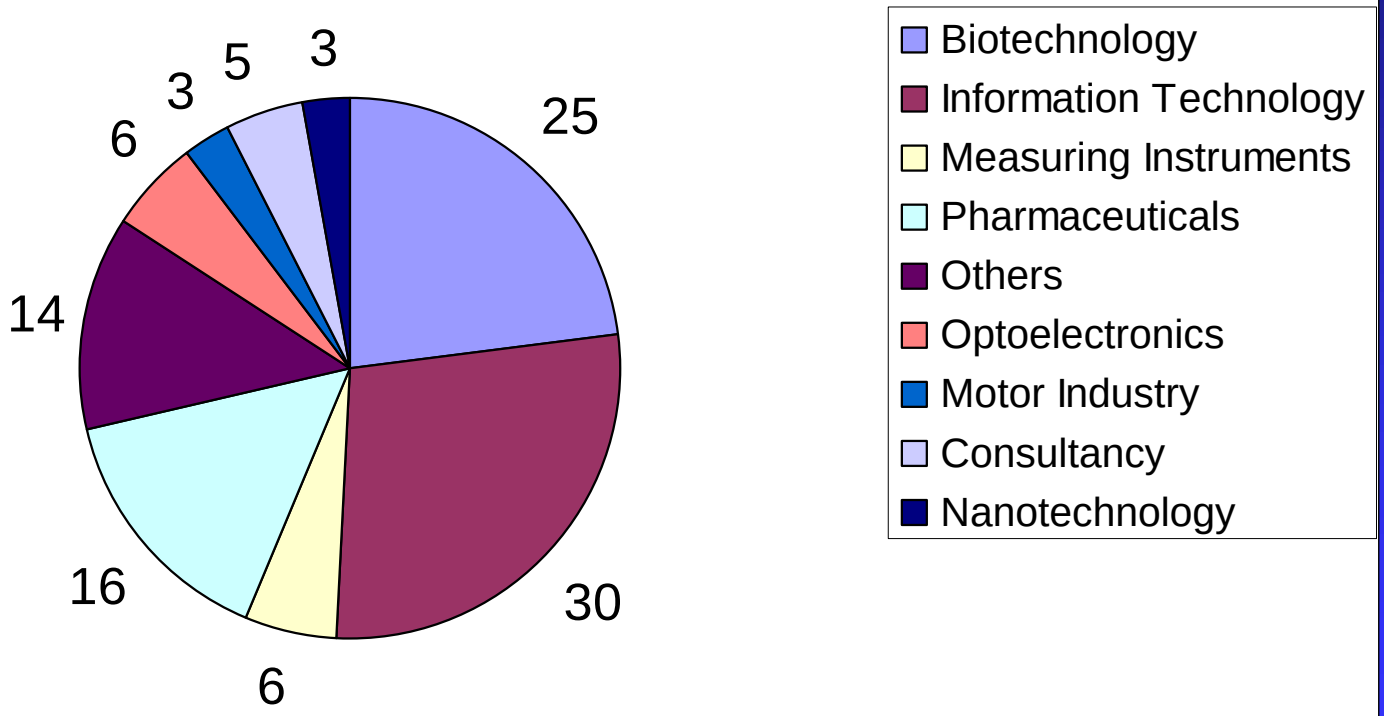
If I could change one thing it would be to have the region take the development of high level skills provision as seriously as it takes (through SEEDA and the LSCs) the development of basic skills and level 1 and 2 attainment levels".

Building on the Report - The Next Steps

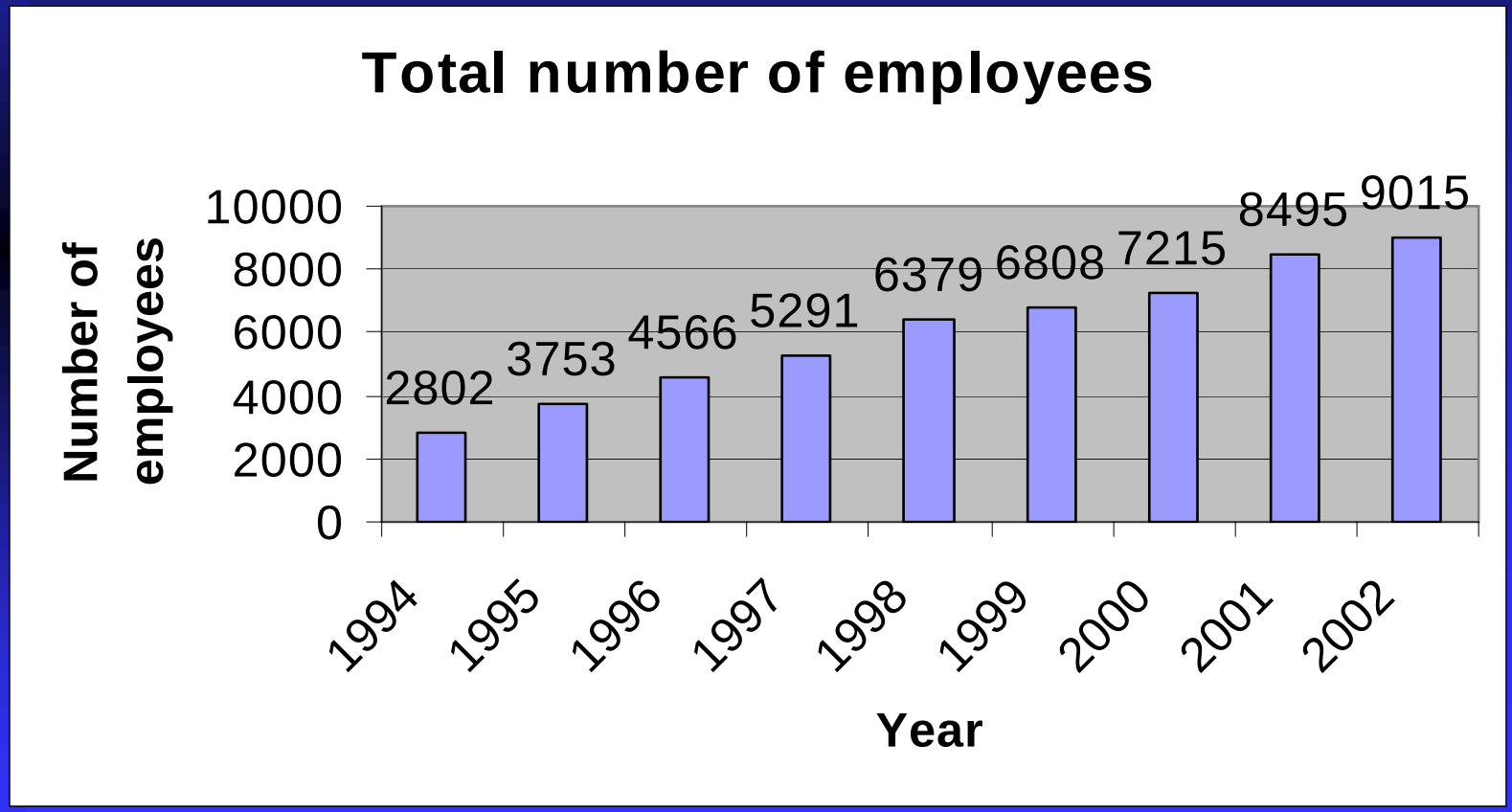
- Snapshot of a fast-moving target
- Some information already out of date
- Important to track future changes

- But these things will not happen by themselves
- Requires an ongoing commitment, with adequate resourcing

Oxfordshire Spinoffs - Division by sectors

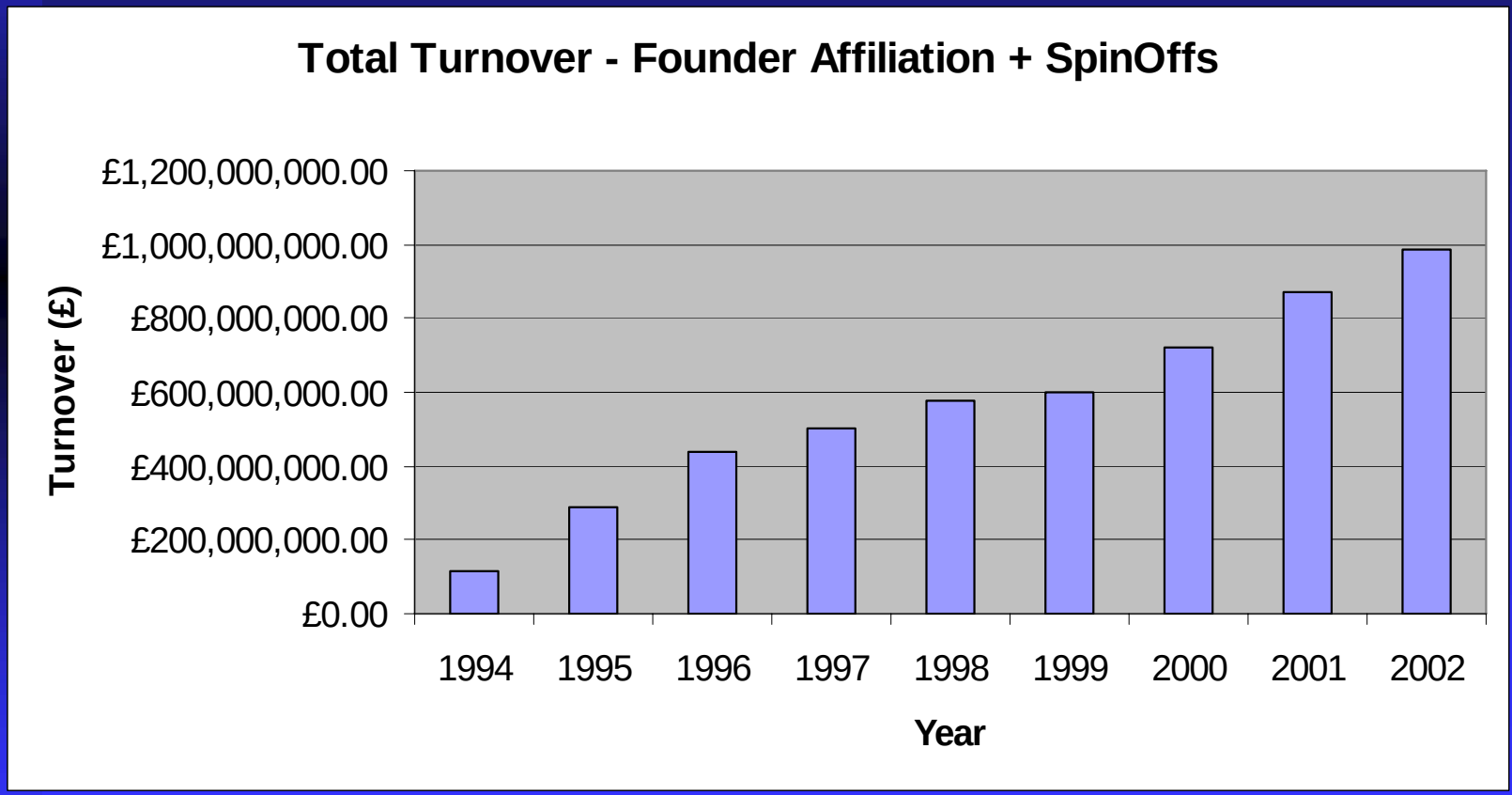


Employment data
Total number of employees



Source: Oxfordshire Economic Observatory

Turnover data
Total turnover



Source: Oxfordshire Economic Observatory