

## Pharmaceuticals and Medical Biotechnology

The UK Pharmaceuticals and Biotechnology industry is one of the most well established in the world and is a major export industry. Covering the lifecycle of a pharmaceutical from discovery through development to manufacture and treatment, the sector and its supply chain encompasses modern bioscience and biotechnology. From biologics to vaccines, and genomes to diagnostics, the sector operates at the frontiers of the sciences. It is intensely interdisciplinary, requiring specialists in science, bioscience, engineering and regulatory affairs to drive scientific and technological innovation.

Cogent estimates that pharmaceutical and associated biotechnology companies employ at least 73,000 people directly - 45,000 in established pharmaceuticals and 28,000 in associated biotechnologies. Induced employment is estimated at up to 250,000<sup>4</sup>.

### Headlines

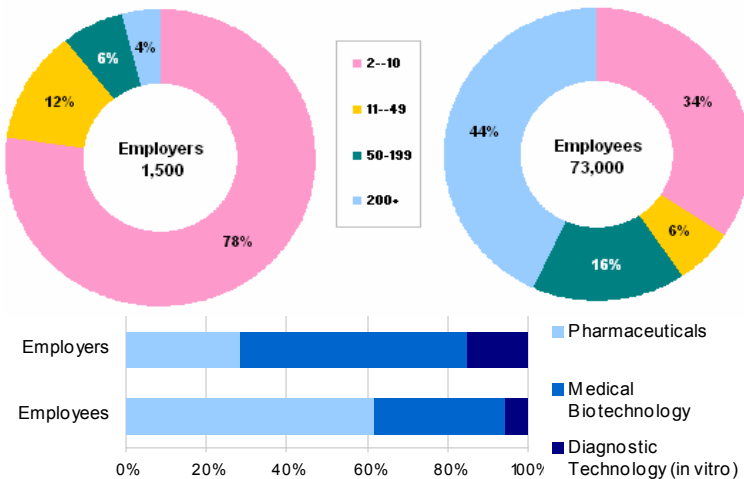
- UK Pharmaceutical industry is the **4th largest exporter** in Europe (£20.8bn). Two of the Global top 10 corporations are in the UK, with a combined **global market share 10.1%**<sup>5</sup>.
- The Pharmaceutical industry invests **£4.3bn in research and development**<sup>6</sup> and around **£655m on capital expenditure**<sup>1</sup> in the UK, representing around a quarter of all industry-supported R&D investment.
- Average annual growth rate is 4.7% over 1998-08. The industry is forecast to reach a turnover of £22bn in 2015<sup>4</sup>.
- The UK Biotechnology sector is the second largest globally with turnover of at least £5.2bn and a strong skills emphasis on R&D. There are approximately 800 biotechnology enterprises in the UK employing 28,000 people<sup>4</sup>.
- Every year around 100 new biotechnology companies start up in the UK. 99% of these have fewer than 20 employees<sup>8</sup>. Most of this employment is in biotechnology professions with support services outsourced.

### Economic Picture<sup>1,4</sup>

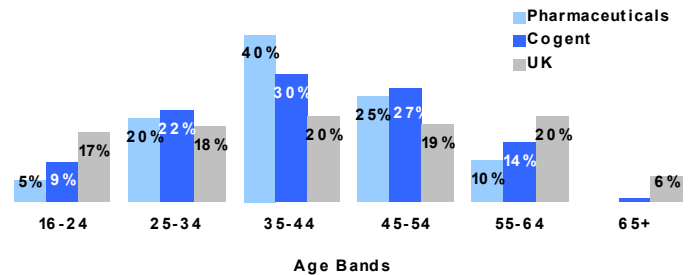
Industry	Turnover	GVA*	GVA per Employee
	£ / bn	£ / bn	£
Medical Biotechnology <sup>4</sup>	5.25	*	*
Pharmaceuticals <sup>1</sup>	15.18	8.64	192,067

### The Workforce

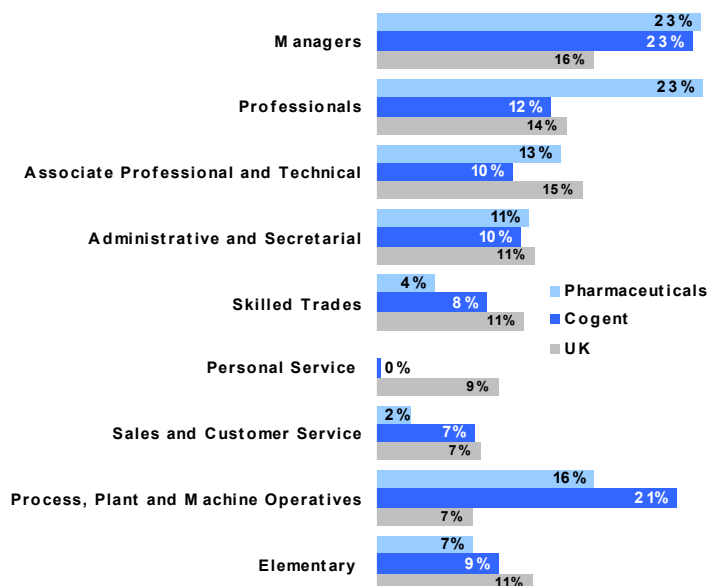
#### Employers and Employees by Size (all sectors)<sup>2,4</sup>



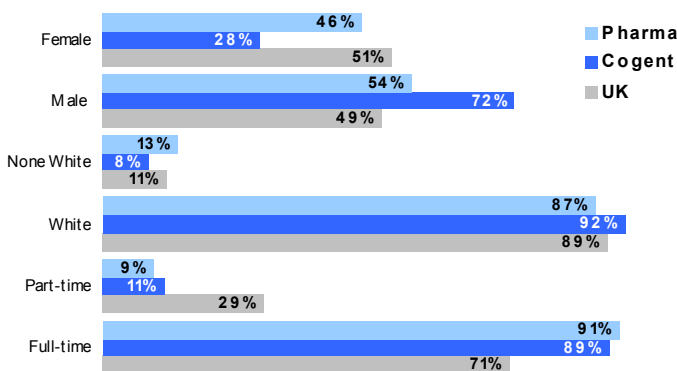
#### Age Profile<sup>3</sup>



#### Occupational Distribution<sup>3</sup>



#### Workforce Distribution- Gender<sup>1</sup>, Ethnicity<sup>3</sup> and Employment Profile<sup>3</sup>



1. Annual Business Enquiry (ABI) 2008-data released June 2010, Office of National Statistics (ONS) 2010

2. National Employers Skills Survey (NESS) 2009

3. Labour Force Survey (LFS) 2009, ESDS 2010

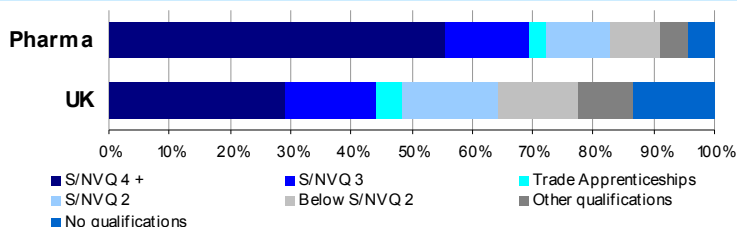
4. Cogent Industry Estimate- (estimated from national data, ABI, LFS, NESS, BIS..etc)

5. The Association of the British Pharmaceutical Industry (ABPI) 2010

\* GVA - Gross value added (GVA) represents the amount that individual businesses, industries or sectors contribute to the economy.

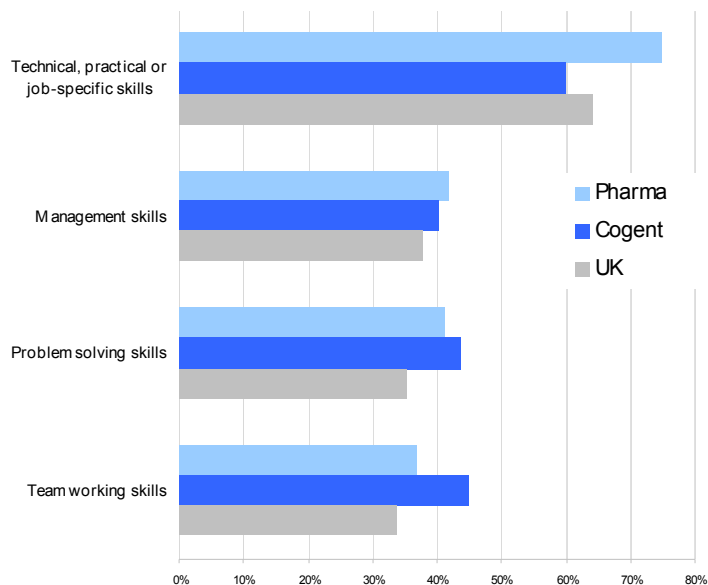
## Skill level and Skills Needs

### Skill Level<sup>3</sup>

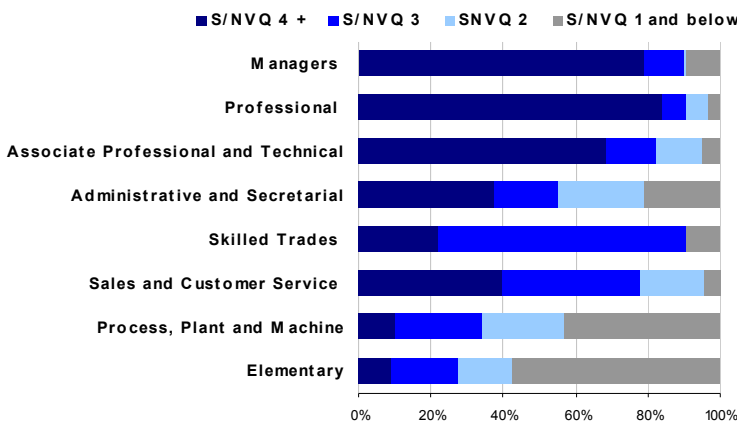


### Skills Needs<sup>2</sup>

Top four skills that will need improving or updating in the next 12 months in all occupations, as reported by employers.



### Skill Level by Occupation (Pharmaceuticals only)<sup>3</sup>



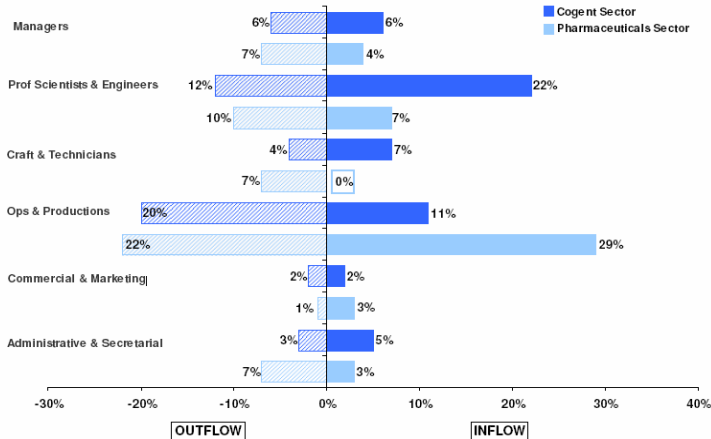
## Skills Demand / Training<sup>2,7</sup>

- Vacancies for 'Associate Professionals' were reported by employers as most 'hard to fill'.
- Pharmaceuticals employers expected that the demand for both professional/higher level (86%) and technical level (71%) skills to increase in the next 12 months<sup>7</sup>

	Pharma	Cogent
Proportion of employers that expect staff will need to acquire new skills or knowledge in the next 12 months	76%	63%
Internal skills gap (proportion of employees that are not fully proficient at their jobs, as reported by employers)	23%	21%
Proportion of employers that provided training over the last 12 months	78%	66%
Number of staff trained as a proportion of employees (last 12 months)	71%	50%
Average annual training budgets per employee <sup>7</sup> (excludes cost of maintaining production while training the employee)	£680	£930

## Employment Turnover and Workforce Distribution

### Employment Turnover by Skill Level<sup>7</sup>



According to the Pharmaceuticals Skills Oracle, employment turnover for 2009 was 13%.

- The main recruitment routes were: 'Mature Entrants' (75%), 'Graduates' (63%), 'Agency' (50%) and 'Other' (38%). Across the sector, 75% of employers reported dependence on contractors for routine operations.
- The main departure routes were: 'other' (74%), redundancies (21%) and retirements (5%).

### Employment by Region and Nation<sup>4</sup>

Pharmaceuticals, Medical Biotechnology, Diagnostic Technology	Employees		Employers	
	n	%	n	%
East	12,572	17%	279	18%
East Midlands	2,188	3%	82	5%
London	4,420	6%	153	10%
North East	3,751	5%	66	4%
North West	8,561	12%	136	9%
South East	15,051	21%	286	19%
South West	5,823	8%	75	5%
West Midlands	1,991	3%	59	4%
Yorkshire and The Humber	4,436	6%	88	6%
<b>England</b>	<b>58,793</b>	<b>80%</b>	<b>1,223</b>	<b>80%</b>
<b>Scotland</b>	<b>6,902</b>	<b>9%</b>	<b>159</b>	<b>10%</b>
<b>Wales</b>	<b>5,621</b>	<b>8%</b>	<b>117</b>	<b>8%</b>
<b>Northern Ireland</b>	<b>1,882</b>	<b>3%</b>	<b>33</b>	<b>2%</b>
<b>Total</b>	<b>73,197</b>	<b>100%</b>	<b>1,531</b>	<b>100%</b>

6. Business Enterprise R & D (BERD) 2008 – released Dec 2009, ONS 2010

7. Skills Oracle 2010, Cogent SSC

8. Business Demography 2008, ONS 2010

Standard Industrial Classification (SIC 07 code: 21.10; 21.20; 72.11), ONS 2010

Cogent website: [www.cogent-ssc.com](http://www.cogent-ssc.com)