

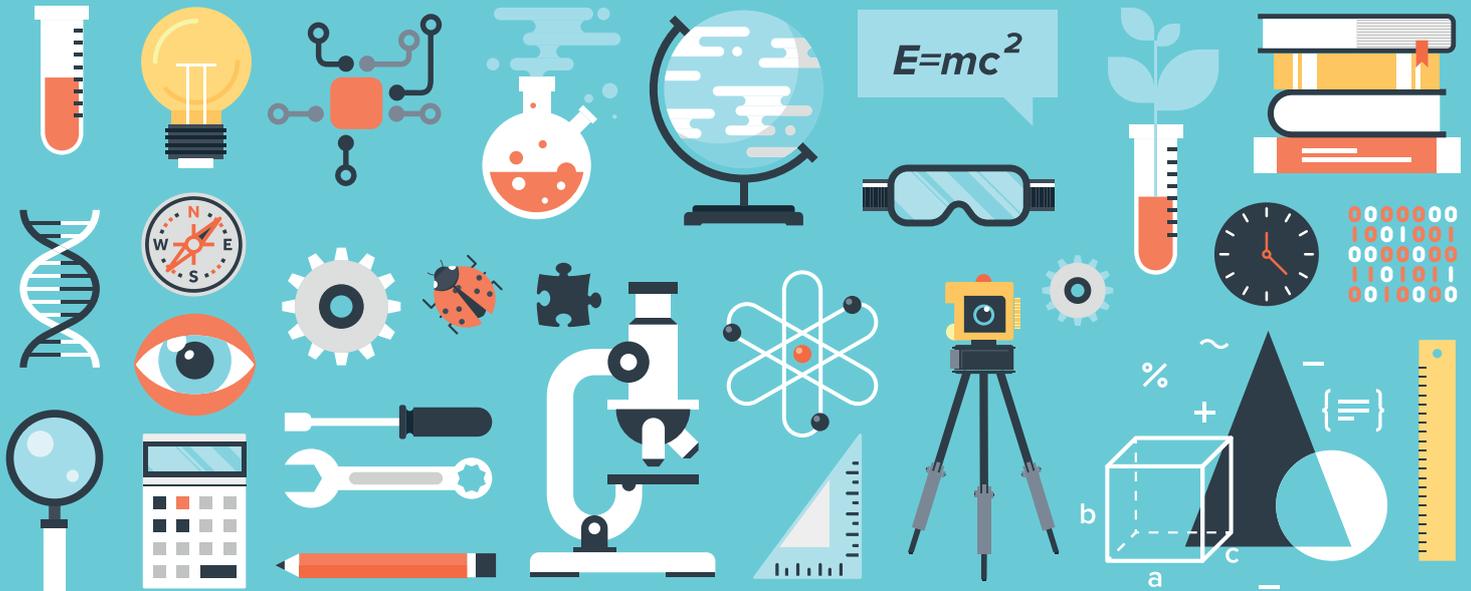
STEM



Scottish Government
Riaghaltas na h-Alba
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Education and Training Strategy for Scotland
First Annual Report - Summary

February 2019



Our vision is of a Scotland where everyone is encouraged and supported to develop their STEM skills throughout their lives, to:

- Improve opportunities for all 
- Meet employer skills requirements 
- Drive inclusive economic growth 
- Allow Scotland to flourish and compete on a global platform 

Science and innovation are embedded in Scotland's heritage and culture. They are playing an ever-increasing role in Scotland's future within our complex world.

The current pace of technological change is transforming the way we work, conduct business, buy goods and communicate with one another

and live our lives. It is opening up new ways of manufacturing and creating new knowledge and innovations. Science and technology also open doors to understanding and enjoyment of the world around us. This creates huge opportunities for economic growth and social benefit for the people of Scotland.

To achieve these benefits, we need to develop and grow Scotland's expertise in the inter-related fields of Science, Technology, Engineering and Mathematics – STEM. This needs to happen for everyone so that there is equality and equity of access and opportunity to study, progress and work in STEM.

The STEM: Education and Training Strategy for Scotland was published on 26 October 2017. The Strategy has a five year lifetime, up to 2022, and sets out an ambitious and comprehensive plan to drive forward improvements in STEM education and training in Scotland, for everyone of all ages. This summarises our first annual progress report on the Strategy.

To achieve our vision we will:

Promote excellence by

- improving the supply of STEM talent into the profession;
- improving STEM learning and teaching and delivering enhanced professional learning;
- prioritising STEM in the expansion of apprenticeships; and
- maintaining our research excellence in our universities.



Ensure equity by

- tackling inequity in STEM learning and careers;
- improving participation in STEM further and higher education courses and apprenticeships; and
- increasing access to public science engagement events.



Create inspiration by

- creating positive STEM role models, mentors and coaches;
- promoting the opportunities and benefits of STEM learning and careers; and
- recognising and celebrating success.



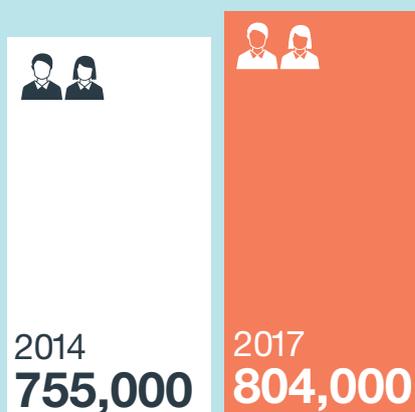
Build connection by

- improving the support available to schools;
- delivering up to date advice and information on STEM careers; and
- increasing the responsiveness of colleges, universities and the apprenticeship programmes to the needs of the economy.



In Year One of the strategy we have:

- Awarded new STEM Bursaries to encourage STEM career changes into teaching and developed new routes into STEM teaching for graduates.
- Established Maths Week Scotland and school holiday maths challenges as annual events to raise the profile and promote the value and relevance of numeracy and mathematics.
- Provided new guidance and resources for teachers and early learning and childcare practitioners to improve STEM learning and tackle the gender stereotyping that is the root cause of gender imbalance in STEM.
- Launched the 'Enhancing Professional Learning in STEM' Grants programme to develop new STEM-related professional learning programmes and resources for early years and community learning practitioners, teachers and school technicians.
- Initiated a new Young STEM Leaders programme to support children and young people to inspire each other to get involved with STEM.
- Science Centres and Festivals are working with the community learning and development sector to expand their reach into deprived communities.
- Colleges are leading the development of regional STEM Hubs and regional STEM strategies to progress the aims and aspirations of the national STEM Strategy in regions.



In 2017 an estimated **804,000** people were employed in STEM-related industries, including health-related business and activities, in Scotland, **an increase of 6.5%** from 755,000 in 2014.

A STEM career changer bursary recipient said:

“ I am already getting **huge satisfaction** from working in the classroom and I’m looking forward to being able to use my experience in industry to prepare young people for the workplace.

It’s important to be able to explain how **the skills we teach are relevant to real jobs** and having a career under your belt gives your words **extra credibility.** ”

£2.08m

2018-19

107 approved bursaries



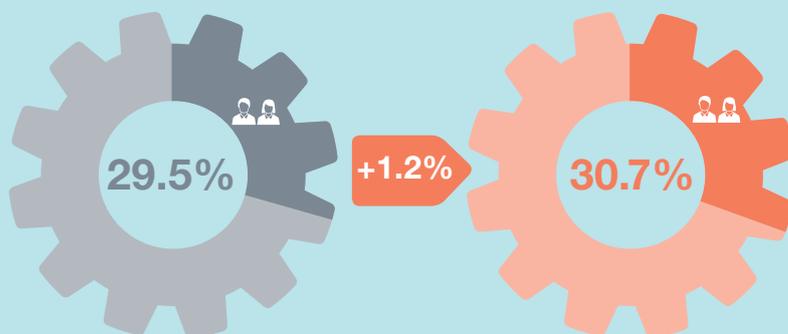
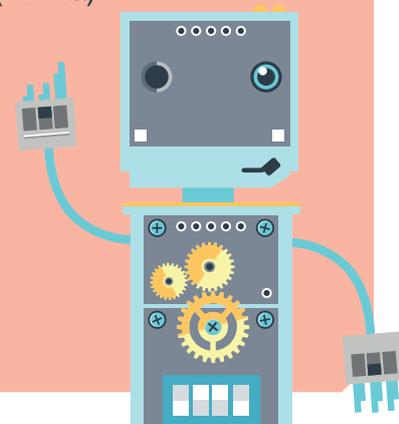
The STEM bursary programme **exceeded its 2018-19 target (of 100)**, with **107 bursaries approved totalling £2.08 million.**

380
2015-16

530
2017-18



STEM Teacher Training entrants have increased from **380 in 2015-16 to 530 in 2017-18.** (KPI 1a)



2014
Total employment

2017
Total employment

STEM-related industries accounted for **30.7% of all employment in 2017** compared with **29.5% in 2014**, including health-related businesses and activities.



616,000

Excluding health-related business and activities, STEM industries accounted for the employment of **616,000 people, 23.5%** of all employment in Scotland in 2017.



63%

63% of primary teachers who responded to an Education Scotland survey, **agreed or strongly agreed** with the statement 'I am confident in delivering STEM learning in my practice.' (KPI IIa)



2014-15 7,364

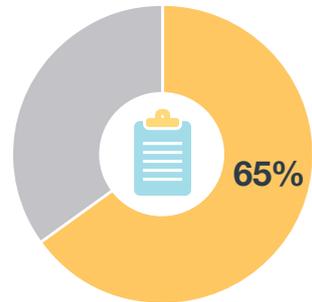
2017-18 8,604

The number of members of community groups from most deprived or rural areas participating in quality engagement with Science Centres and Festivals **increased from 7,364 in 2014-15 to 8,604 in 2017-18.** (KPI IIIf)



79%

A recent data gathering exercise undertaken by Education Scotland in collaboration with local authorities and employer groups indicates that **79% of secondary schools are now benefitting from meaningful and productive partnerships with employers.** (KPI V)



65% of respondents to the **2017 Young People in Scotland survey** said they had chosen or thought they would choose to study a STEM subject. (KPI IVa)



In 2018, **77% of 8,684 young people who participated in MyWoW Live!** said that, as a result, they are more likely to think about studying science/technology subjects at school

