The Highland Council

Highland Council

Agenda Item	16
Report No	HC/11/14

11 June 2014

Highland Science Academy: Update

Report by Director of Development and Infrastructure

Summary

This report provides a summary of the findings of a consultants report into options for the establishment of a Highland Science Academy. It requests approval for a contribution of £20,000 towards a funding package of £80,000 to meet the costs of employing a suitably qualified person to take forward an action plan designed to progress the further development of the project, and outlined in the consultants report, attached as an appendix to this report.

The Highland Science Academy project is supportive of the Council's Programme, "Working Together for the Highlands" to the prioritisation and support of the creation of quality jobs in the Highlands. This is further underlined in its commitment to ensuring the best possible quality of life for children and young people in the Highlands, where every young person in the area has access to the best education and training system we can deliver. The importance of the concept has been reinforced by the recently published report from the Commission for Developing Scotland's Young Workforce recommendations for transformational change in the development of occupational skills provision.

1 Background: Highland Science Academy

1.1 The Planning Environment and Development Committee on 12 February 2014 considered a paper on the Highland Science Academy. The report outlined proposals for the establishment of the Science Academy as a facility which would promote careers in science, technology, engineering and mathematics (STEM) subjects across the Highlands. In this way it would encourage people from a wide range of ages and backgrounds living in the area to consider careers in technology-based industries which are increasingly important to the region and where skills shortages are becoming apparent. The report outlined the work to take forward the concept of the facility and its recommendation "to support the development of the Highland Science Academy and to support the public-private partnership approach detailed in the report" was agreed by the Committee. The Committee also agreed to provide financial support of a maximum of £5,000 towards the commissioning of a report aimed at further developing the Highland Science Academy concept. This paper seeks funding

for a proposed project manager for the Highland Science Academy.

1.2 The Commission for Developing Scotland's Young Workforce, led by Sir Ian Wood, has recently produced its final report recommending significant changes to the way that vocational skills are developed and how young people are prepared for the world of work. There are 39 recommendations which will have significant resource implications, as well as the development of new partnerships between businesses, local authorities, further and higher education. These details will be considered further by the Council as Scottish Government plans for implementation are formulated. However, it is clear from the thrust of the report that the Science Academy will lead the way in developing this approach to Science and Technology in Highland. The Science Academy is also mentioned as part of the Regional Skills Investment Plan being developed by Skills Development Scotland.

2 Current Situation

2.1 Rocket Science consultants were appointed to undertake the development of the Science academy and conducted a combination of desk top and interview research. Their final report was supportive of the establishment of the Science Academy, and a series of recommendations were made to take the project forward. In particular the report focussed upon "the need to connect young people with work in the areas of science, technology, engineering and digital creativity and transforming the experience of these areas at school and college in terms of the appeal and relevance of teaching and learning around these subjects".

2.2 The growing demand for recruits in the science and technology areas of the economy over the next 5-8 years was highlighted. An additional 1000 recruits in life sciences and between 3000-5000 additional recruits in the energy sector across the Highlands and Islands are predicted. The report states that the region is uniquely placed to tackle these challenges as it is the only part of the UK with a unified FE and HE system through UHI. The consultant's concluded that "without a substantial initiative along the lines of the Science Academy there is a significant risk that the potential for business investment and growth in the Highlands and Islands, and associated job growth will be at least constrained and at worst severely reduced".

3 Action Plan

3.1 The Rocket Science report summary and action plan is attached as appendix 1 to this report. It includes the need for clear and inclusive leadership and governance to be provided by a Leadership Board. The report recommended that this board should be comprised of representatives from the Highlands and Islands councils, UHI, HIE, and SDS, alongside private sector representatives. It was recommended that day to day development activities should be undertaken by a Programme Board, comprising of representatives from the same organisations. The Programme Board will look at the practicalities of taking the initiative forward, including the appointment and funding of project staff, the formation of the most appropriate "legal entity" and the identification

of revenue generating activities to support the long term viability of the project. Significant revenue assistance has already been promised from private sector partners, a clear indication of the extent to which the private sector recognise the importance such a facility can play in the development of their workforce. It is hoped that more private sector contributions will be forthcoming as the project develops. A Leadership Board for the Highland Science Academy has now been established, chaired by the Council Leader. A Programme Board is chaired by the Director of Development and Infrastructure. The programme board has identified the need for a dedicated project officer to progress the initiative. The programme board has also produced a draft vision and mission statement for the Science Academy which is attached as appendix 2 to this report. Whilst the vision reflects partner aspirations to extend the reach of the project across the Highlands and Islands it is recognised that the initiative has come from Highland Council, and other local authorities may join in due course.

3.2 The consultants placed an emphasis on the development of an initial prospectus for the facility that underlines the significance of the academy to the economy of the region, and to its young people and workforce. These include the coordination of a wide range of initiatives already underway in the STEMD (Science Technology Engineering, Maths, Digital Media) related field, such as Young Engineers Clubs, STEM Ambassadors and Coding clubs. It also requires the active involvement of schools, and can be achieved through a commitment from all the areas Local Authorities, to place more emphasis on the importance to the local community and to the wider economy of developing expertise in STEMD related activities. Developing good working relations with existing organisations outwith the Highlands and Islands will be valuable, and Glasgow, Aberdeen, and Dundee Science Centres are looking to develop links in the area. Furthermore, there are a range of other related organisations that could equally be approached such as the Open University, e-Skills UK, and the Technology Strategy Board.

3.3 UHI has identified a location for the Science Academy hub facility on the new campus at Beechwood as part of a new building with HIE. This hub will link to other learning centres across the region ensuring that the Science Academy will have a wide geographical impact. UHI and partners have also recognised that areas of social exclusion may find it especially challenging to foster STEM ambitions amongst members of the community either because there may not be the necessary support systems in place, or for a variety of reasons, which may include:

- A belief that STEM-type jobs are beyond the reach of most members of the community; through low aspirations and ambitions from a lack of confidence. This lack of confidence could be found amongst many different members of the community i.e., parents, school children and even teachers and school staff;

- a high number of single parent or fragmented families, with limited resources, in terms of either time, or money, or both to research and get information on STEM careers or provide the emotional and moral

support to those family members aspiring to them. These households may well be under pressure to maximise earnings and deferred earnings from education or apprenticeships may not be seen as a viable option; and

- parents are very influential in career choices and those households in some degree of poverty may not feel confident in supporting children in developing STEM competence e.g. in supporting school homework etc.

3.4 Areas of social exclusion and high poverty therefore present special challenges for encouraging STEM careers and it is to these that the Science Academy will bring special energy and focus. It will seek to do this through programmes that address these key inhibitors. They will include:

- working with parents and carers through community groups to reach and provide support to parents to encourage STEM aspirations in their children or to support those who have children with STEM aspirations but are finding it hard to provide the necessary support;

- working with community groups and Job Centre Plus to encourage returners to the labour market to consider re-training in STEM areas, e.g. for those coming back to work from home-making or changing careers, longer periods of illness or ex-offenders; and

- Working with local schools to raise ambitions for children in STEM areas through programmes such as STEM ambassadors.

The key to the Science Academy's success will be its ability to form close working relationships and trust with communities thorough existing networks of volunteers that are serving these communities. In addition there will be a need to recruit new volunteers prepared to support them in areas that are STEM-orientated such as establishing after-school clubs, and establishing close links with active community groups like the Merkinch Partnership.

3.5 The Action Plan prepared by the consultants sees the development of the facility taking place within a very tight time frame. In order to take forward its proposals, the members of the Programme Board are recommending that a Development Officer be employed to progress the project. This fixed term post, for a maximum of 24 months will ensure the implementation of the action plan's recommendations. A budget of £80,000 has been identified to deliver this element of the project with funding from UHI, HIE, SDS as well as the Council.

4 Implications

4.1 Financial

There are sufficient resources within the Development and Infrastructure budget to provide the Council's £20,000 contribution towards the overall costs of employing a Development Officer on a fixed term two year contract.

4.2 Equality

The Science Academy project will be fully inclusive and aimed at fully engaging young people and members of the community in STEMD related activities. The intrinsic nature of the Science Academy and outreach facilities will help to foster and promote social and geographical inclusion.

4.3 Carbon Clever/Rural Implications

The investment outlined directly supports the Council led initiative, Carbon CLEVER, which has the target of a carbon neutral Inverness in a low carbon Highlands. The Science Academy will use technology to ensure outreach activities in other learning centres avoid the need for travel to Inverness.

4.4 Gaelic

The University of the Highlands and Islands has detailed plans to support the Gaelic Language. There are innovative ICT-based projects designed to promote and sustain access to Gaelic culture run by Sabhal mor Ostaig which the University plan to link to the activities of the Science Academy.

4.5 Legal

There are no significant legal implications arising from this report

4.6 Risk

There is a significant risk, that without the development of the Highland Science Academy, many of the benefits, both social and economic, that can accrue from the development of STEMD related skills and employment, as well as from the development of a low carbon economy, will not be achieved in the Highlands.

Recommendation

The Council is recommended to support the commitment of £20,000 from the Development and Infrastructure Budget towards the costs of employing an officer to take forward the Highland Science Academy Action Plan.

Designation: Director of Development & Infrastructure

Date: 30 May 2014

Author: Kenny Macinnes

Background Paper: Highland Science Academy Report and Action Plan, Rocket Science UK Ltd.

University of the Highlands and Islands, The Highland Council and Highlands and Islands Enterprise

The Highland Science Academy: Summary and action

Need and significance

- There is a significant and growing business demand for young people with an interest and skills in the area of science, technology, engineering and digital creativity, and clear signals that this demand is not currently being met.

- The competition for investment is intense, dynamic and global – both in terms of footloose opportunities and further investment in businesses already located in the Highlands and Islands. The supply of young people needs to match the best internationally in terms of numbers and quality if the carefully nurtured competitive position of the region in the area of science, technology, engineering and digital creativity is to be retained.

- The response to this demand and its globally competitive context means that the effort needs to be sustained and significant. This will require significant investment. The population of the whole Highlands and Islands area is very small (equivalent to just 20% the population of Kent) so the creation of innovative investment partnerships with Scottish, UK and international sources needs to be at the whole Highlands and Islands scale if it is to be realistic and appealing.

- Without a substantial initiative along the lines of the proposed Highland Science Academy there is a significant risk that the potential for business investment and growth in the Highlands and Islands – and associated job growth – will be at least constrained and at worst severely reduced.

Current activity

- There is a wide range of national and local initiatives, support and resources available to support the agenda around encouraging pupils to take forward their interest in the areas of science, technology, engineering and digital creativity and there is significant scope to make much better use of these.

Issues

- There is some exceptional practice and innovation in schools across the Highlands and Islands - even at a UK scale - but these are the exception rather than the rule. However, they provide strong evidence that with the right kind of partnership between schools, employers and parents there is no reason why many more schools should not be providing their pupils which an effective and influential experience in terms of career choice.

- In the schools we talked to a common theme emerged – that *the issue is not about the difficulty in engaging pupils interest in science, technology, engineering and digital creativity* (and particularly around the theme of 'making things that work'). The issue is about exposing more pupils to opportunities, dealing with the level of interest that can easily be generated, and supporting teachers who have the required commitment and enthusiasm. This is being compounded by issues about recruiting and replacing teachers in these subject areas in the Highlands and Islands, especially in rural and island schools.

- A range of barriers to effective action in schools were identified – from difficulties with making effective use in secondary schools of the flexibility possible under Curriculum for Excellence, to the absence of a 'second bus' in more remote areas, which prevent after-school activities. However, for each of these problems, we found schools or teachers which had found a way round them.

The main issues we have identified that need to be tackled in order to transform the number of pupils taking forward an interest in science, technology, engineering and digital creativity are:

- A lack of connection between the world of education and the world of work
- Weak or non-existent local partnerships between businesses and schools
- A wide range of national and regional initiatives and resources to encourage young people in their interest in science, technology, engineering and digital creativity, but they are not well coordinated and connected – and their penetration of the market is very patchy, leaving many pupils unable to benefit.

- Very tight resource budgets within which schools operate, and the significant reductions in recent years in educational support services from local authorities.
- Varied, but often poor, connections between school systems and the new economy of supportive partners who can collaborate with schools to deepen and broaden the quality and / or range of what they can offer their students in STEM studies, work experience and placements. Some of these supportive partners are located in the Highlands and Islands, but most of them are located elsewhere in Scotland, the UK and internationally, but accessible to schools and colleges, wherever they are.
- Poorly-developed and poorly-understood work-based career pathways that can help young people and their families (from P1 to S6) gain better appreciation of the kinds of futures they could choose, and the choices involved.
- A lottery for pupils in terms of outstanding practice – driven by a local combination of committed parents (often business leaders), local employers, head teachers and enthusiastic subject teachers. Enthusiastic pupils – particularly in secondary schools – have also been effective drivers of action (eg in working with pupils in primary).

The opportunities for improvement and innovation

Our findings and identification of the issues make the scale and nature of the problem clear. ***It is a systemic problem with no obvious, focused solution.*** In other words a response needs to involve every part of the system around young people's progression through school and to and through work if it is to produce the required change.

There is already a lot of activity relevant to the objectives of the Highland Science Academy going on in the UK, in Scotland, and across the Highlands and Islands. Much of our work has therefore focused on understanding how better to promote these activities and resources across the Highlands and Islands.

Our most significant conclusion – confirmed in many of our interviews – is that ***the Highland Science Academy needs to be about promoting and connecting a wide range of existing activity and resources across the UK, and enabling systemic change*** – making sure the whole system that is made up of communities, schools, FE/HE and employment works better around the focus on helping young people take advantage of the wide range of fulfilling careers being created in the areas of science, technology, engineering and digital creativity.

Our other main conclusions are that:

- ***This needs to be a collaborative approach between employers, public agencies, schools, colleges, universities, parents and communities***. This needs to work at a local and regional level and the way that this collaborative effort is managed and governed will be central to its success.

- To be of the required scale will require substantial investment (that goes well beyond the scale of the current SSE application). The only way to take this forward would be through the creation of ***collaborative Highlands and Islands wide efforts*** to attract resources, expert speakers, media interest, corporate and philanthropic investment.

We have identified four areas where significant effort is needed to drive systemic change:

- There is a need to ***tie together significant – but separate – strands of work across a range of agencies and employers*** which focus on helping young people develop the rounded and highly adaptable range of skills that are in growing demand − and a flexible attitude to change. These strands of work include:

    - Providing young people across the Highlands and Islands with the skills and flexibility they need to pursue opportunities in the areas of science, technology, engineering and digital creativity.
    - Closely linking school, FE and HE provision in ways that relate to the current and future needs of employers and allow the development of highly responsive, bespoke approaches to meet specific needs, such as Advanced Modern Apprenticeships or work based school/college and college/university career pathways.
    - Ensuring that there is a rounded offer for inward investors and a reliable and convincing mechanism for ensuring a steady flow of young recruits with the grounding that employers seek.
    - Driving innovation in the design of customised in-work training and professional development opportunities with individual companies in science, technology, engineering and digital creativity to enable them to build an adaptive workforce to meet changing demands.

- There is a need provide the ***resources and support needed by enthusiastic teachers*** to take forward a range of local and regional initiatives and to design and implement a programme of activity across the region for both teachers and pupils. A particular issue here is about the lack of confidence that many primary school teachers feel who do not have a background in science, technology, engineering or digital creativity, and their need for CPD and specialist support. As a corollary

there is a need to ensure that pupils in every school are able to benefit from the opportunities created by enthusiastic teachers in some schools – and to ensure that all teachers are fully aware of the support and resources available.

- There is a need to make full use of the ***potential of the significant assets, resources and initiatives*** across the Highlands and Islands (and more widely across Scotland) to support the task. Currently these are weakly connected and the support they offer is fragmentary. The wide range of opportunities is not joined up and often fails to provide a progressive experience for individual young people. For many young people the opportunities are not accessible at all.

- There is a need to ensure that the Highlands and Islands as a whole can develop ***significant investment partnerships with major local, national and international partners*** to deliver the scale of investment needed to put in place a response that reflects the needs and opportunities that the region offers.

The assets which can be drawn on to drive the success of the Academy include the dedicated space available at the Inverness Campus. Most of our interviewers felt that, while this resource can play a useful role in the whole approach, it will not be fundamental to success. There are a number of reasons for this. Practical issues and the fact that it is not an accessible location for many young people across the Highlands and Islands mean that its main value is likely to be as a virtual centre which will allow young people, their teachers and their parents to be provided with experiences which can intrigue and interest young people – and provide a basis for building on this.

What the Academy needs to be like to make a difference – roles and activities

On the basis of our findings and identified issues we are able to articulate what the Academy needs to be like to make the required difference.

The Academy needs to be a significant partnership response to current and emerging shortages of young recruits with a solid grounding in science, technology, engineering and digital creativity. It should play a major role in developing the economy of the area – by transforming the numbers of young people pursuing careers in science, technology, engineering and digital creativity. This will contribute to the expansion of existing businesses and its existence will become a key selling point in terms of attracting new investment.

Its four main roles should be:

- ***To actively manage the system of engagement, support, training and investment around the skills required for science, technology, engineering and digital creativity related jobs***, and so fully realise the potential of the wide range of support, assets and resources that exist across the Highlands and Islands. This means that it will need to work with employers, parents, schools, colleges and universities to ensure that teaching and learning around science, technology engineering and digital creativity is exciting, appealing, and relevant to their lives and opportunities.

- To act as a ***catalyst, facilitator, coordinator and commissioner to form a networked science, technology, engineering and creative digital initiative***, supported by employers, aimed at interesting and enthusing young people about a possible career in life sciences, energy, engineering and digital creativity, and ensuring the existence of progressive skill development routes to help young people gain related jobs and continue their progress when in work.

- To ***put together and support major investment partnerships*** involving national resources, such as Glasgow Science Centre, key national funders such as Skills Development Scotland and the Scottish Funding Council and sources of international investment to drive innovation around relevant career pathways.

- ***To ensure widespread access to clear and appealing information and insights into current and emerging job opportunities*** in the area of life sciences, energy, engineering and digital creativity

The Academy should set out with the intention of providing an effective approach across the Highlands and Islands with a reasonable expectation that in time the approach could be scaled up to the Scottish level.

The purpose of the Academy

The Academy will help young people gain fulfilling jobs and careers related to science, technology, engineering and digital creativity . Their skills will help young people across the Highlands and Islands pursue their ambitions in growing global markets.

In this way the Academy will encourage and support inward investment and indigenous business growth and contribute to the sustainable economic growth of the Highlands and Islands.

Objectives of the Academy

- To raise the awareness of pupils, parents and teachers about the current and expected availability and appeal of science, technology, engineering and digital creativity related jobs
- To increase the numbers and proportion of young people gaining a firm grounding in science, technology, engineering and digital creativity, and pursuing this interest in their career
- To develop new forms of delivery, integrating school, FE and HE provision, to meet the needs of employers
- To fully engage employers, communities, parents and teachers in this task
- To join up, coordinate and extend the reach of current activities promoting young people's engagement with science, technology, engineering and digital creativity – and to enhance the use, reach and impact of current support and resources
- To transform the scale and nature of investment in the task through developing regional, Scottish, UK and international investment partnerships.
- To identify and respond to barriers and gaps that may exist in support and resources to encourage young people's engagement.

Practical tasks for the Academy

The Academy will draw on the energy and commitment of a wide range of individuals, employers, communities and investors across the area and realise the potential of a number of significant physical assets.

Around its four main roles it will take forward practical action such as those set out below:

Role 1: Actively managing the system of engagement, support, training and investment around the skills required for science, technology, engineering and digital creativity related jobs

- ***Bring together and promote*** the current disparate range of initiatives under a common 'brand' to ensure that they are providing a consistent and progressive experience for young people wherever they are. This will create a ***coordinated programme*** of activities, events and initiatives which provides young people with a progressive experience which builds their interest in science, technology, engineering and digital creativity.

- These could include not just access to national schemes and resources but locally designed and delivered experiences aimed at making science, technology, engineering and digital creativity relevant and appealing such as:

    - Visiting teachers - so Highland teachers can swap around to teach their particular area of interest and enthusiasm
    - Distance teaching / learning by video-conferencing or online, to enable expert teachers to offer their services to classes in other schools across the region
    - Visiting lecturers / specialists – external specialists, for example scientists, engineers and business owners
    - Visits to business/engineering premises – eg a wind farm, power station, Hospital, construction site, Nigg, Dounreay etc
    - Teacher conferences on innovation and good practice
    - Personal Projects – with mentoring from a scientist or engineer in business
    - More – and more substantial – competitions based on those run for the Young Engineers and Science Clubs – on creative projects, with prizes/work experience donated by industry.

- ***Manage the system*** of initiatives, programmes, and resources aimed at engaging young people's interest in science, technology, engineering and digital creativity to deliver universal and progressive experiences for young people across the Highlands and Islands. The system will include initiatives for those at primary school through to the support available to develop skills at work.

- ***Draw on a wide range of physical assets and bases*** across the area which will include:

    - Arts and culture and community venues
    - Primary and Secondary Schools
    - Digital media innovation centres
    - Academic centres
    - Learning centres
    - Private and third sector facilities.

- Carry our ***evaluation and research*** into the effectiveness of engagement approaches and the extent to which the activities of the Academy are making a difference to:
    - Young people's engagement in science, technology, engineering and digital creativity and the long term career paths that they follow

- The extent to which employers are gaining the recruits they need and see skills development as informed by and closely aligned with their needs

The Academy will use this information to manage their performance and describe their success.

Role 2: Acting as a catalyst, facilitator, coordinator and commissioner to form a networked science, technology, engineering and creative digital initiative

- This role would be supported by employers, and aimed at interesting and enthusing young people about a possible career in life sciences, energy, engineering and digital creativity, and ensuring the existence of progressive skill development routes to help young people gain internships, placements, related jobs and continue their progress when in work. Possible tasks could include:

  - Helping ***communities*** appreciate the significance of the role they can play in contributing to young people's engagement in science, technology, engineering and digital creativity, and support community based efforts with this objective.

  - Developing and promoting ***resources and support for parents and teachers.***

  - ***Commission others*** to provide appropriate contributions and respond to gaps in current delivery.

  - Work closely with schools and teachers to help them ***realise the potential of Curriculum for Excellence*** by infusing each area of the curriculum with science, technology, engineering and digital creativity themes.

Role 3: Putting together and supporting major investment partnerships

- This role would involve employers, national resources (such as the Glasgow Science Centre), key national funders such as Skills Development Scotland and the Scottish Funding Council and sources of international investment to drive innovation around relevant career pathways.

- This will involve:

    - Identifying a long term investment programme to support the need to respond at scale to the current need and significant opportunities in the area of science, technology, engineering and digital creativity.
    - Identifying appropriate partners at a Scottish, UK and international level with whom to develop and take forward major initiatives and investments.
    - Build on these relationships to provide the conditions for innovation.

Role 4: Ensure the provision of clear, accurate and appealing descriptions of current and emerging job opportunities

This role would focus on producing clear and appealing information and insights for young people with an interest in science, technology, engineering and digital creativity, and promote these in ways which ensure that young people, their parents and their teachers are aware of the range and appeal of these roles. In carrying out this task the Academy will:

- Recognise the ***central role of parents*** as the most significant influence on young people's career choice – and their parallel roles as employees, employers, community leaders and teachers.

- Develop a particular strand of work around the ***engagement of girls*** in science, technology, engineering and digital creativity. This has been identified as a particularly significant issue and the Academy needs to form part of a concerted effort to tackle gender stereotyping around interests and careers from the earliest years – starting in P1 at the latest.

Highland Science Academy Action Plan

Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
Leadership and Governance			
LG1 *Establish an Interim Leadership Group to lead the creation of the Academy*	The ILG should include: • The Highland Council • University of the Highlands and Islands • Highlands and Islands Enterprise • Skills Development Scotland • NHS Highland • 3 Employers from the private sector • Scottish Funding Council • Scottish Council Development and Industry The ILG should consist of both women and men.	**THC**	**End May 2014**
LG2 *Ensure clarity of purpose*	Review and confirm the vision, purpose, objectives and roles of the Academy as proposed in the Rocket Science report of April 2014. When confirmed, these should form the heart of the business planning process for 2015-2018	**ILG**	**End May 2014**
LG3 *Create name for initiative*	Agree name for programme which reflects its nature and aim	**ILG**	**End May 2014**
LG4 *Ensuring a Highlands and Islands wide effort*	Invite each of the local authorities in the Highlands and Islands to join the ILG	**THC**	**End June 2014**
LG5 *Appointment of Chair of ILG*	The members of the ILG should appoint one of their number, or an independent person, to chair the Group	**ILG**	**End May 2014**

Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
Leadership and Governance - continued			
LG6 *Support for short term implementation*	Recruit an Interim Project Management Team, accountable to the ILG, to take forward the work to create the Academy until executive leadership can be appointed	**ILG**	**End June 2014**
LG7 *Creating a legal entity*	Commission the formation of a new legal entity, either a Company Limited by Guarantee, or a Community Interest Company, to become the owner of the Academy. It should be structured so that it can achieve charitable status.	**THC**	**End Sept 2014**
LG8 *Ensuring wide ownership and maximising support and investment*	Consider the membership structure of the company so that it can attract a wider range of interests from across Scotland and the UK to play a part in the work of the Academy.	**ILG**	**End Sept 2014**
LG9 *Complete governance arrangements for HSA*	The founding members elect the Board of Directors of the company, at which point the Interim Leadership Group's role is completed.	**ILG**	**End Sept 2014**
LG10 *Recruitment of Chief Executive*	Initiate the recruitment of the Chief Executive of the Academy. Preparatory work would include research about comparable posts in other parts of the UK, clear specification of the job roles, and the skills, experience and talents required. This is a nationally significant appointment and the unique nature of the job suggests it would be appropriate to secure the services of a specialist recruitment agency.		**End Sept 2014**
LG11 *Recruitment of support staff*	Chief Executive to appoint support staff	**CEO**	**End March 2015**

Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
Finance and Investment			
FI1 *Creating a Business Plan*	Commission the development of a 3-year Business Plan for 2015-2018 to enable 3-year funding investments to be secured from April 2015	**ILG**	**Dec 2014**
FI2 *Initial Prospectus for the Academy*	Commission the creation of a compelling story / prospectus about the significance of the Academy to the future of the economy of the Highlands and Islands and to the young people and workforce of the region; publish it online and hard-copy to create engagement tools with young people, schools, colleges, parents, ambassadors, employers and future partners	**ILG**	**Dec 2014**
FI3 *Attracting investment*	Create a Development Budget for the Academy for the financial year 2014-15; seek initial investment from member organisations of the Leadership Group and from other public, private and philanthropic sources; seek secondees from founders and partners to build interim capability	**ILG**	**Dec 2014**
Partnership building and engagement			
P1 *Create accessible database of available resources for teachers and parents*	Build a data-base of the STEMD resources, activities, facilities, investments and partners currently available in the Highlands and Islands, and across Scotland, building on Rocket Science Appendices	**ILG**	**June 2014**
P2 *Extending existing opportunities and penetration of the schools market*	Build relationships with all the existing voluntary activities and events in the STEMD field in the Highlands and Islands, including Young Engineering and Science Clubs, Science Festivals, STEM Ambassadors, CoderDojo Clubs and others, to gain an understanding of how the Academy could work with them to extend the scale and impact of their work	**THC, HIE**	

Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
P3 *Engaging with young people to gain their insights and experience*	Ensuring that the voice of young people can be drawn on in developing actions and the Business Plan. Commissioning a collaborative research project about young people's attitudes, hopes, fears, aspirations and awareness of jobs and possible futures. Designed to create clear comparisons with HIE's major study from 2008. On line and workshops in schools and colleges across the Highlands and Islands region.	**THC/UHI**	**Dec 2014**
P4 *Building relationships and widening involvement with employers*	Build relationships and potential partnerships with businesses and other employers in the STEMD sectors to seek their engagement, and that of their employees, in the work of the Academy	**ILG**	**Sept 2014**
P5 *Drawing in schools*	With the support of each of the local authorities, build relationships and potential partnerships with primary and secondary schools to gain insights into their current resources and challenges, and their ideas about how the work of the Academy could help them deepen and enrich their STEMD offer	**THC and other LAs**	**Sept 2014**
P6 *Creating key delivery partnerships*	Build relationships with organisations beyond the Highlands and Islands that could become partners in the work of the Academy, for example Glasgow and Dundee Science Centres, the Office of the Chief Science Adviser in Scottish Government, the STEM Education Committee for Scotland, and Education Scotland. There are also resources at UK level that are relevant to the work of the Academy, such as the STEM Ambassadors Programme (due for review in 2015), The Open University ('My Digital Life' teaching resource pack for schools), e-Skills UK, and the investment programmes of the Technology Strategy Board.		**Sept 2014**
P7 *Education / Community / Business Partnerships at local level*	Work across Academy area to support the development/revival of active and energetically led Education/Community/Business Partnerships	**ILG**	**Through to May 2015**

Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
Academy premises			
A1 *Role for Inverness Campus Space*	Review possible role for Campus space in light of Rocket Science findings	**ILG**	**May 2014**
A2 *Design of space*	Commission the development of ideas and designs for the use of space in the proposed Academy building on Inverness Campus from experts such as the Institute for Design Innovation at Forres Enterprise Park, or others. Involve young people in the design and development process.	**ILG**	**June 2014**

Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
Information and Intelligence			
II1 *Build shared intelligence about STEMD and its significance to the Highlands and Islands, today and in the future*	Commission / create new online resources to broaden and deepen popular understanding about the significance of STEMD including: • Geographic-specific resources, including stories of real people and businesses • Sector-specific resources with examples of successful and growing businesses • The intelligence and forecasts included in the Regional Skills Investment Plan • Case studies of men and women from the Highlands and Islands who have been great achievers in their STEMD specialism or in inter-disciplinary roles around the UK and the world – role models for young people • A news page and supporting feature pages about things happening in the STEMD space • Information about career pathways into STEMD jobs and careers • Links to significant sites such as My World of Work (SDS), and sites offering jobs, apprenticeships, placements and internships in appropriate sectors	**ILG**	**June 2014 by completion Dec 2014 with subsequent updates**
Topic and *areas for action*	**Action required**	**Lead**	**Timescale**
Career pathways and training			
CT1 *New initiatives with SDS and SFC*	Take forward with SDS and SFC the emerging proposals for Work Based Career Pathways and Advanced Apprenticeships	**ILG**	**June 2014**

Highland Science Academy

Vision:

To make the Highlands and Islands a region of excellence where the skills and aspirations of our young people are matched to the growth of science and technology based sectors.

Mission statement:

To ensure young people in the region are aware of the opportunities, and are able to make the transition into employment in the areas of science, technology, engineering, maths and digital media.

Objectives of the academy:

1. To raise awareness of pupils, parents, carers and teachers about the current and expected availability and appeal of science, technology, engineering and digital media related jobs.
2. To increase the numbers and proportion of young people gaining a firm grounding in science, technology, engineering and digital media and pursuing this interest in their career
3. To develop new forms of delivery, integrating school, FE and HE provision to meet the needs of employers
4. To fully engage employers, communities, parents, carers and teachers in this task
5. To join up, coordinate and extend the reach of current activities promoting young people's engagement with science, technology, engineering and digital media and to enhance the use, reach and impact of current support and resources
6. To transform the scale and nature of investment in the task through developing regional, Scottish, UK and international partnerships
7. To identify and respond to barriers and gaps that may exist in support and resources to encourage young people's engagement.

Values and Principles

Openness - to new ideas and means of delivery

Partnership – delivery through the private, public and third sector

Equality – promotion of opportunities to all young people, notably young women

Networked – using technology to make connections between people and places

Improving – striving for innovation and ensuring best practice is followed