

Informed Scotland

Learning and Skills Digest

Special Issue 2 | 30 October 2013

THE GRADUATE
ENGINEER
SHOW
SPECIAL



- ▶ relevant highlights from recent months ▶ STEM
- ▶ graduate employability ▶ skills gaps & shortages ▶ knowledge exchange

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 **THE
GRADUATE ENGINEER
SHOW**

Business

EMPLOYMENT

- The Scottish Government is providing £1.2m to support unemployed or underemployed graduates:
 - via the **Centre for Scottish Public Policy Adopt an Intern** scheme – 270 paid internships within SMEs; and
 - the **Scottish Chambers of Commerce (SCC) Graduate Recruitment Incentive** – creating 270 new, permanent jobs for SMEs in permanent posts or internships. ⁽¹³⁾
- A new **ScotGrad** scheme was launched with £3.4m SME Growth Programme funding over the next three years. It aims to support businesses to grow and create employment opportunities for up to 480 graduates. ⁽¹³⁾
- Unemployment in Scotland was 203,000 from May to July 2013, up by 6,000 at 7.4% (7.7% for UK). Employment was 2.536m, up by 6,000 at 72.4% (71.6% for UK). 66.8% of women in Scotland were in employment. ⁽¹⁴⁾

BUSINESS CONFIDENCE & THE ECONOMY

- **Scottish Engineering's Quarterly Review September 2013** reported orders at their highest level since the beginning of 2011. Optimism in the engineering manufacturing sector continues to grow, with positive staffing and output numbers. ⁽¹⁴⁾
- **Scottish Enterprise** published *Scotland's Oil & Gas Strategy progress report*, detailing progress in priority areas including transition training by **Subsea UK** and **OPITO** to increase sector skills. ⁽¹²⁾
- The Scottish Government is the first nation to join the **Ellen MacArthur Foundation's Circular Economy 100 (CE100)**, a global network of 100 companies and organisations working to help businesses 'rethink the way they manage resources, whilst stimulating economic growth'. *The Foundation's education programme has been active in Scotland for a couple of years.* ⁽¹³⁾

I use it regularly to keep in touch with developments across the different sectors. ...it is a great source for seeing news from across the educational landscape.



JOE WILSON, HEAD OF NEW VENTURES
SCOTTISH QUALIFICATIONS AUTHORITY

SKILLS, TRAINING & QUALIFICATIONS

- **The UK Commission for Employment & Skills (UKCES)** published:
 - *Technology & Skills in the Construction Industry* – offsite construction has skills gaps and shortages, including in design & IT and marketing & business case development.
 - *Technology & Skills in the Digital Industries* – the sector will need almost 300k new employees by 2020 to fill new roles, including in cyber security, mobile technologies, cloud computing and green IT. 7% of employment in the sector is in Scotland.
- In The Scotsman, Prof Ian Allison of Robert Gordon University (RGU) said Scotland is 'behind the curve' in addressing IT skills issues; it needs to invest in schools, universities, apprenticeships and in-company professional development.* ⁽¹⁴⁾
- The *Autumn 2013 Skills Pulse Survey* of 470 **SCC** members was published. Skills needs more often related to engineering, hospitality, trades, management & leadership, IT & digital, core & basic skills. 72% agreed that it is important for business to support young people to gain skills and work experience. ⁽¹⁴⁾

KNOWLEDGE EXCHANGE

- **Shell** is investing £3m over five years in a new **Shell Centre for Exploration Geoscience** at **Heriot-Watt University's Institute of Petroleum Engineering**, in what the company refers to as 'innovation through active partnerships'. The Centre will set up a seismic interpretation and exploration geoscience research group. ⁽¹³⁾
- **Richard Irvin Sustainable Energy** and **RGU** are to work together in a two-year £140k Knowledge Transfer Partnership to challenge the fundamentals of house design with regard to energy needs. ⁽¹⁴⁾
- **University of Glasgow College of Science and Engineering** was awarded £3m from the **EPSRC** for a collaboration with the **National Physical Laboratory**, the **National Microelectronics Institute** and **Gas Sensing Solutions Ltd**. The project will develop advanced processes in commercial micro- and nano-fabrication tools for direct transfer into companies for production. ⁽¹³⁾
- **SeaEnergy plc** and **RGU** launched a Knowledge Transfer Partnership supported by the **Technology Strategy Board**, with the aim of modelling and reducing the cost of offshore windfarms. ⁽¹³⁾

Further & Higher Education

GRADUATE EMPLOYABILITY & DESTINATIONS

■ Scotland's Chief Statistician published *Early Destinations of Students Qualifying from Scottish Higher Education Institutions 2011-12* (six months after qualifying). Key findings include:

- 89.3% were in employment, further study or training.
- 65.0% were in permanent or temporary UK employment; 5.4% were employed overseas; 19.0% were engaged in further study/training.
- 76.4% of those in work were employed in Scotland (up 0.7%). (14)

■ **The Higher Education Academy** is funding a student employability 'toolkit'. Originally developed for chemistry students, *Empowering Students by Enhancing Employability through Personal Marketing Skills* is available from the **University of Strathclyde** and can be tailored to suit all subjects. (13)

■ **Edinburgh Napier University** launched *Stand Out*, aimed at improving graduate employment, including with SMEs, and promoting opportunities to study abroad. (13)

PARTNERSHIPS & AGREEMENTS

■ **Heriot-Watt** and **Edinburgh Universities** were awarded £6m **EPSRC** funding to develop a research base in robotics & autonomous systems. (13)

■ **University of Glasgow** and **University of Electronic Science & Technology China** signed a new agreement for a joint engineering programme. Up to 90 'excellence scholarships' will be offered to Chinese students. (12)

■ **Motherwell College** and the **University of Aberdeen** signed an agreement enabling Motherwell HND computing and engineering students to join the third year of the related degree at Aberdeen after two years.

A rare partnership which goes beyond local boundaries. (14)

■ **University of Strathclyde Engineering Academy** is running courses with local college partners for students on a pathway from HNC/D to BEng (Hons) or MEng level. (13)

■ **Heriot-Watt University** signed research collaborations with **University of São Paulo** and **Universidade Estadual de Campinas** in Brazil; an agreement is also being prepared with **Federal University of Rio de Janeiro**. The focus will be on engineering, robotics and energy research. (14)

■ **RGU** and Russian company **OILTEAM** are to work in partnership to train Russia's offshore energy professionals. Joint staff will deliver an **MSc in Offshore Oil & Gas Engineering** in Sochi. (14)

UNIVERSITIES

■ **Universities Scotland** published *Grow, Export, Attract, Support*. The report highlights the role universities play in attracting foreign direct investment into Scotland as a producer of graduate and postgraduates; a source of research, development and innovation; and in the creation of industry 'clusters'. (14)

■ **University of Aberdeen** established the **Aberdeen Institute of Energy** with the aim of creating a global centre of research, industry collaboration and education. It also launched a new **MSc in Oil & Gas Computing**, with industry support. The first cohort begins September 2014. (14)

■ **RGU** launched a new **MSc IT for the Oil & Gas Industry**, including software development training, IT service management, oil & gas engineering and geoscience. (14)

■ **University of Strathclyde** has created an e-learning renewable energy course for developing countries, in partnership with **CIFAL Scotland**. It will be delivered through the **United Nations Institute for Training and Research** platform. (14)

■ **Edinburgh Napier University** is offering at least 13 scholarships on its **MSc Timber Engineering** this session. Supported by leading industry organisations and companies, the aim is to address a UK skills gap in 'timber related technology knowledge' linked to structural engineering. (12)

Community & Adult Learning

LEADERSHIP & DIGITAL LITERACY SKILLS

■ **The BP Young Leaders** programme was launched, supported by **The Dame Kelly Holmes Legacy Trust** and **Inspiring Scotland**. The 18-month programme will offer disadvantaged young people the chance to take part in local community projects. The aim is to support them into employment, education or training. (12)

■ **Young Scot** is to develop **Young Scot 4L**, a new national programme on digital literacy. Part of the **Young Scot Digital Academy**, it is based on the belief that 'digital skills should be the fourth literacy for young people, after reading, writing and numeracy'. (12)

Schools

CURRICULUM, QUALIFICATIONS & ASSESSMENT

■ The Scottish Qualifications Authority (SQA)

published updates about the new National Qualifications for teachers, parents and employers.

Nationals have now replaced Access and Standard Grades and will replace Intermediates over the next two years – a helpful summary of the changes can be found [here](#). (13)

■ The Scottish Government commissioned the **Organisation for Economic Cooperation & Development** to evaluate Curriculum for Excellence, with advice and support from the **Royal Society of Edinburgh's** education committee. Findings are to be reported in 2015. (14)

TEACHER EDUCATION & DEVELOPMENT

■ **Education Scotland** launched *Aspiring Teachers*, a website for those considering a career in teaching. It provides advice, support, and self-test exercises in literacy and numeracy. (14)

ENTERPRISE & BUSINESS ENGAGEMENT

■ **The David Hume Institute** published *Outstanding Students and Philanthropic Contributions in Scottish School Education*, which makes recommendations based on encouraging 'the creativity of entrepreneurs' to stimulate 'the creativity of outstanding students'. (14)

■ The **Make Things Do Stuff** campaign was launched, designed to 'inspire young people to be creators not just consumers of digital technologies'. Partners include the Scottish Government, **O2**, **Nesta**, **Facebook**, **Mozilla**, and **CoderDojo Scotland**. (12)

Informed Scotland

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Government & Wider Society

YOUNG WORKFORCE COMMISSION

■ **The Commission for Developing Scotland's Young Workforce** published its *Interim Report* containing 12 recommendations on the education part of its remit. It calls for greater industry involvement with, and stronger partnerships between, schools and colleges, and a focus on science, technology, engineering & maths (STEM):

- Preparing for employment should be a core element of Curriculum for Excellence; teacher education and development should include understanding of employment and enterprise.
- STEM should be at the heart of the development, including a ring-fenced priority for vocational pathways.
- Employability should be a key focus of **Education Scotland's** support and quality assurance work.

The Commission was set up by the Scottish Government in January 2013. A final report focusing on the employment part of its remit is expected in Q2 2014. Legacy and lessons from previous programmes – from the 1980s' Technical & Vocational Education Initiative through to this century's Determined to Succeed – are worth reflecting and building on. (14)

SOME USEFUL ORGANISATIONS & LINKS

- [Centre for Engineering Education & Development](#)
- [Engineering Construction Industry Training Board Scotland](#)
- [Engineering Scotland](#)
- [Enginterns](#)
- [ICE Scotland](#)
- [IChemE Scotland](#)
- [IET Scotland](#)
- [IMechE Scotland](#)
- [Institute of Structural Engineers Scotland](#)
- [Interface](#)
- [My World of Work](#)
- [Our Skillsforce](#)
- [Scottish Engineering](#)
- [SEMTA Scotland](#)
- [STEM Central](#)
- [STEM Education Committee](#)
- [Talent Scotland – Engineering](#)
- [Young Engineers & Science Clubs](#)