



## Project Evaluation - Scottish Stem Cell Network

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Report to  
Scottish Enterprise Edinburgh and Lothian  
v1.1

Scientific Generics Ltd

2<sup>nd</sup> February 2005

## Executive Summary

- Evaluation of the SSCN after two years of operation has identified notable achievements against objectives.
- Successes have been particularly notable in the context of establishing substantial registration, organising high quality meetings, engaging nationally and internationally, raising Scotland's international profile with the stem cell community broadly, and, to a more limited extent, in beginning to address some of the barriers to effective exploitation of stem cell research.
- There have been no directly attributable successes in terms of grants from UK research councils, attraction/retention of scientists and attraction of commercial investment. However, SE has had a material impact in this latter regard.
- Overall, the Network has delivered significant value for Scotland as a result of the combination of funding from SE, exemplary and effective chairmanship, the significant pro bono contributions of the Steering Committee and the energy, enthusiasm and knowledge of the chairman, the steering committee and the co-ordinator.
- Looking to the future, the key conclusion in terms of objectives is that it is essential to review the objectives of the network with SE and other stakeholder groups to identify a more tightly focussed and achievable set of objectives while retaining the general mission.
- There is an ongoing need for the SSCN to continue to look to public sector funding in the short and medium term. However, the level of funding and resources should be maintained or enhanced to reflect the revised focus of the objectives.
- It is appropriate to consider a more formal legal status. This should be implemented as soon as practicable but without introducing excessive bureaucracy on the members of the Steering committee and subject to EU state aid considerations.
- The strong steering committee plays a major part in the operations of the SSCN and should be maintained and enhanced to support with the breadth and scope of activities to ensure that it is appropriately constituted to address all of the Network's objectives.

## Contributors:

Name	Affiliation
Prof John Ansell	SSCN Steering Committee, Emeritus Professor, University of Edinburgh
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Sir David Carter	SSCN Chairman, Royal Society of Edinburgh
Mr Simon Best	SSCN Steering Committee, BIA Scotland, Ardana Bioscience Ltd.
Dr Alf Game	Head, Plants, Microbes & Genetics Branch, BBSRC
Dr Marc Turner	SSCN Steering Committee, SNBTS
Dr Tom Shepherd	CEO, CXR Biosciences
Prof Joyce Tait	Director, ESRC Innogen Centre
Prof Austin Smith	SSCN Steering Committee, Institute for Stem Cell Research, U. of Edinburgh
Mr Ken Snowden	Manager, Biotechnology Cluster, Scottish Enterprise
Drew Lyall	Executive Director, Canadian Stem Cell Network
Dr Michael Davies	Medical Research Council
Prof Jane Bower	SSCN Steering Committee, Glasgow Caledonian University
Dr Peter Mountford	CEO, Stem Cell Sciences (UK) Ltd
Barry Sealey	Archangel Informal Investments Ltd
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## Scottish Enterprise Edinburgh and Lothian wishes to evaluate the first two years performance and operation of the SSCN

- The Scottish Stem Cell Network (SSCN) was formally established in April 2003 with funding from SEEL for a two-year period
- The objectives of the Network, and the anticipated economic benefits and additionalities, were defined at the outset
- As the two year funding period is approaching completion, SEEL has commissioned an evaluation of the extent to which the SSCN has achieved these objectives, benefits and additionalities The evaluation has tried to take account of both actual and anticipated achievements to the end of the first funding period.
- In parallel, the evaluation was asked to consider possible options for taking the project forward, with reference to
  - operational and governance structure
  - resource requirements
  - potential alternative and complementary funding sources
- SEEL indicated that “This opportunity should be used to discuss **all** aspects of the SSCN's operation over the past two years, ... the notable achievements ...and... areas where ... the network hasn't performed well, or where improvements could/should be made in the future.”

## The four objectives of the SSCN as defined by SEEL were as follows:

- Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.
- Raise the profile of Scotland's stem cell activities to UK public sector research funding organisations.
- Create an environment which will retain and attract leading scientists and new company investment.
- Overcome barriers to effective exploitation of stem cell research.

## The anticipated benefits were:

- Securing 20 high-quality research positions within both commercial and academic institutions
- EUR 4M in collaborative research projects, for example through EU FP6 programmes
- Additional GBP 1M of inward investment, either through company relocation or via industry-funded research
- Enhancement of Scotland's reputation in stem cell research and in biotechnology more widely
- Direct support for one of SDI's six key Life Sciences activities
- Creation of better linkages between industry and academia
- Demonstration of commitment to an important emerging industry
- Leveraging additional research funding through MRC, by effective lobbying and marketing of Scotland's capabilities
- Leveraging potential inward investment from leading global players, e.g. Geron Inc, Stem Cell Sciences (UK) Ltd

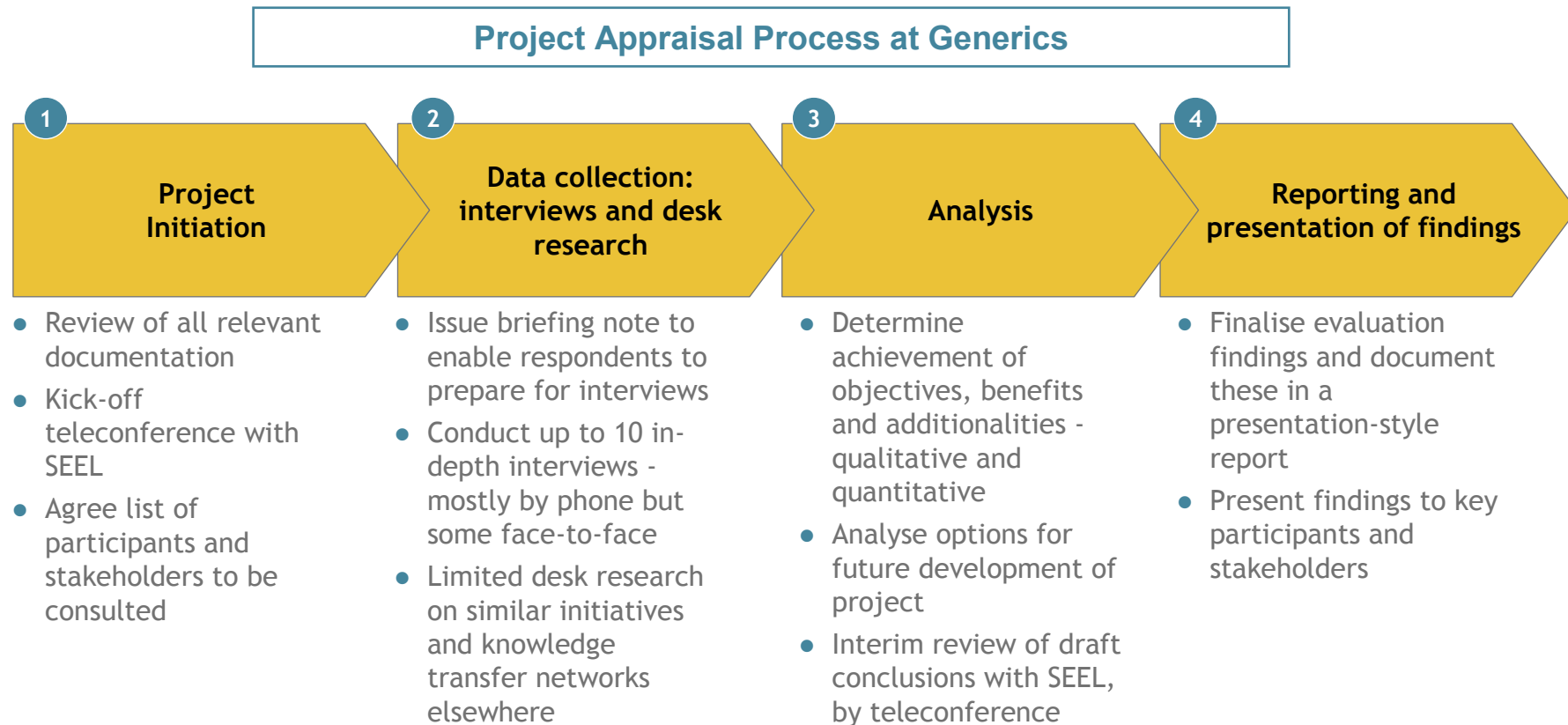
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Our approach was based on a set of interviews with stakeholders and key opinion leaders, supplemented by desk research



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## The objectives as set were challenging.

- Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.
  - i.e. nationally within Scotland and internationally
- Raise the profile of Scotland's stem cell activities to UK public sector research funding organisations.
  - Leveraging more research funding (e.g. from MRC, BBSRC, DTI)
- Create an environment which will retain and attract leading scientists and new company investment.
  - new scientific jobs, new companies, new investments
- Overcome barriers to effective exploitation of stem cell research.
  - scientific/technical, clinical, regulatory, commercial, public perception

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## SSCN evaluation Objective 1:

Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.

**SSCN has build a membership of ~190, primarily from the Edinburgh academic community, but with participation from outside Edinburgh and other groups**

Approximately 190 members*	Location
<ul style="list-style-type: none"><li>• Academic<ul style="list-style-type: none"><li>• University non MRC 88</li><li>• Roslin/BBSRC 29</li><li>• MRC HGU/HRSU 16</li></ul></li><li>• Non Academic<ul style="list-style-type: none"><li>• NHS 10</li><li>• Commercial 17</li><li>• Government (mostly SE) 10</li></ul></li><li>• Commercial membership is primarily stem cell companies and investors</li></ul>	<ul style="list-style-type: none"><li>• Over 70% based in Edinburgh<ul style="list-style-type: none"><li>• University of Edinburgh</li><li>• MRC Units</li><li>• Roslin</li><li>• SSC UK Ltd</li></ul></li><li>• A smaller number outside Edinburgh<ul style="list-style-type: none"><li>• Glasgow (17), Dundee (5), St. Andrews (3), Aberdeen (2), Ayr (1), Fife (1), Melrose (1)</li></ul></li><li>• Some outside Scotland<ul style="list-style-type: none"><li>• Newcastle (5), Durham (2), Nottingham (2), Sheffield (2), Cambridge (1), London (1)</li></ul></li></ul>

\* Based on analysis of email distribution list

## SSCN evaluation Objective 1:

Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.

### SSCN has developed the network through a number of well organised and well attended events

Date	Meeting	Venue	Attendees (approx)
May 2003	Launch	Edinburgh	130
Jun 2003	Pancreatic islet cells workshop	Edinburgh	75
Aug 2003	Stem cells in drug discovery workshop	Dundee	120
Nov 2003	EU clinical trials directive	Edinburgh	40
Dec 2003	Human ES cell derivation workshop	Edinburgh	110
Feb 2004	Legal and ethical issues around human stem cell research**	Edinburgh	120
Apr 2004	Stemming the tide of incurable diseases	Edinburgh*	200
Dec 2004	Protection of IP and know how in stem cell research	Edinburgh	25

\*Edinburgh International Science Festival

\*\*Half day symposium co-ordinated with ESRC, Innogen and RSE.

## SSCN evaluation Objective 1:

Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.

**This foundation will be further enhanced by the forward programme of meetings and an international conference**

Date	Meeting	Venue
Mar/Apr 2005	AGM for Members	
Feb 2005	Workshops for members on cancer stem cells and rejection issues	Glasgow
Feb 2005	Session at Innogen international conference	Dundee
Mar 2005	<b>International Stem Cell Conference</b>	Edinburgh
Apr 2005	Session at EISF 2005 "Stemming expectations: will designer transplants become a reality?" Jointly with British Society for Immunology	Edinburgh

## The SSCN has effectively promoted Scotland's activities nationally through a number of activities and channels

- SSCN has promoted Scotland's activities nationally through:
  - meetings/workshops
  - the SSCN web site
  - the media
  - liaison with SHEFC for funding and the Scottish Science Advisory Committee.
  - interactions with ITI Life Sciences
  - interactions with the Innogen Centre
  - and by enhancing interactions between scientists and clinicians.
- Looking forward, there are opportunities for enhancing:
  - commercial engagement (commercial participation and showcasing)
  - use of the SSCN web site as an information channel (given appropriate resources)
  - public relations (given appropriate resources)
  - awareness through more meetings outside Edinburgh
- **RECOMMENDATION:** Ensure at least two meetings per year outside of Edinburgh.



## SSCN evaluation Objective 1:

Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.

### SSCN has effectively promoted Scotland's activities internationally

- SSCN has promoted Scotland's activities with other Stem Cell networks/groups including:
  - the Canadian Stem Cell Network
  - the Swedish and Norwegian groups involved in Stem Cell Research
  - the Australian Stem Cell Network
- SSCN is the "most visible EU stem cell network" - *Canadian Stem Cell Network*
- SSCN is involved in multinational stem cell initiatives:
  - the European Stem Cell initiative launched on 17<sup>th</sup> November in Seville
  - the Network of Networks meetings
  - Brussels meeting (see page 28)
- SSCN has worked with other UK groups (including Cambridge, Sheffield, Newcastle, London) to develop a proposal for a UK Stem Cell network submitted to the DTI
- The forthcoming conference will provide further international promotion
- A proposal for a session has been accepted by BIO2005, UK-wide but led by SSCN
- The SSCN has established an Internet presence that can be developed to further enhance international promotion

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## SSCN has raised the profile of Scotland's stem cell activities to UK public sector research funding organisations

- There are interactions between members of SSCN and the Research Councils
  - Marc Turner is on the advisory panel to the management committee of the UK Stem Cell Bank (funded by MRC and BBSRC) and MRC Stem Cell Clinical Liaison committee
  - Sir David Carter is vice chairman of the Steering Committee for the UK Stem Cell Bank and for the use of stem cell lines
  - Other members of the SSCN Steering Committee have other interactions (e.g. Simon Best, Scottish BIA and BIO bioethics committee)
  - Prof Austin Smith has been the recipient of substantial research funds from the MRC and is a key participant in the EU funded EuroStemCell consortium
  - Representatives of the MRC came to the SSCN launch event, representatives of the BBSRC have attended a subsequent event. Though formation of SSCN was independent of MRC & BBSRC initiatives
- SSCN organised a British Council INYS (international Networking for Young Scientists meeting/mission) to the Karolinska Institute (Sweden) in March 2004.

## In general, there are a number of ways in which the SSCN might materially affect award of research council grants

- In general, the contribution of SSCN might be considered material to a grant application if
  - SSCN were a recipient within a grant application\*;
  - SSCN wrote the grant application with other partners;
  - the application came from a consortium formed as a result of the activities of the SSCN;
  - one or more of the partners became aware of a grant application opportunity through the SSCN.
- Simply making reference to the SSCN in the background information would not be considered material.

\* not possible with current legal status

## The most recent call for Research Council funding came too soon after the SSCN's launch for the Network to play a role in facilitating applications

- MRC-led cross-council bid
  - In 2002 the MRC led a cross-Council bid, requesting additional funds for stem cell research from Government. £40m was potentially provided across the Councils (MRC £26m, BBSRC £10.5m...) to take forward the UK Stem Cell Initiative.
- On 1<sup>st</sup> October 2003, MRC announced funding of £1m to fund Institute of stem cell research at Edinburgh University directed by Austin Smith). The Juvenile Diabetes Research Foundation (JDRF) co-funded the development of the centre. The BBSRC extended their existing £3.2m financial commitment to stem cell research at the University.
- 60 research proposals were assessed in January 2004, with 24 awards made to a value of £5.5M by the BBSRC. EPSRC co-funded four projects (six grants) submitted to the initiative. A total of £16.5 million total investment in stem cell research was announced on 27<sup>th</sup> May 2004. Three of these grant went to Scottish Universities (comprising £1.23m, 7.4% of total).
- It is important to note that the last call for these funds was effectively 12<sup>th</sup> May 2003, just after the SSCN launch. Therefore, there was insufficient time for the SSCN to materially affect grant proposals under this initiative.

## We are not aware of any other successful grant applications through other programmes where the SSCN has had a material affect.

- There have been some unsuccessful joint applications to the ESRC (e.g. SNBTS & Innogen)
- However, there are some outstanding proposals from SSCN mediated consortia that have yet to be reviewed.
- Overall, the SSCN may have a high profile with the research councils but this is not yet translating into additional grant funding directly as a result of the SSCN.
- However, the second round of funding under the initiative will be opened in January 2005, with a deadline of July 2005. An announcement is expected at the forthcoming Edinburgh conference (March 2005).

## There is an opportunity to work more inclusively with the research councils especially BBSRC and MRC

- According to the BBSRC, there are relevant grants that are available of which SSCN members may be unaware:
  - Collaborative Career Development Fellowship in Stem Cell Research
  - Capacity Building & Industrial Collaborative Studentships
    - (MRC website - none of the last eleven went to Scottish Institutions)
- MRC would encourage more collaborations between Scottish Universities in grant applications.
- Stem Cell research is strategic for both BBSRC and MRC.
  - The SSCN should consider a workshop focussed on funding opportunities from the MRC, BBSRC, ESRC and other bodies.
- There are opportunities to increase awareness within the SSC community which could lead to further grants
- **RECOMMENDATION:** Ensure at least one part session on grant application opportunities as part of one of the future meetings, with participation from relevant individuals from the MRC/BBSRC/DTI etc.

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### SSCN evaluation Objective 3:

Create an environment which will retain and attract leading scientists and new company investment.

## SSCN has not materially affected retention or attraction of company investment (SE/SDI has).

- The relocation of SCS (UK) Ltd to Edinburgh is frequently cited as an instance
- The decision to relocate SCS (UK) Ltd was:
  - made in 2002 and not influenced by the existence or planned development of the SSCN
  - driven by desire for (1) co-location with Austin Smith's group, (2) regulatory considerations and (3) consideration of commercial pragmatism of being based in Europe (rather than Australia)
- Subsequently SCS (UK) Ltd has received support from SE and SDI directly
- Archangel Informal Investment:
  - was introduced to the SCS (UK) Ltd investment opportunity by SE
  - only became aware of the network after the investment was made
- In the future:
  - Establishment of a GMP facility could be a commercial attractor, following the EU clinical trials directive. SSCN is making the case for this investment
  - However, retention could become an issue given that private sector funding at key institutions (such as the Roslin Institute) is likely to decline
  - Working in concert with SE/SDI, SSCN could facilitate linkages between companies and between companies and scientists/clinicians which might lead to new company investment in Scotland.
- **RECOMMENDATION:** Work with SE/SDI and other relevant stakeholder groups to review specificity and ownership of commercial objectives of SSCN.

### SSCN evaluation Objective 3:

Create an environment which will retain and attract leading scientists and new company investment.

**SSCN has not materially affected retention or attraction of leading scientists. In the future SSCN could influence awareness through international promotion.**

- Key factors that affect attraction/retention of leading scientists include:
  - opportunities to work with other leading scientists, conduct & publish research
  - availability of research funds/grants, facilities and favourable regulatory environment
- Currently, leading scientists would be aware of activities at the ISCR and Roslin and would not be attracted/retained as a result of the SSCN.
- As the community grows, international promotional activities, such as conferences, showcasing activities (e.g. at BIO2005) and promotion through the web may promote awareness which could lead to attraction.
- Compare with the situation in North America:
  - the Canadian Stem Cell Network can affect attraction/retention within Canada to a limited extent because it awards grants equivalent to £2.2m per annum.
  - Stem cell scientists will be attracted to California because of Proposition 71 (\$3b subject to annual limit of \$350m)
- **RECOMMENDATION:** Work with SE/SDI and other relevant stakeholder groups to review specificity and ownership of scientific attraction/retention objectives.

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## The SSCN has made steps to help address some of the substantial barriers to the effective exploitation of stem cell research

- The most significant barrier to the effective exploitation of stem cell research is progress in the clinic.
  - The SSCN meeting programme is narrowing the knowledge gap between scientists & clinicians.
  - The ability to conduct clinical trials will be limited by the lack of a GMP facilities. The SSCN has been instrumental in initiating discussion for the establishment of such a facility (with ITI Life Sciences, SE and other groups). However, substantial mobilisation of finance and other resources will needed to make this a reality.
- Another potential barrier could be EU legislation (i.e. proposed amendments to the Cell and Tissues Directive)
  - SSCN has been contributed materially to lobbying activities
  - SSCN with other organisations orchestrated a lobbying meeting in Brussels with European MEPs

## Moving forward this will require concerted effort with other stakeholder groups

- In terms of public perception, the media have contacted SSCN members on several occasions.
  - The SSCN is seen as independent of any particular organisation/group/university and therefore in a good position for support lobbying and public awareness activities.
  - Simon Best is frequently quoted in the media, though usually attributed as Ardana or BIA rather than SSCN. This may be because journalists regard the BIA as a more formal organisation than the SSCN.
  - Most recently, SSCN members have been in contact with the promoters of the proposed UK Stem Cell Foundation.
- **RECOMMENDATION:** Work with SE and BIA and other relevant stakeholder groups to review specificity and ownership of SSCN objectives related to removing barriers to effective exploitation and determine resource implications

## Overall, the objectives have been achieved to varying degrees

Objective	Level of achievement	Comment/Evidence
Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.	Very High	High profile nationally and internationally. Essential to an effective Network.
Raise the profile of Scotland's stem cell activities to UK RC funding bodies, primarily MRC.	Low but early to call. No success thus far based on interviews.	Profile is raised. However, there is no evidence of success in receipt of grants. The timeframe may not have been optimal.
Create an environment which will retain and attract leading scientists and new company investment.	Of limited applicability	Evidence from interviews is that these decisions are driven by factors other than the presence of the SSCN. However, there are introduction opportunities. Conversely, establishment of GMP facility would be a considerable attractor.
Overcome barriers to effective exploitation of stem cell research	Excellent start	"overcoming barriers" is more of a long term activity.

**There is evidence that some of the anticipated benefits are beginning to emerge in some areas.**

<b>Anticipated benefits</b>	<b>Evidence/Comment</b>
Securing 20 high-quality research positions within both commercial and academic institutions	Difficult within time frame, partly due to funding windows. There have been research positions e.g. at ISCR and commercial positions, but not materially as a result of the SSCN.
EUR 4M in collaborative research projects, for example through EU FP6 programmes	There has been EU funding for Stem Cell activity in Scotland, i.e. EuroStemCell, but not materially because of the SSCN.
Additional GBP 1M of inward investment, either through company relocation or via industry-funded research	There is no evidence that this has been achieved to date. However, it may be too early to assess. The relocation of Stem Cell Sciences (UK) Ltd, for example, was planned before the establishment of the SSCN primarily to locate the business function near to the science base (Austin Smith's group) and advantages of being in Europe/UK for business development and regulatory considerations.
Enhancement of Scotland's reputation in stem cell research and in biotechnology more widely	SSCN has increased Scotland's international profile. SSCN is organising an international conference (a major Stem Cell conference in Europe in 2005) and has participated and presented at international conferences (e.g. recently in Spain). Individuals involved in SSCN have also participated in SDI events
Direct support for one of SDI's six key Life Sciences activities	SSCN (through Andrew Henderson) has encouraged SDI to promote stem cell missions. Steering committee member have participated (e.g. John Ansell, Austin Smith).

## But also suggestions that some have not yet been addressed

Anticipated benefits	Evidence/Comment
Creation of better linkages between industry and academia	Pre-existing linkages were already good. e.g. Geron with the Roslin, SCS (UK) Ltd with U. Edinburgh. Opportunity may arise with Invitrogen.
Demonstration of commitment to an important emerging industry	As through discussions and activities concerning potential GMP facility with Life Sciences ITI and Scottish Enterprise.
Leveraging additional research funding through MRC (and other Research councils), by effective lobbying & marketing of Scotland's capabilities	No evidence from interviews with interviewees and research councils.
Leveraging potential inward investment from leading global players, e.g. Geron, SCS UK Ltd	Not for SCS UK Ltd, though SE already does this through other channels.



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## A number of recommendations have emerged as a result of our review of the achievements of the SSCN against its objectives to date

- **RECOMMENDATION:** Ensure at least two meetings per year outside of Edinburgh.
- **RECOMMENDATION:** Ensure at least one part session on grant application opportunities as part of one of the future meetings, with participation from relevant individuals from the MRC/BBSRC/DTI etc.
- **RECOMMENDATION:** Work with SE/SDI and other relevant stakeholder groups to review specificity and ownership of commercial objectives of SSCN.
- **RECOMMENDATION:** Work with SE/SDI and other relevant stakeholder groups to review specificity and ownership of scientific attraction/retention objectives.
- **RECOMMENDATION:** Work with SE and BIA and other relevant stakeholder groups to review specificity and ownership of objectives related to removing barriers to effective exploitation and determine resource implications
- **KEY RECOMMENDATION:** SSCN has made significant progress against those objectives where it was possible to make progress within the available time and limited resources. Our recommendation is that funding should be continued and enhanced where appropriate.

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**There are a number of possible options for future development of the SSCN with reference to:**

- Operational and governance structure
- Resource requirements (people and funding) for effective operation, assuming activities at currently-anticipated levels
- Potential alternative (or complementary) sources of funding : both public (e.g. SEEKIT) and private (e.g. charities).

**It is appropriate to consider introducing a more formal legal status (not-for-profit company), but this should be implemented seamlessly without introducing excessive bureaucracy.**

- Currently SSCN is informal & the Co-ordinator role is funded directly by Scottish Enterprise.
- Currently SSCN has no formal status in law, which limits public relations activities.
- There is an argument for a more formal status for legal reasons and for financial reasons (i.e. to be eligible to receive grants and other funding).
- The model could be a not-for-profit company limited by guarantee, though consideration through legal advice will need to be given to EU State Aid Regulations if it continues to depend upon public funds.
- SSCN could more easily share admin and other resources with other not-for-profit organisations for reasons of efficiency (e.g. as per the Canadian SCN).
- This informal set up has worked well. Care should be taken to avoid loss of pro bono contributions through excessive bureaucracy. Need to be careful not to impose too much structure on the organisation under those circumstances.

## The strong steering committee plays a major part in the operations of the SSCN and should be maintained and enhanced

- The energy, expertise and pro bono contributions of the steering committee members play a major role in guiding, facilitating and enabling the activities of the SSCN.
- The level of participation of the steering committee should be maintained or enhanced to cope with the breadth and scope of activities to ensure that it is appropriately constituted to address all of the Network's objectives - as currently stated or more tightly focussed.
- The steering committee might be enhanced to ensure more participation from individuals in the commercial sector or based at organisations outside of Edinburgh.

## Resources should be allocated to the SSCN to be commensurate with the more tightly focused objectives.

- Once objectives have been reviewed and more tightly focussed, resource needs should be assessed, perhaps through benchmarking with other similar relevant organisations:
- These could be other stem cell networks:
  - e.g. the Canadian stem cell network has 5.5 FTE but administers £2.2m research funding in addition to other network management functions
- Or other activities in Scotland and elsewhere
  - e.g. Bio-Dundee, SDI mission management, ITP, DTI KTN, membership organisations such as the ERBI etc.
- In our estimation, the current level of resource is at the minimum required for a networking organisation of this type.
- To address some of the more challenging parts of the objectives and to provide more concerted action within existing areas of activity, more resources will be required.

## The SSCN should continue to rely on the public sector as the primary source of funding in the short to medium term

- It is appropriate that Scottish Enterprise continues to fund.
  - Scottish Enterprise is seen as independent
  - Stem Cells are seen as a strategic scientific area for Scotland
  - This activity dovetails with other SE and Scottish Executive initiatives
- It is not appropriate to consider becoming a membership organisation at this time (e.g. like the BIA or ERBI) - the field is too young and too few organisations are represented by the membership
  - Though this may be a possibility in the future.
- Additional funding could be sought from other sources:
  - Invitrogen has started sponsoring some of the activities of the Canadian Stem Cell Network. There may be an opportunity following the recent acquisition of Bioreliance.
  - UK pharmaceutical companies might be approached to sponsor specific events.
  - Charitable foundations may be willing to fund specific events (determined on a case by case basis)
    - e.g. Juvenile Diabetes Research Foundation spend \$100m per annum. The Canadian Stem Cell Network has been one of the beneficiaries.
  - Other Scottish Executive programmes (e.g. SEEKIT, is designed to support projects that will promote co-operation in R&D and knowledge transfer between SMEs and the science base)
  - Although the UK stem cell DTI KTN proposal was not funded, it may be possible to build upon good working relation to seek funding for UK wide activities from other sources (e.g. key RDAs).

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## Our interviews confirm that there have been notable successes

- There has been solid and significant progress with the available resources
- The SSCN has formed as a network with substantial registration (some outside Scotland)
- The SSCN has organised high quality meetings that have been well received
- The SSCN has engaged a large number of individuals and organisations (nationally and internationally)
- The SSCN has been active internationally (e.g. Brussels/EU) and UN countries
  - Example 1: Meeting in Brussels (co-ordinated with the Royal Society of Edinburgh) with MEPs (15<sup>th</sup> October 2003) during discussion of FP6 funding restrictions and proposed amendments to the Cells and Tissues Directive\*.
  - Example 2: Links with other stem cell groups and networks
- SSCN members have been consulted on legislative matters (e.g. HFEA amendments)

\*Exact impact is unquantifiable

**There are many potential areas for development which would have resource implications and/or involve interaction with other stakeholder organisations.**

- In addition to the specific recommendations about review of objectives:
  - SSCN could build upon the goodwill established with other UK regional organisation as a result of the DTI bid to establish a UK Stem Cell KTN and seek alternative sources of funding (e.g. from consortium of RDA).
  - SSCN could focus on establishment of GMP Facility
  - SSCN could focus on commercial showcasing/partnering and greater engagement with SDI missions
  - SSCN could focus on more lobbying in the media
  - SSCN could spend more time showcasing academic and clinical research in Scotland

## There is a need for review of overall priorities and resources.

- The current objectives of the SSCN are admirable but highly challenging, given the level of resourcing
  - They are effectively a mission statement.
  - As the network matures the use of SMART\* objectives will become more essential
- The objectives cover a broad range of activities that intersect with the stated missions of many other organisations (SE, SDI, BIA, Research Councils, charities...)
  1. Develop a strong stem cell network which can effectively promote Scotland's activities nationally and internationally.
  2. Raise the profile of Scotland's stem cell activities to UK public sector research funding organisations.
  3. Create an environment which will retain and attract leading scientists and new company investment.
  4. Overcome barriers to effective exploitation of stem cell research

\* specific, measurable, achievable, relevant and time bound

## ***KEY RECOMMENDATION:***

- Review, prioritise, add focus and specificity to objectives as part of review discussion with Scottish Enterprise.
  - which is the primary objective, what are the subsidiary objectives and what are the implications for resourcing?
  - what can and should be covered by other organisations and what by the SSCN?
  - who should co-ordinate which activities?

## Executive Summary

- Evaluation of the SSCN after two years of operation has identified notable achievements against objectives.
- Successes have been particularly notable in the context of establishing substantial registration, organising high quality meetings, engaging nationally and internationally, raising Scotland's international profile with the stem cell community broadly, and, to a more limited extent, in beginning to address some of the barriers to effective exploitation of stem cell research.
- There have been no directly attributable successes in terms of grants from UK research councils, attraction/retention of scientists and attraction of commercial investment. However, SE has had a material impact in this latter regard.
- Overall, the Network has delivered significant value for Scotland as a result of the combination of funding from SE, exemplary and effective chairmanship, the significant pro bono contributions of the Steering Committee and the energy, enthusiasm and knowledge of the chairman, the steering committee and the co-ordinator.
- Looking to the future, the key conclusion in terms of objectives is that it is essential to review the objectives of the network with SE and other stakeholder groups to identify a more tightly focussed and achievable set of objectives while retaining the general mission.
- There is an ongoing need for the SSCN to continue to look to public sector funding in the short and medium term. However, the level of funding and resources should be maintained or enhanced to reflect the revised focus of the objectives.
- It is appropriate to consider a more formal legal status. This should be implemented as soon as practicable but without introducing excessive bureaucracy on the members of the Steering committee and subject to EU state aid considerations.
- The strong steering committee plays a major part in the operations of the SSCN and should be maintained and enhanced to support with the breadth and scope of activities to ensure that it is appropriately constituted to address all of the Network's objectives.