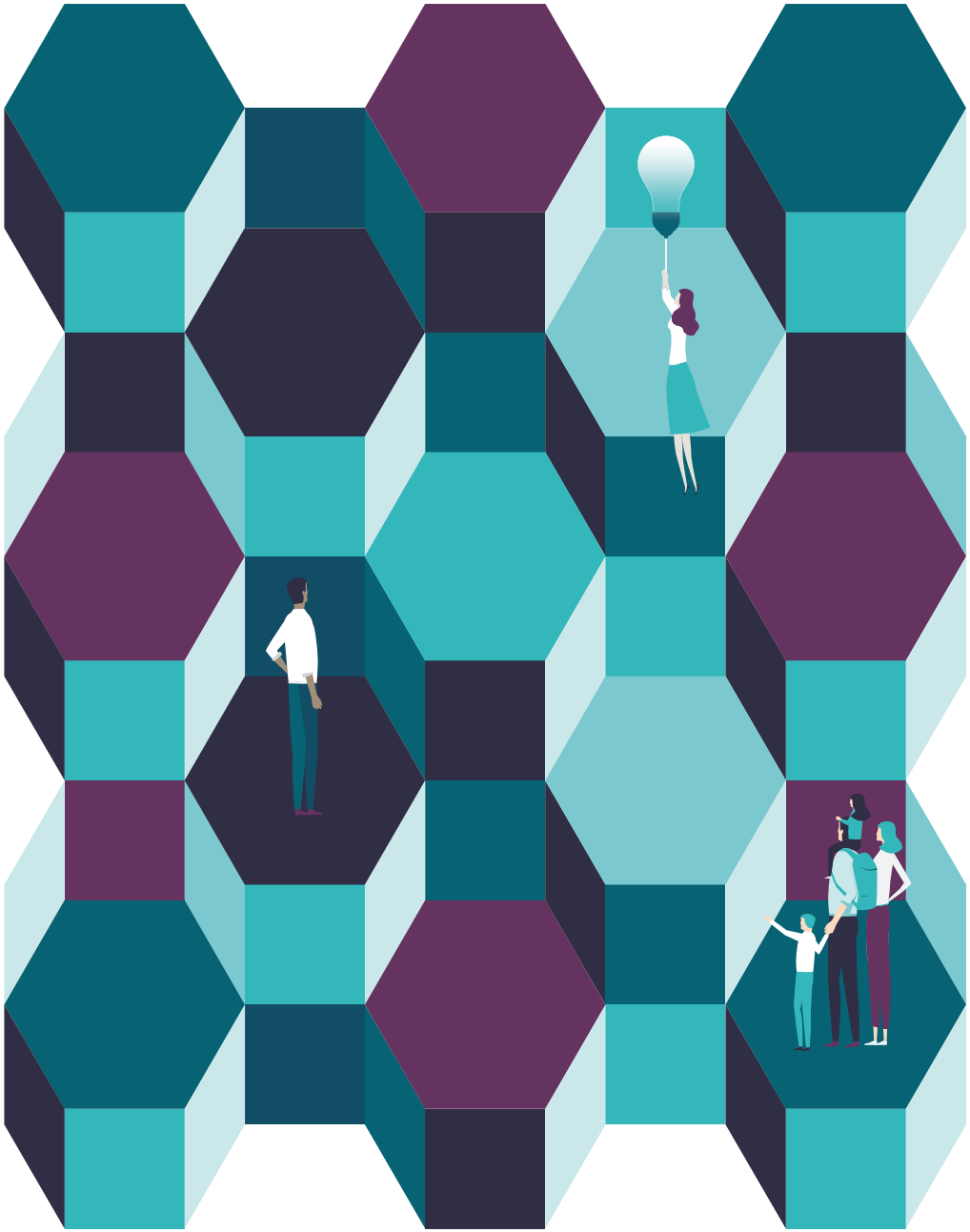


Empowering through learning and engagement with science.

Glasgow Science Centre:
Strategic Plan for 2020-2025

GLASGOW SCIENCE CENTRE

Foreword

Our mission is to inspire everyone to explore and understand the world around them and to discover and enjoy science.

At Glasgow Science Centre we aim to inspire, motivate and encourage people of all ages, abilities and social backgrounds to take the first steps to develop the skills and confidence to participate fully in a society where science and technology are prevalent.

This strategic plan (2020-2025) is set at a time of major disruption where many industries are undergoing exponential change. Advances in science and technology are creating many new opportunities and they bring with them new challenges.

The workplace is being reshaped by AI and robotics with more predictable and routine work being automated. Creativity and critical thinking - skills that are at the core of science and innovation, are becoming ever more valuable.

We will all have to develop these skills if we are to be successful in a world where science and technology are dominant. Our world also needs more creative and innovative thinkers as we look to tackle global issues such as climate change, food sustainability, renewable energy, data security and antimicrobial resistance. Engaging the widest possible audience in science has never been more important to society.

Over the next five years, Glasgow Science Centre has a bold ambition to bring inclusion and diversity into everything that we do. From creating a more inclusive organisational culture to better understanding the needs and desires of a more diverse set of communities, we want to do more to help people of all ages and backgrounds discover their “inner scientist” and to develop the confidence and motivation to take the next step in the journey of learning and discovery. If we can achieve this we will open up a world of opportunity for them.

Our approach is to create engaging, meaningful experiences with science. Experiences that are inspiring and relevant. We want to do more in partnership with scientists and engineers from academia, industry and the public sector, who bring passion and authenticity to those experiences.

Above all else we want to create a place where science, innovation and discovery can be celebrated, where people can come and experience awe and wonder at what we now know and understand about our world and our universe. This has the power to enrich all of our lives.

David Sibbald - *Chairman*
Stephen Breslin - *Chief Executive Officer*

Challenges in STEM Engagement

Public interest in science is as high as it has ever been in the last 25 years. We are also aware that the public thinks it is important for them to know about science and that they want to hear more from scientists.[1]

Glasgow Science Centre is pushing at an open door when it comes to science engagement. However, as we encourage the public to walk through our doors, the challenges we face are broad and intricate.

In spite of this strong interest in science, an attitudes to science survey reveals that the public still knows little about how scientists work and that there is little trust in the sources delivering science news.[1]

Those who work in Science, Technology, Engineering and Maths (STEM) barely reflect the diversity of society. This equality gap in Scotland means that only one in five engineers in Scotland and a mere one in ten senior managers in STEM are women.[2] Disabled people are also underrepresented, with only 5% of engineers having a disablility, even though 16% of working age adults are disabled.[3]

If those "who do science" are not seen to be diverse, or are of a particular stereotype, then it will likely act as a deterrent to people exploring careers within STEM industries. As the Science and Technology Committee at the UK Parliament makes clear -

"scientists are still [seen as being] very brainy and are generally white, male and middle class. There is still more that could be done to challenge...that".[4]

More urgently, in spite of Scotland's highly skilled workforce and an economy that offers a range of opportunities for young people,[5] there is a widening IT skills gap in our country that leads to around 10,000 IT vacancies going unfilled every year.[6]

This challenge has led the head of ScotlandIS, a trade association championing Scotland's vital digital technologies industry, to warn that without an impetus for training and retraining, the country -

"will inhibit the growth, particularly of locally-based technology companies, which has been one of the successes in Scotland".[7]

The Scottish Government rightly advocates that everyone should be able to develop a confidence and understanding of STEM because it impacts on -

"all employment types and careers and affects our daily lives".[8]

1. *ipsos.com/ipsos-mori/en-uk/public-attitudes-science-2014*
2. *onescotland.org/wp-content/uploads/2018/10/What-we-already-know-STEM.pdf*
3. *www.gov.uk/government/publications/disability-facts-and-figures/disability-facts-and-figures*
4. *publications.parliament.uk/pa/cm201617/cmselect/cmsctech/162/162.pdf*
5. *skillsdevelopmentscotland.co.uk/media/43852/jobs-and-skills-in-scotland-2017-main-report.pdf*
6. *gla.ac.uk/news/archiveofnews/2017/september/headline_546920_en.html*
7. *bbc.co.uk/news/uk-scotland-scotland-business-48034202*
8. *www.gov.scot/publications/stem-strategy-education-training-scotland-first-annual-report*

Addressing these challenges

Glasgow Science Centre is an educational charity* that inspires and motivates people to engage with science. Our work is supported by a not-for-profit visitor experience and other revenue streams with all the income we generate being reinvested to support our charitable purpose.

Since we opened our doors in 2001, as part of the Millennium Projects, we've been an essential bridge between citizens and STEM. We've inspired people of all ages to explore and understand the world around them, working alongside governments, academia, industry and other charities, to make Scotland a place where science and technology informs policy, empowers individuals, and enriches lives.

We are a place of learning, creativity, curiosity, and fun, inspiring and empowering around half a million people every year, both inside and outside our amazing centre in Pacific Quay, on the banks of the Clyde.

Our state-of-the-art centre contains more than 450 interactive exhibits, a digital planetarium, a science show theatre, a teaching laboratory, an IMAX cinema, and a maker space.

We're also taking science out of our centre and across Scotland. Glasgow Science Centre On Tour has been to schools in the Western and Northern Isles. Our Community Engagement Programme, which aims to build the confidence of learners, has worked with people located in the areas of highest deprivation in partnership with mental health charities, homelessness support groups, asylum seekers and senior citizen clubs.

Today our work continues to be supported by our trustees, our people (staff and volunteers), our visitors, funders and donors. We are a unique 5-star visitor experience, a valued community asset and a base for respected education, science communication and outreach programmes.

We want to sustain, expand, extend and diversify our audience by creating exciting experiences with science that are relevant and meaningful to people from diverse backgrounds and communities.

*Registered Scottish Charity no. SC030809

Key engagement statistics

6,000,000
visitors since opening in 2001.

108,000
school travel grants for the most deprived areas of Scotland since 2008.

95%
of visitors think Science Centres portray science more honestly than the media.

1,070,000
engaged by our On Tour programme across the UK.

18,700
visitors to our Curiosity Live STEM engagement events since 2017.

60%
strongly agree and 31% agree that we provide a high quality educational experience.

283,000
visitors to our digital Planetarium since 2015.

3,800
visitors to our Autism Friendly Sessions since 2018.

50%
of Science Communicators are female, and perceived as ‘role models’ by visitors.

Engagement Platforms

Exhibitions and Experiences

Explore!

We are all scientists.

The Big Explorer

Under 7s area. Water, music, construction and more.

A QUESTION OF PERCEPTION

Exploring the intriguing world of illusions, a world where nothing is as it seems.

SPACE ZONE

Exploring the night sky and the solar system to connect with the cosmos.

THE PLANETARIUM

Celebrating the wonders of space and astronomy.

SCIENCE SHOW THEATRE

Live, interactive science happening right in front of you.

MAKING THE INVISIBLE VISIBLE.

Exploring the future of quantum imaging technologies with QuantIC.

POWERING THE FUTURE

Raising awareness of the science and engineering behind a low carbon, affordable and secure energy future.

our world our impact

Raising awareness of the science, technology and processes of environmental science.

Idea No59

Celebrating the innovative spirit in all of us and how that spirit can change the world.

The Lab

One of our specialist workshop areas for hands-on science.

BODYWORKS

Raising awareness of the science that underpins human health and well-being.

Outreach

Bringing science to you.

Hands-on science behind human health and well-being.

Explore the choices we all face in having energy that is affordable, secure and environmentally sustainable.

Training

Learn practical strategies to inspire learners of all ages with your work.

Cultural Events

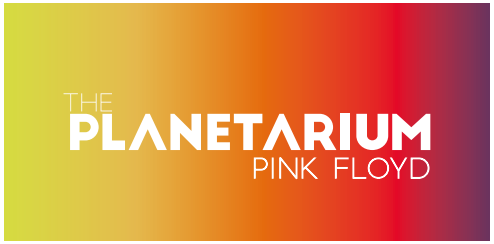
A celebration of STEM innovation on our doorstep.

These special event days for early years are packed with activities for curious wee minds

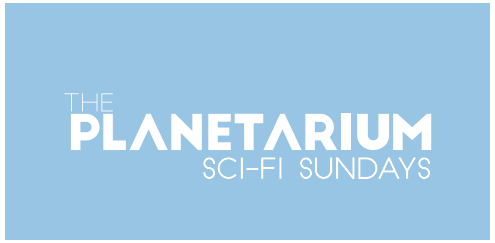
Adults only science events.

Monthly sessions supporting visitors with Autism

Exploring all that's new and exciting in astronomy on a Saturday evening.



Immersive fulldome audio-visual experiences inspired by the music of Pink Floyd.



Science fiction films shown under the stars in our Planetarium.

A series of lectures on astronomy, astrophysics, and space exploration supported by the University of Strathclyde.

Case Study

BODYWORKS

BodyWorks takes you on an interactive journey of the human body and the science behind health and well-being.

Take on the role of the snot barrier, burn some energy in the giant hamster wheel, perform a virtual autopsy and bust some moves at the DNA disco. You'll never look at your body in quite the same way.

Since opening in December 2015:

1,800,000 total visitors

92% 
rated either excellent or good

50% 
singled out BodyWorks as the best aspect of their visit

92% 
said they had learned something

BodyWorks on Tour preceded the exhibition in 2009 bringing exhibits, workshops and science shows to schools and communities across Scotland who may not have access to Glasgow Science Centre.

BodyWorks is supported by:

The Wellcome Trust, GlaxoSmithKline, Garfield Weston Foundation, The Roberston Trust, Scottish Enterprise, Bellahouston Bequest Fund, Commonweal Fund, W M Mann Foundation, Endrick Trust, James Wood Bequest Fund, Brett Family Foundation, The Physiological Society, AMW Trust, Medical Research Council.

> **We went to BodyWorks and we were disgusted by the effects of alcohol and smoking.**

- Cranhill Primary School

> **BodyWorks is an exceptional standard in terms of interpretive learning and presentation.**

- Visitor Feedback

> **Getting involved with the interactive aspects in the upper floor enabled me to take part in things with my child.**
>
> - Visitor feedback

Case Study

POWERING THE FUTURE

Energy underpins our modern lives but there are difficult choices to be made about how we will supply and use energy in the future. Is our energy affordable, secure and environmentally sustainable?

Powering the Future explores our energy options – from how we can produce electricity and fuels to how we can be smarter with our use of energy.

Since opening in December 2015:

1,200,000 total visitors

92% rated either excellent or good

81% learned about different sources of energy

75% are now aware that we need to take steps to consume less energy

Powering the Future on Tour launched in 2019 bringing exhibits, workshops and science shows to schools and communities across Scotland who may not have access to Glasgow Science Centre.

Powering The Future is supported by:

The Scottish Government, OPITO, Scottish Enterprise, SSE, EPSRC, National Grid, EDF Energy, Skills Development Scotland, ScottishPower Energy Network, and Doosan Babcock.

> **Powering the Future is highly impressive. A perfect match for the topic. This facility is excellent.**

- St Lukes High School

> **Talking directly to pupils and families at Glasgow Science Centre about the energy industry has been a really useful development for our staff.**

- Charlotte Coulter
Resourcing Consultant, SSE

> (I have) never seen such an effective demonstration of a lot of these principles. Great to encourage policy making in science as well as research.

- Visitor feedback

Case Study

SCIENCE LATES

These events are an opportunity for adults to spend an innovative evening in the unique surroundings of Glasgow Science Centre.

Visitors can enjoy explosive science shows, planetarium shows, live demonstrations, interactive workshops and craft activities, as well as live performances and more.

More than 12 Science Lates events since 2017:

9,000 total visitors

93% 
would return to another event

20% 
student and young apprentice age-group

960 experts and researchers engaging a unique audience

Science Lates have engaged a wide range of adult visitors with the following topics in an informal, open atmosphere:

- **Space**
- **Food & drink**
- **Health & wellbeing**
- **Gaming & coding**
- **Attraction**
- **Our planet**
- **Energy**
- **Sound & screen**
- **Inside your mind**
- **Technology and innovation**

> **All the Science Lates are so different, I would go to every single one of them!**

- Visitor Feedback

> **A good adventure and I learned as well.**

- Visitor Feedback


“Fabulous atmosphere and staff were very interactive with everyone.”
- Visitor feedback

Our Strategic Plans

Creating outstanding science engagement experiences.

Goal: We will create outstanding experiences with science that are relevant and meaningful to people of all ages and backgrounds, that inspire, motivate and encourage learning and deeper engagement.

We will achieve this by:

- Continuing to develop our exhibition, public, retail, café and outdoor spaces
- Continuing to develop our programming offer alone and with partners to bring science to life
- Expanding our adult/evening programme including the David Elder lecture series, Science and Planetarium Lates
- Developing a programme of inclusive cultural science events
- Refreshing and expanding our outreach programme to include BodyWorks on Tour and Powering the Future on Tour

Connecting people, industry and academia.

Goal: We will become a highly visible and trusted hub of activity, facilitating discussion about science and technology, and a key strategic partner to academia, the public sector and industry to promote education, skills and policy.

We will achieve this by:

- Developing and extending our communications strategy to reach and engage larger and more diverse audiences
- Engaging with people through science festivals and events across Scotland
- Developing our reputation as the go-to place where scientists can communicate their research to wider audiences
- Expanding our network of expert advisors from public, corporate and academic sectors through project specific advisory boards
- Expanding our presence (attending and speaking) at key public sector, corporate and academic events and conferences
- Developing our profile and voice on important science issues through a range of media channels
- Investing in our digital resources online and in the centre to engage with people in a more creative and innovative way
- Creating a network of ambassadors that champion the centre and STEM

Creating and adding value to the learning communities of Scotland.

Goal: We will establish ourselves as a first class learning resource for children and adults in our schools and communities by designing educational programs that are engaging, inspiring and accessible to all, regardless of background, age or gender.

We will achieve this by:

- Continuing to develop, promote and embed our “Inspire and Challenge” approach to science education working in partnership with local authorities, schools and teachers
- Building upon and expanding our successful community engagement programme and integrating community learning and development values into all aspects of GSC service delivery
- Identifying and developing partnerships with a small number of organisations that can help us deliver at scale
- Continuing to develop relationships with local authorities to secure funding for free admission for all primary school pupils
- Systematically collecting and measuring evidence of impact and use this to build recognition and the credibility of our learning programmes.

Creating a diverse and inclusive organisational culture.

Goal: We will develop a diverse and inclusive environment that enables everyone to participate, contribute and be valued.

We will achieve this by:

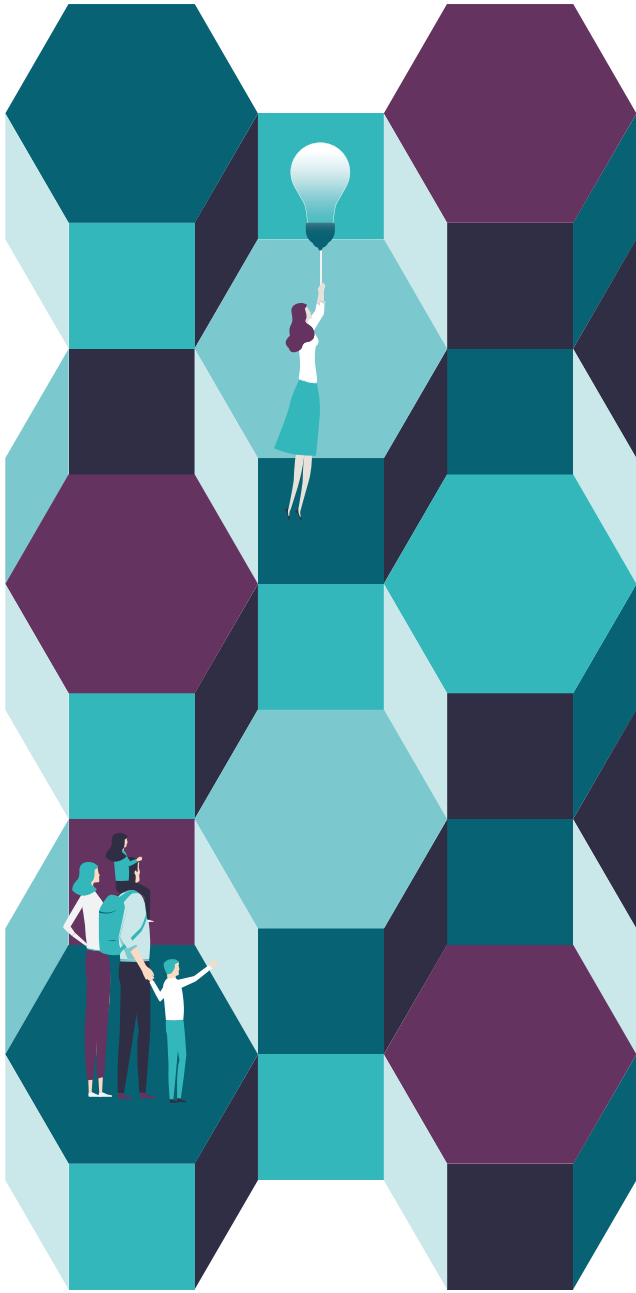
- Creating a diverse and aware staff and volunteer base through recruitment, development and training
- Creating inclusive service delivery policies and practices
- Developing a better understanding of our audiences and non-visitors
- Promoting increased levels of diversity throughout the staff and volunteer base across all areas of the organisation, including the Board of Trustees
- Embedding positive inclusive thinking and behaviour to practices and actions across the business to better serve our audience needs
- Developing a cultural change internal communications framework, establishing a baseline and enable reporting functions to be set up to allow impact measures to be monitored

Creating an organisation that is financially sustainable.

Goal: We will take a business-like approach to everything that we do, generating insights, revenues and margins that allow us to sustainably deliver our charitable objectives.

We will achieve this by:

- Continuing to develop our offer for our commercial operations including corporate events and retail
- Improving our understanding of our audiences to promote individual and legacy giving
- Maximising the return from corporate events, retail, café and car parking
- Developing relationships with key partners who can help us take our product and service offerings to scale
- Developing and marketing our Experience Design Service



Our funders and supporters

Glasgow Science Centre is extremely grateful for the support from our current members, individual and corporate supporters and funders who share our vision of Scotland's STEM future.

We want to build on what we are doing and broaden our portfolio of funding to support our core functions and continue to deliver activities with real impact through new and mutually beneficial relationships.

We hope you will join us in empowering people to make a positive difference through learning and engagement with science.

ASDC
AMW Trust
Aridhia
BBC
BEIS
Bellahouston Bequest
Brett Family Trust
Commonwealth Fund
Developing the Young Workforce
Doosan Babcock
EDF
Edina Trust
Emerson
Endrick
Energy Skills Partnership
ERDF
ESPRC
Garfield Weston Foundation
GSC Endowment Fund
Glasgow Caledonian University
Glasgow City Council
Glasgow Disability Alliance
Glasgow Life
Glasgow School of Art
Glasgow's Leading Attractions
GlasgowLive
GlaxoSmithKline
Heriot Watt University
Historic Environment Scotland
Hugh Fraser Foundation
Imperial College London
Institutional Translational Partnership
James Wood Bequest Fund
John Muir Trust
JP Morgan
Kirkudbright Development Trust
M Squared Lasers
MathWorks
Media Shop
Medical Research Council
Merck
Millennium Commission
National Grid
NHS Greater Glasgow and Clyde Trust
Nineveh Trust
OPITO
Pacific Quay Powerboats
The Physiological Society
Prince's Trust
QuantIC
RAISE
Renewable UK
The Robertson Trust
Royal Academy of Engineering
Royal Navy
Royal Society of Chemistry
RS Components
Scottish Enterprise
Scottish Funding Council
Scottish Government
Scottish Renewables
Scottish Seabird Centre
ScottishPower
SEPA
SSERC
Skills Development Scotland
Skyscanner
SSE
STV
Sunny Govan Radio
Sustrans
Thermofisher
TS Queen Mary
UK Space Agency
UKOOG
University of Aberdeen
University of Edinburgh
University of Glasgow
University of Strathclyde
University of the West of Scotland
Waverley Excursions
Wellcome Trust
West Dunbartonshire Council
W M Mann Foundation
Workers' Education Association
World Energy Council
Zero Waste Scotland


Gear VR

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