Skills Planning in Scotland

Chemical Sciences

2016

Skills Planning Model

Our Vision

A Scotland that values skills, realising the potential of its people and businesses to build a competitive and resilient economy

Top 5 Priorities

- Foundation Apprenticeships embedded into curriculum
- Increase number of Modern Apprenticeships > 30,000pa
- Expansion of school careers service to include P7-S3
- Development of Graduate Apprenticeships
- Equality of access to SDS programmes

Making skills work for Scotland.

Skills Development Scotland

Individuals

Have skills to secure good work and progress in careers with equal opportunites for all

Strategic Planning & Analysis

Working with partners, we lead on skills planning and support

Employers

Have a highly productive workplace and can access the right skills at the right time

UK Chemical & Pharmaceutical Industry

- Large industry, 160,000 directly, many more indirectly.
- Globally significant (top ten producer).
- 20% of all manufactured exports, £52bn (largest sector).
- Value added £20bn, £75m per day.
- Energy intensive – largest industrial user; reduced energy input per unit output by 35% 1990-2010. Lifecycle considerations.
- Research intensive £600m in Chemicals R&D, £4.2bn in Pharma.

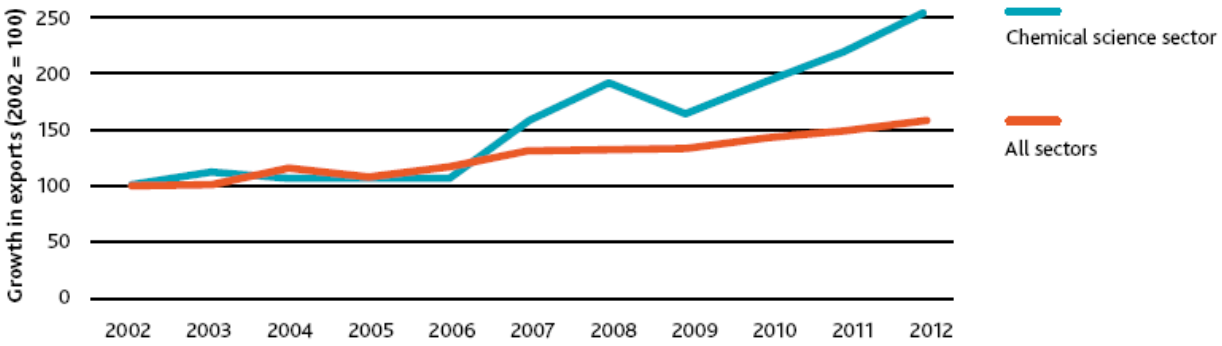
As at January 1st 2014

Established 1965
CIA Chemical Industries Association 50 YEARS
working for chemical and pharmaceutical businesses

The Scottish Chemical Industry

- Over 200 Companies.
- Turnover £8.7bn.
- Exports £3.8bn.
- Value Add £1.9bn.
- > 12,000 employees.

Figure 2.2: Growth in exports 2002-2012



Source: Global Connections 2012 – Scottish Government

current size and value of the manufacturing parts of the life and chemical sciences

Area	*Business Units (no)*	*Turnover (£M)*	*Employees (no)*
Medical Technologies	**240**	**1053**	**8500**
Pharma/Fine Chemicals (part of both life & chemical sciences)	**30**	**656**	**3300**
Basic/ speciality chemicals	**200**	**8700**	**9000**
Industrial Biotech	**40**	**189**	**1100**

Transformational projects

Chemical Sciences Scotland is 1 of 15 Industry Leaderships groups in Scotland aimed at shaping and delivering Scotland's economic ambitions.

"sustain a vibrant and competitive Scottish chemicals industry, ... Within this, we have ambition to increase manufactured exports by 50% by 2020."

Grangemouth	• Scotland's largest industrial complex • Be amongst key EU locations for chemical manufacturing
Industrial Biotechnology	• National Plan for IB Launched 2013 • Innovation centre IBIOIC launched 2014
Skills Investment Plan	• Skills Investment Plan launched October 2014 • Collaborative programmes under development
Manufacturing strategy	• Manufacturing Strategy Launched September 2015 • 5 themes lead by experienced Industry figures.

Chemical Science Skills Investment Plans

- Skills gaps and shortages can have impacts on company growth
- Emphasis from employers (and in policy) on better aligning skills investment with the needs of the economy
- We invest c £1.3bn in post -16 education

- Based on evidence and consultation:
  - Quantitative and qualitative research with numerous businesses
  - Carried out 20+ individual meetings to discuss action plan
  - Tested and endorsed by Skills groups
  - Chemical Sciences SIP launched October 2014

Common Themes

- **Inspiring and preparing the future workforce** to engage with the career opportunities provided in the sector (i.e. sector attractiveness)
- **Creating and investing in pathways** to enable people to enter and build their skills in the workforce (i.e. entry routes, MAs, FE and HE provision)
- **Providing support to address immediate** workforce development **needs** (i.e. tactical projects to fill short term gaps and transition training)
- **Stimulating change in the skills system to better align provision with the needs of employers** and the economy (i.e. right content, right place, right time)

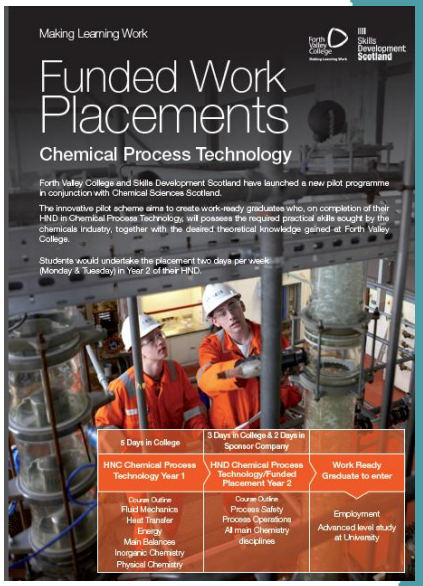
Inspiring and Preparing the Future Workforce

Internship programme

- Proposed in response to industry concerns that University graduates are not adequately prepared for the world of work.
- 12-week placements, 50% funded by SDS.

Master classes

- Industry provide insights into diverse roles in the sectors.
- Commercial R&D, Proof of Concept / Prototyping, Market Analysis /Industry Need, Quality, Regulatory, Design for Manufacture, Manufacture including GMP, Product Launch and Sales and Marketing



Placement for HND/C students

- Placement running at a number of Chemical companies

Scottish Graduate Fair 2014 and 2015

- >5,000 students attended the event

Students have greater awareness of careers and industry needs

Providing Support to Address Immediate Needs

Lab skills project

- Industry endorsed course to run at Edinburgh Napier University
- The course is feeding into the new Biosciences general accreditation degree

Transition training

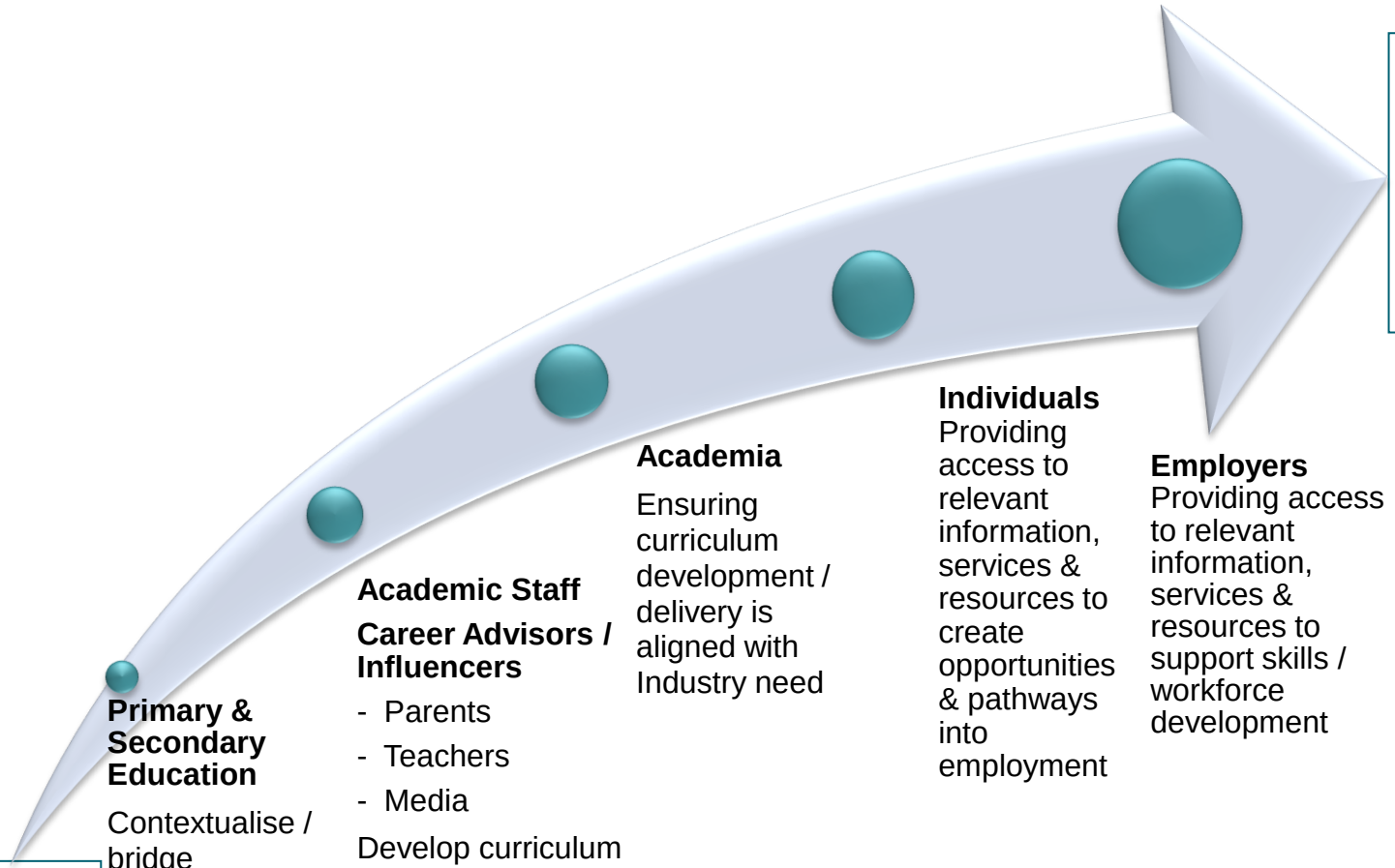
- Automation course developed with industry and FVC

Further Upskilling courses being developed

Target gender balance

- Women returners programme
- To bring qualified women back into work in STEM occupations after extended leave, contributing to the alleviation of skills shortages in the STEM sectors

Vision: A Supply Chain from Education into the Workplace



Applying interventions across the Career Pathway

Examples of Scottish industry

-Manufacturing processes

CelluComp
sustainable materials

Root Vegetables

↓

Cellulose

↓

Curran

Celtic Renewables

Draff/Pot ale

↓

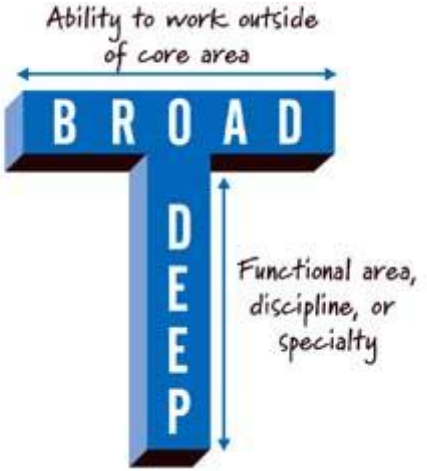
Fermentation

↓

Biobutanol

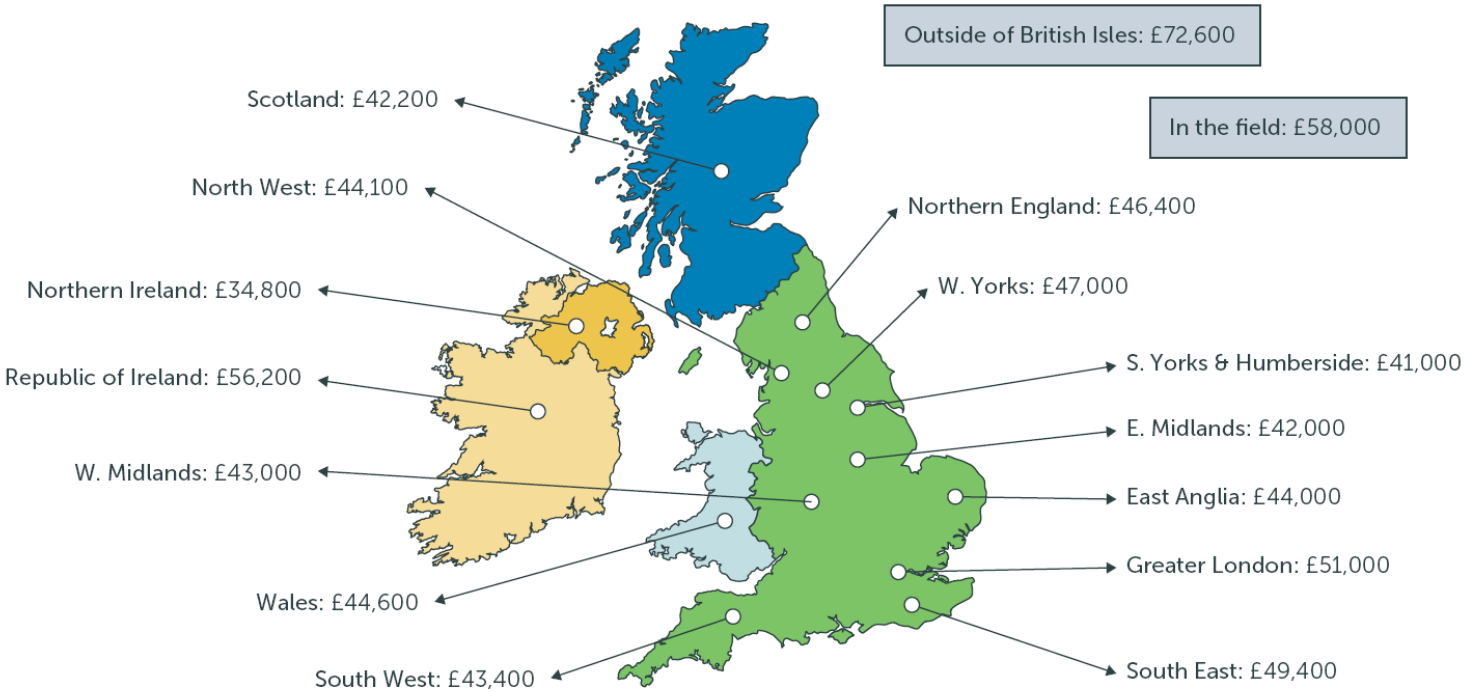
A career in science

- ❖ Have an impact on key challenges, energy, environment, healthcare, water.
- ❖ Work across disciplines.
- ❖ Global network.
- ❖ Starting point for a diversity of career options (think of other sectors)
- ❖ The requirement to continually learn.
- ❖Differentiate from the rest
  - •Experience
  - •T-Shaped person
  - •Network (hidden job market)
  - •Seek advice from careers service



RSC Trends in Remuneration Survey Report 2013

Remuneration Medians by Location



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For more information visit our website: www.rsc.org/trends

ROYAL SOCIETY OF CHEMISTRY