

Industrial Strategy: Building a Britain fit for the future

Briefing Note

In November 2017, the Government published its [Industrial Strategy](#) White Paper, setting out a long-term plan to boost the productivity and earning power of people throughout the UK.

The Strategy sets out five themes as “foundations of productivity”:

- Ideas (vision: “The world’s most innovative economy”)
- People (“Good jobs and greater earning power for all”)
- Infrastructure (“A major upgrade to the UK’s infrastructure”)
- Business Environment (“The best place to start and grow a business”)
- Places (“Prosperous communities across the UK”)

In addition, an Industrial Strategy Challenge Fund was announced, to support “business, academia and civil society work[ing] together to innovate and develop new technologies and industries in areas of strategic importance to our country.” The four initial [Grand Challenges](#) will tackle: artificial intelligence and data revolution, the shift to clean growth, shaping the future of mobility, and meeting the needs of an ageing society.

NHSF [responded to the initial consultation](#) on the Industrial Strategy Green Paper with a number of suggestions relevant to the heritage science sector. This briefing note aims to summarise the stance of the White Paper on the following suggestions:

Research & Development:

- **Cross-departmental work and support in Whitehall, and cross-disciplinary funding, policy and support (e.g. through UKRI)**

This was NHSF’s principal ask in the consultation response. (*“The Strategy would benefit from additional focus on how to achieve join-up across government departments, and subsequently cross-industry policy that is developed to deliver the Strategy ... For the heritage industry to maximise its contribution to the UK’s economic growth and prosperity, government will need to ensure universal agreement across all Whitehall departments and a commitment to work together on policy development and implementation.”*)

There is no explicit reference to cross-departmental work or cross-industry policy development in the final version of the Industrial Strategy (though the [2017 Heritage Statement](#) that was published after the Industrial Strategy does make a commitment to cross-government working to ensure a stronger voice for heritage in Government).

Although the Industrial Strategy announces an increase in public funding for R&D, this primarily refers to strategic investment into specific sectors and technologies (p.67-68). The Strategy does however allow for cross-sector support with the new competitive Strategic Priorities Fund, developed in collaboration with UKRI. The fund “**will support high-quality R&D priorities which would otherwise be missed – multi-**

disciplinary and inter-disciplinary programmes identified by researchers and businesses at the cutting edge of research and innovation.” (p.68) Further details are yet to be announced.

There is also some allowance for cross-sector support in the funding of “curiosity-driven research that is fundamental to the quality of our work and endures our place as world-leading knowledge economy.” (p.67-68), which the government plans to continue alongside more strategic investments.

- **Government recognition of heritage as an industry and promotion of the heritage sector**

The Science & Innovation Audits, mapping out “world-class science and innovation assets across the UK” (p. 86-87), recognised heritage as one such asset. ‘Heritage’ is listed as one of the Science and Innovation strengths of the Knowledge Quarter – alongside biomedical research, digital publishing and data science.

The Strategy announces plans to build on the work and evidence of the Science & Innovation Audits to create a new £115m per annum Strength in Places Fund to build on existing areas of excellence across the country, to fund “collaborative programmes proposed by universities, local employers, Local Enterprise Partnerships and their counterparts in the devolved nations” (p. 234) (see below for more on regional initiatives).

Investment in culture and heritage are specifically highlighted as examples of such successful investments and their “contribut[ion] to positive economic and social outcomes” is recognised. “Building on the success of the Northern Cultural Regeneration Fund and the recommendations of the Bazalgette Review, we are investing £2m in place-based cultural development to continue to support the role culture can play in regeneration.” (p.234)

- **Heritage science research as a priority area for investment and as a Challenge Area**

The Industrial Strategy makes no explicit mention of heritage science. Nevertheless, the first four Grand Challenge areas (AI and big data, clean growth, the future of mobility, and meeting the needs of an ageing society) do present some opportunities for heritage science research.

Science Minister Sam Gyimah has since announced that the second wave of Industrial Strategy Challenges, to be announced shortly, will include funding to “develop the technologies and services to support a society that ages healthy” and “use technology to create the audiences of the future for our creative industries.” (<https://www.gov.uk/government/speeches/ukri-research-and-innovation-infrastructure-roadmap-launch>)

For opportunities for heritage science in AI research, big data and technology, see the [NHSF response to the UK Digital Strategy](#) (2017). For opportunities related to placemaking, health and wellbeing, see the [NHSF briefing note on the Mendoza Review](#) (2017).

Research and funding after Brexit:

- **Post-Brexit commitment to EU schemes**

The Strategy reiterated the Government’s desire to take part in future EU framework programmes, as part of “a far-reaching science and innovation agreement with the EU that establishes a framework for future cooperation.” It expressed particular interest in joining in “specific policies and programmes which are greatly to the UK and the EU’s joint advantage, such as those that promote science, education and culture.” (p.91)

- **Mobility of researchers**

In a chapter on International Collaboration, the Strategy announced:

“We want the UK to be a magnet for world-class talent. We will increase the number of scientists working in the UK and enable leading scientists from around the world to work here.” (p.88)

Initiatives planned to enable this vision include:

- The Rutherford Fund, set to invest £118m over four years (from 2017/18) in fellowships for early-career to senior researchers
- Doubling the number of Tier 1 (Exceptional Talent) visas available to “those who are already recognised as global leaders or who show considerable promise in their fields.”
- Changes to immigration rules – Tier 1 visa holders will now be able to apply for settlement after three years
- A streamlined, more supportive process for highly-skilled students who wish to switch to a work visa after finishing their degrees
- Relaxing the labour market test to allow UKRI and “other select organisations” to sponsor researchers.

The Government is confident that these measures recognise “the importance of supporting those working in the digital technology, science, arts and creative sectors, and ensure that the UK can continue to welcome international talent to work in these key emerging and innovative industries.” (p.88).

Skills development:

- **Building local R&I skills/strengths through apprenticeships, placements, volunteering**

Apprenticeships and technical education form one of the key policies of the Strategy, which resolves to “establish a technical education system that rivals the best in the world to stand alongside our world-class higher education system.” The Strategy aims to “put technical education on the same footing as our academic system, with apprenticeships and qualifications such as T levels.” (p.94)

Apprenticeships and new T levels (including work placements) will be based on the same set of standards for occupational competency, designed by employers, and students “will have opportunities to move between academic and technical routes”. The Strategy announced the goal of delivering three million apprenticeship starts by 2020, and T levels will be backed by £500m annually. Digital T levels will be one of the first technical education pathways to be introduced, in September 2020, with an eye to developing digital apprenticeships.

No mention is made of volunteers.

- **Adaptability of the existing workforce**

Further key policies include the investment of “an additional £406m in maths, digital and technical education, helping to address the shortage of science, technology, engineering and maths (STEM) skills”, and the creation of a new National Retraining Scheme to support and encourage people to re-skill, “beginning with a £64m investment for digital and construction training” (p.15).

In the specific context of Artificial Intelligence, the Government intends to work with industry to “explore how best to train cross-discipline professionals to apply AI in their specialist areas, for example through conversion courses and continuing professional development.” (p.39) This is a welcome commitment which may present some opportunities for heritage science.

Infrastructure (research & digital):

- **New, broader 'infrastructure' – strong regional infrastructure for heritage**

Significant emphasis is given to digital infrastructure, with plans to boost it with over £1bn of public investment.

The future of UK research infrastructure is addressed through an increase in “support for Quality-Related research through Research England. This recognises the vital importance of providing underpinning funding for our world-leading universities to invest in the excellence and impact of their research and ensure the sustainability of our research infrastructure.” (p.69)

Labs in receipt of “significant public funding” will be expected to “support local economic growth.”

- **Open data policy support + infrastructure** (*ie policy support and infrastructure for open data*)

The data economy and uses of big data are the topic of one of the first Grand Challenges announced, and several case studies used as examples of best practice include companies successfully using open data – however the document makes no mention of infrastructure or policy support for open data specifically.

- **Geographically well-distributed heritage science research infrastructure**

UKRI is set to deliver an increase in council budgets, and a new fund will be established to drive productivity by “improving connections within city regions.” The government plans to “agree Local Industrial Strategies that build on local strengths and deliver on economic opportunities.”

Additionally, building on the Science and Innovation Audits, a new competitive £115m Strength in Places Fund will be launched “to support areas to build on their science and innovation strengths and develop stronger local networks. The fund will support collaborative programmes based on research and innovation excellence in places right across the UK which can demonstrate a strong impact on local productivity and enhance collaboration between universities, research organisations, businesses, local government and Local Enterprise Partnerships in England and relevant agencies in the devolved nations.” (p.85)

- **Continued government support for E-RIHS as heritage science infrastructure**

No specific mention of E-RIHS or infrastructure specific to heritage science research was made in the Strategy.

Links between research and industry

- **Better engagement/integration of research and industry into public procurement for construction and the built environment**

The Strategy recognises the need to redouble efforts in making sure “discovery translates into its application in industrial and commercial practices, and so into increased productivity ... We need to be better at turning exciting ideas into strong commercial products and services.” (p.58)

To this effect UKRI is working on the development of a new Knowledge Exchange Framework, to benchmark “how well universities are doing at fostering knowledge-sharing and research commercialisation”:

“The development of the Knowledge Exchange Framework will build on the work of the *McMillan Review*, and will capture the rich network of collaborations between universities and businesses. In parallel the higher education funding bodies are changing the incentives and rewards for capturing the value of research by increasing significantly the importance of ‘impact’ in the Research Excellence Framework (REF), raising it from 20 per cent to 25 per cent in the next assessment round.” (p.79)

- **Universities as regional hubs fostering links with industries**

It is hoped that the Grand Challenges will foster collaboration between the public and private sector and universities, researchers and civil society, between business sectors and academic disciplines.

Universities and businesses will be encouraged to develop an industry-funded masters programme, with an initial scale of over 200 places, to keep people’s skills up to date “with the speed of technological change” (p.39).

Increased funding will be made available to support universities and businesses working together to innovate and commercialise research. “Key to this is the Higher Education Innovation Funding (HEIF) in England, which enables universities to engage with businesses and improve the commercial skills of their staff. HEIF has deepened universities’ relationships with business.” (p.79) HEIF is expected to contribute to regional development, in part through collaboration with Local Enterprise Partnership.

Recent examples of HEIF (Higher Education Innovation Funding) include:

- Support for the University of Central Lancashire’s Centre for Small and Medium Enterprises Development, which “is set to reach almost 1,000 SMEs in the region”
- The University of Huddersfield working in partnership with the Leeds City Region Local Enterprise Partnership and others to increase productivity and economic growth.

Sector deals and availability of funding streams

- **Sector deal for heritage industry**

Sector Deals are “partnerships between government and industry aiming to increase sector productivity”. The first Sector Deals announced are in life sciences, construction, artificial intelligence and the automotive sector. There is scope for heritage science projects and research to be included in such deals; however the heritage community should continue to make the case for a sector deal specific to the heritage industry.

- **Funding streams available to/accessible by both large and small organisations:**

NHSF welcomed the proposals for:

- Increased R&D funding to expand Higher Innovation Funding and Knowledge Transfer Partnerships
- The creation of funding streams accessed by clusters led by businesses or universities

However the Forum highlighted the importance of these funding streams being available to both large and small organisations.

Both of these proposals were maintained in the White Paper. It also included as one of its key policies to “launch a review of the actions that could be most effective in improving the productivity and growth of small and medium-sized businesses, including how to address what has been called the ‘long tail’ of lower productivity firms.”

Conclusion

The publication of the Government’s Industrial Strategy provides opportunities for heritage science. The sector will need to continue to monitor the specific initiatives that develop in terms of Industrial Challenge Funds and the continuation of funding that supports cross-disciplinary research.

The indication of ‘Heritage’ as a key component of the Knowledge Quarter – emerging from the science and innovation audit – and the focus on place-based cultural development are both welcome developments. The strong emphasis in the Strategy on digital infrastructure is something that NHSF will continue to align to and plans for local industrial strategies may present the chance to achieve one of the NHSF goals of better-distributed physical heritage science infrastructure.

The Industrial Strategy is a major government initiative and its publication comes at a good time for the heritage science sector, as the National Heritage Science Forum seeks to work with the wider sector to update the [National Heritage Science Strategy](#) for 2018-2023.

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