
Public Procurement for Innovation

Sharing the UK experience and best practices



GREAT *for* **PARTNERSHIP**

BRITAIN & NORTHERN IRELAND



Letter from Nicola Yates CEO of Connected Places Catapult



Every day at Connected Places, I am excited by new ideas, emerging technologies and meeting enthusiastic innovators. Every day I also become concerned that we are only making slow progress in applying this technology and delivering the benefits to which the 21st century citizens are entitled. It is clear that many of our city partners find it difficult to engage innovators and to translate their ideas into new generation products and services. So I commissioned a research project which delivered a consistent message – the operation of public procurement was not encouraging innovative ideas to develop. It was also unfriendly to innovative suppliers.

The recognition that the COVID-19 crisis can only be attenuated by innovative solutions clearly shows why urgent action is needed. Governments are belatedly discovering the untapped potential of innovation procurement. There are many areas, notably climate change, which demand public sector leadership in deploying innovations. In May 2019, the UK and Brazil joined the 40 signatories to a wide ranging and ambitious OECD declaration, which committed them to make the public sector more innovative.

The UK and Brazil have a long lasting partnership on trade and innovation. The current partnership on future cities between both countries supported by UK's Prosperity Fund is a clear example of our joint drive to make cities smarter, safer and better for all.

Innovative procurement will be a key mechanism to support cities in Brazil to test, deploy and implement new technologies in areas such as water efficiency, urban traffic control systems, intelligent street lighting, and open data management. Best practice exchanges and the potential for shared solutions could be fostered through establishing "city labs" in the UK and Brazil.

At Connected Places Catapult, we are now taking a lead in promoting innovation procurement practices, so that our innovative team can get their ideas rolled out as soon as possible. We are really pleased to share our research and ideas with Brazil. It is a great opportunity to address this challenge together.

**Nicol Yates OBE,
CEO Connected Places Catapult**

Letter from Liz Davidson – British Chargée d'affaires to Brazil



Governments around the world are realising the importance and power of public procurement to solve global challenges, increase productivity, boost innovation and ensure value for money. This could not be more relevant at a time when our economies are under extreme pressure from the impacts of COVID-19. Maximising the value of public sector spending and harnessing that spending power to drive innovation will be important tools to support our economic recovery. That does not mean it will be straightforward, or simple. Implementing a public procurement strategy for innovation can be complex, not least because our organisational cultures tend traditionally to be quite risk averse.

In this study, sponsored by the Opportunities Fund and the Science and Innovation Network, the Connected Places Catapult brings together examples of best practice and lessons learnt about public procurement for innovation, based on the UK experience. It suggests how public procurement can act as a tool for delivering better services for society and for boosting our economies by creating a more competitive environment for innovative companies.

I hope that this report will provide a framework for an ongoing dialogue and exchange of ideas between the UK and Brazil on innovative procurement, supporting our many existing partnerships.

Through the UK Government's Prosperity Fund, we are working together to increase productivity, reduce poverty and expand opportunities for international business partnerships, including from the UK. In our shared work on transformative capacity building, reform and pilots in areas such as green finance, trade, energy, future cities, digital access, health and education, there are lessons we can learn and apply from innovative procurement.

The UK is one of the most innovative countries in the world, with a leading position in research and innovation. Through our Science and Innovation Network, we are collaborating on research and innovation ecosystems, building strong partnerships that can foster the development of innovative businesses and help to tackle the shared challenges facing our society.

We want to work collaboratively with international partners to harness the power of public innovation. I am grateful to all of those involved in the production of this report. I believe that it will be an important first step in a new and exciting area of UK/Brazil partnership.

**Liz Davidson - British
Chargée d'affaires to Brazil**

Introduction to Connected Places Catapult

Connected Places Catapult is the UK Centre of Excellence for Innovation in Mobility, Smart Cities and the Built Environment.

We work with local and national government, academia and industry to accelerate the integration of innovations which boost physical, digital and social connectivity in our countries, cities, towns and communities.

Connected Places Catapult accesses UK government support and influence to generate comprehensive place-based evidence and intelligence to those institutions, businesses and citizens seeking to meet the challenges of the future. We then translate plans for change into working, practical and, most importantly, deliverable solutions. We deliver projects at all levels, from national and city-planning to citizen behavioural change and engagement both in the UK and internationally.

Connected Places Catapult is uniquely positioned to:



Catalyse innovation and the innovation economy.



Support and open markets for the economy of the future.



Deliver collaborative support to the UK economy nationally and internationally, as well as any locations that we partner with globally.

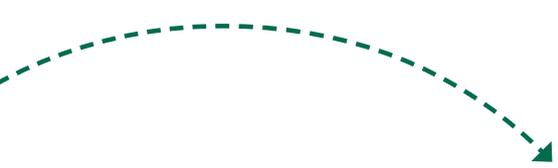
Report authors and acknowledgements

Malcolm Harbour CBE – Associate, Connected Places Catapult, has 20 years experience as a legislator, researcher and author on innovative procurement.

Guilherme Johnston – Head of Global Partnerships, Connected Places Catapult, former manager of Prosperity Fund's Infrastructure sector at UK Embassy in Brazil.

This report is the result of a collective effort that involved partners both in the UK and in Brazil. The Connected Places Catapult team, particularly Peter Young, Sam Markey and Oliver Kirsch, provided innovative procurement knowledge and content review. The FCO in Brazil provided resources and local expertise on procurement legislation and its challenges. Their team, particularly Gabriela Mareto, João Rampini, Cristina Hori have constantly supported the preparation of the report and provided extremely valuable feedback. The Scottish Government hosted an in depth mission to the CivTech initiative.





Executive Summary

The OECD Innovation Declaration, signed by 40 countries (including Brazil) in 2019, is a global commitment to deploy innovative responses to current and future challenges. Emergency procurement initiatives to address the COVID-19 crisis are dramatically demonstrating the importance of this commitment. The lessons from COVID-19 responses should be used to embed innovation in procurement, which can inspire change across all organisations delivering public services.

The barriers to innovative procurement are primarily behavioural and organisational. Innovation requires strong leadership to overcome the fear of change and to openly recognise the deficiencies of current systems. There is consensus on best practice guidelines. At their core are thoroughly analysed, outcomes-based requirements embracing social, environmental and economic criteria.

Legislation is often cited as an inhibitor of good innovative practice. However, many rule makers, notably in Europe and the USA, have acted to dispel perceived legal constraints. They have not inhibited COVID-19 responses. Indeed, EU rule makers have explicitly encouraged the use of existing legal tools and broadcast their flexibility.

Innovative procurement boosts innovative capabilities around the customers' community. Commissioners become market makers, set technology challenges, fund demonstrator projects and mentor innovative enterprises to scale up their developed products. Procurement contests are evolving into "co-creation projects", with citizens invited to submit ideas for unmet needs. There is extensive collaboration between commissioners searching for solutions to common problems.

Global benchmarking and case studies show a very wide range of policies and practices. Valuable lessons are evident from the study of national, regional and city practices. Over the last decade, the UK has implemented major reforms in Government Procurement, building best practice capabilities and standards. The UK has also built a world leading organisation to deploy Digital Services and is a leading proponent of innovation procurement among large economies. Small innovative companies now have a much enhanced role as suppliers to the UK public sector.

The Scottish Government encourages innovation through local procurement rules. It has developed the successful CivTech challenge, integrating idea generation, solutions development, business mentoring and public administration capacity building.

Opportunities are identified for Brazil to embrace innovation procurement to enhance its economic competitiveness. A significant 2016 policy initiative, Marco Legal da Ciência, Tecnologia e Inovação, provides an excellent launch platform. Policy leadership would have a catalytic effect on innovative behaviour across the public sector. Integrating and supporting city and regional administrations in innovative procurement would raise its profile, engage citizens and nurture new suppliers. This could be enhanced through a vehicle based on the CivTech, underpinned by an innovation and sustainability requirement in all public tenders. Best practice could be disseminated through establishing national, regional and city hubs. Connected Places Catapult and other UK experts can advise in all these areas.



Introduction and context

Brazil has a clear appetite for boosting innovation in its public sector. In May 2019 it was among 5 non-Members of the OECD to join 35 Member Countries in signing the Declaration on Public Sector Innovation. The Declaration “aims to legitimise innovation as a core and strategic function of public sector organisations and in the day-to-day work of public servants”. In May 2017, Brazil officially expressed its interest in becoming an OECD member.

The government also supported a comprehensive study by OECD experts on “[the Innovation System of the Public Service of Brazil](#)”. The study makes wide ranging recommendations, covering leadership, culture, processes, and systems to spread innovation within all public sector operations. This report complements the OECD study by focusing on innovation in a critical public sector responsibility: procurement.

Connected Places Catapult has already created a [knowledge sharing platform](#) to highlight some of the key findings of global research into innovation procurement and share best practices. Cities are laboratories for the development and delivery of innovative public policies and services. As the closest level of government to citizens, the local level is the perfect place to test innovative procurement mechanisms.

In producing this report, we have drawn on the resources available on our platform and expanded them with other global resources. We have used our first-hand experience working with public authorities (such as Belfast, referred to in the case studies section) and with infrastructure providers, such as Eurotunnel and Network Rail, to support their innovative procurement.



The COVID-19 epidemic was spreading across the globe as this report was written. Many responses to the epidemic are deploying innovative procurement tools. The need for innovative solutions, procured by the public sector, is being starkly demonstrated. Our report integrates some early research on the COVID impacts. They clearly underline the key message of the report – that the strategic deployment of innovative procurement is indispensable to the delivery of robust and high quality public services.





Innovation procurement – global scenarios

The imperatives for public sector innovation

“Governments and their public sector organisations operate in volatile, uncertain, complex and ambiguous contexts and must contend with a variety of challenges, such as digital transformation, energy poverty, environmental degradation, climate change, resilience and inequality”. This concise summary of the challenges that the global community is facing lies at the heart of the OECD declaration on Public Sector Innovation.

But, as the declaration notes: *“In such a context, it cannot be assumed that existing structures, processes and interventions remain the most appropriate or effective means for the public sector to achieve its purpose and deliver upon government and citizen needs and expectations”.*

The declaration goes on to set out clear principles for encouraging and deploying innovative solutions to meeting these challenges. *“Public sector organisations therefore need to be able to innovate, consistently and reliably, so that an innovative response to any challenge (current or future) that requires a new approach can be deployed when and where needed”.*

Many Governments are recognising that the COVID-19 epidemic can only be attenuated by innovative solutions. They are discovering the untapped potential of innovation procurement. There are many future challenges, notably climate change, which will demand public sector leadership in deploying innovations. This requires the commitments to this Declaration to become deeply embedded in public sector organisations. The strategic management of public procurement with a clear focus on innovation will be essential to achieving these challenging goals.



12%

Public procurement represents approximately 12% of gross domestic product (GDP) in OECD countries.



Procurement as a strategic tool

Meeting expectations for quality services, while making an impact on challenging societal and climate goals, requires action across all public service domains. The range of activities covered by procurement is very wide. It covers large scale infrastructure and small community schools. It includes health, social services, education, and transport networks and all of the products and services that underlie successful delivery of these capabilities. Public authorities are among the largest purchasers of IT systems and operators of web-based services.

It is also very large. According to the latest figures, public procurement represents approximately 12% of gross domestic product (GDP) in OECD countries. Public authorities across the European Union collectively spend around €2400 billion, some 19% of total EU GDP. The data is not very different in Brazil where public procurement represents around 13% of the country's GDP at around R\$ 850 billion.

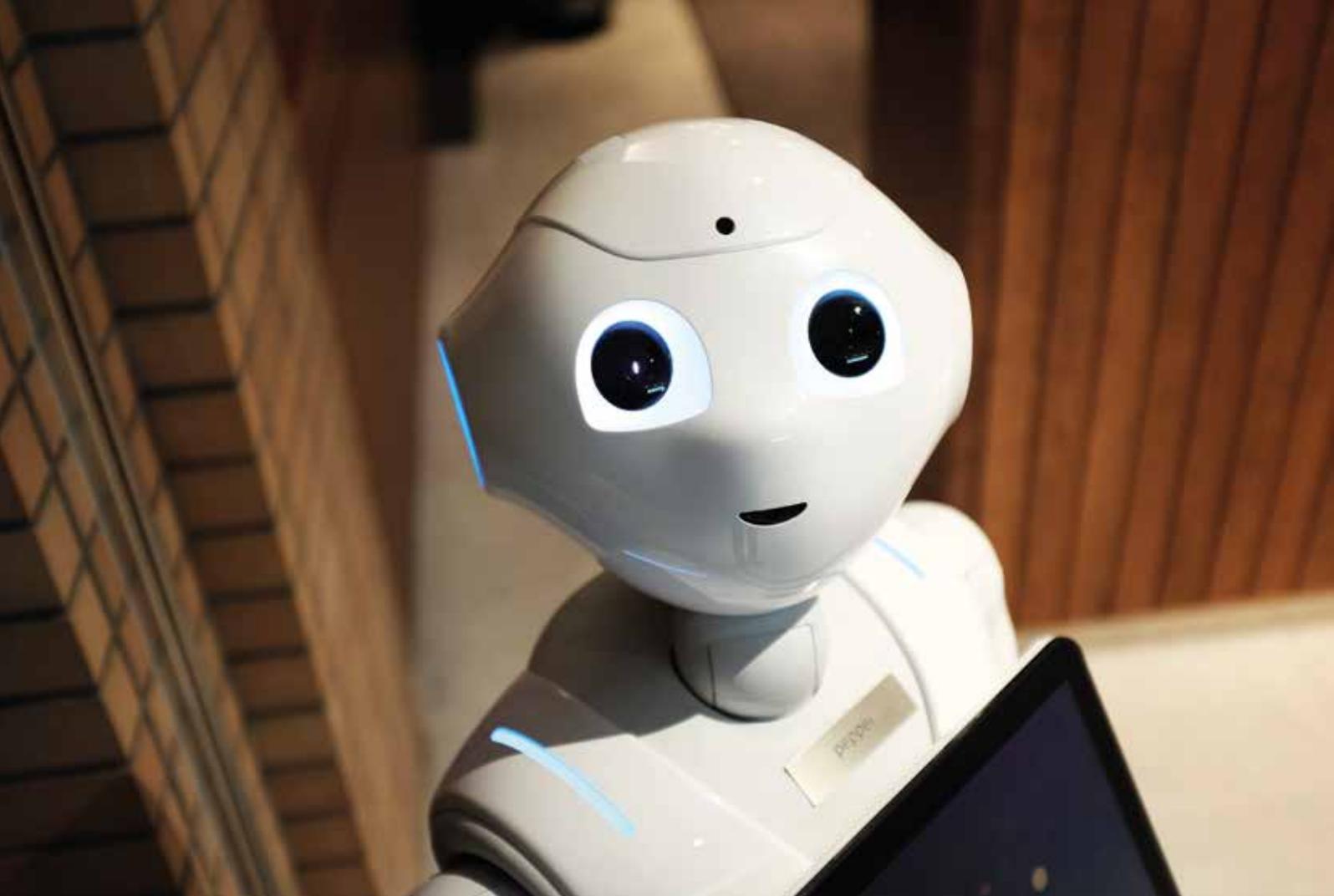
In 2019, one city, Sao Paulo, had a budget of R\$ 26 billion to be spent on health, education, and transport.

The scope and size of public procurement means that it must become a strategic tool to encourage and deliver innovative solutions. As responsibility for procurement is widely devolved

across all levels of federal, regional and local organisations, successful new approaches can be diffused quickly and effectively.

Many public sector leaders are working to foster greater creativity and innovative problem solving in their organisations. The OECD report clearly shows the challenges facing the Brazilian public sector in creating an innovative culture and tackling the risk aversion that often constrains more radical solutions. Embedding innovation across all aspects of procurement commends itself as a “beacon” activity that can inspire change across a widespread and complex organisation. It will help address some of the issues identified in Brazil, such as establishing accountability and clarifying organisational responsibilities.

But, before embarking on such an ambitious strategy, barriers have to be removed. Even in countries where the need for innovation is recognised, procurement is not always seen as an enabler of innovative ambitions. There are perceptions that legislation restricts innovative practice and discourages dialogue with potential innovators. As a result, procurement expertise is generally pushed to the end of a project - a problem to navigate once the purchaser has decided on the solution they want to buy.



From many studies in different regions, the key characteristics of organisations where innovative public procurement is gaining traction are now becoming evident:

- Strong political and organisational leadership that encourages the generation of ideas, supports innovative proposals and overcomes the fear of change.
- Need for public bodies to be honest and open about the deficiencies of current systems and the opportunity for improvement.
- Project commissioning teams that produce thoroughly analysed, outcomes-based requirements embracing social, environmental and economic criteria.
- Well trained procurement specialists, familiar with legally compliant procedures, engaged from the start of a project.
- Use of technology scanning and pre-market consultations that encourage suppliers to offer innovative solutions.

- Adapting requirements to ensure that challenges remain ambitious but embrace technologies that are market ready.
- Choice of the appropriate procurement procedure to ensure that innovative solutions can be offered, including the ability to foster new ideas and easily purchase end solutions.
- Tendering qualifications that encourage bids from innovative small enterprises.

There are still fears that legal challenges could frustrate the operation of good innovative practice. However, [OECD data](#) suggests that there are no ingrained obstacles, and that rules based procurement has the flexibility to allow best practice to be applied. Procurement policy leaders in Europe and the USA have taken initiatives to dispel perceived legal constraints and are encouraging more pre-tender consultation. Once legal concerns are overcome, the biggest obstacle to innovative procurement is the difficulty of changing long developed custom and practice.

Budgets are constantly under pressure, and public scrutiny is constant and detailed. Service providers hear immediately via social media of any problems.

Innovation procurement leaders recognise that proposing an untested product or service requires risks to be carefully assessed and potential benefits to be well articulated. With the accelerating deployment of new technologies, the case for perpetuating an existing supplier or service delivery needs to be carefully examined. It is no surprise that innovation procurement processes are far more deeply embedded in the digital domain than any other sector. In this area, ignoring the innovative choice may be the risky approach. Overdependence on large scale applications from a single supplier, especially in city governments, can be costly and difficult to escape.

Procurement as an innovation driver

It is clear that innovation in public procurement is a powerful tool to deliver better public services and address the needs of a future-oriented economy. But it can have much wider benefits as a driver of innovation in regional and national economies. Using pre-competitive procurement, customers can set demanding outcomes and technology challenges for prospective suppliers. They can fund demonstrator projects to evaluate promising solutions and evaluate the ability of the suppliers to deliver them at scale.

This competitive environment does not just drive good solutions. The investment and engagement with customers arrive at the crucial time for any innovative company. They underpin the evolution, prototype development and testing of a new technology as it moves to becoming a fully competitive offering. The final product or service will be closely aligned with the customers' requirements. The supplier retains the intellectual property for future exploitation.

Post-contract studies on pre-commercial procurements indicate that the companies involved gain significant benefits. Many have gone on to conclude supply agreements – which follow on from the development phase – and have grown successful

businesses. Others who had their research and development funded, but not awarded a supply contract, have gone on to deploy the developed solution with other customers.

In the EU and the UK, pre-commercial procurement is structured as a research and development contract. This allows simpler pre-contractual formalities and quicker tendering processes. It does not include a final delivery contract of a fully developed solution. The 2014 Directive launched a new procedure, the [Innovation Partnership](#) in which research and development were integrated into a supply contract. The new instrument has yet to be widely used but is showing promising results.

Many aspects of the EU instrument, which was launched in 2007, were influenced by the US [Small Business Innovation Research \(SBIR\)](#) program. Funded and managed by the Small Business Administration, and launched in 1977, the stated purpose of the program *“is to stimulate innovation in the US economy by engaging innovative small business concerns (SBCs) in Federally-funded research and development”*. It is described as *“America’s Seed Fund”*. The SBIR claims that *“to date, the Program has resulted in 70,000 issued patents, close to 700 public companies, and approximately \$41 billion in venture capital investments.”*

The closest UK analogue is the [UK SBRI programme](#), where more than 4,400 contracts valued at £0.8 billion have been awarded since April 2009. They have generated new business opportunities for many companies and benefited more than 100 government organisations.

In a continuing drive for cost reductions and better outcomes, public authorities have been stepping up procurement collaboration. Innovative procurement is a fruitful area for joint activity and has been especially evident in pre-commercial procurement. Public authorities in the same country or region – or in transnational projects supported by the EU – have come together to organise procurement challenges to meet shared outcomes. There are significant advantages from bringing together a wide range of perspectives, enlarging the potential supplier cohort and engaging universities and research institutes. Public value is enhanced by sharing the costs of organising projects and supporting demonstrator development.

The EU has deployed significant funds through its research and regional development budgets to support innovative transnational procurement networks.



They have been particularly active in areas of green procurement and improving health outcomes. For example, the [Procure+ Network](#) is a network of European public authorities and regions that connect, exchange and act on sustainable and innovation procurement. In the UK, London is an active member of this network.

Procurement to engage citizens

Connected citizens on every continent are placing increasing demands on public services. They expect public service suppliers to respond to their demands with the speed and efficiency of their on-line goods supplier or fast food deliverer. Citizens are also an unexploited resource. They have great ideas they want to share; they can identify concerns and ways to solve them.

Open procurement contests and “co-creation projects” are a natural evolution in an innovative public sector. Citizens can be asked to identify their unmet needs and invited to offer solutions. Modest budgets can fund feasibility studies of the most promising ideas. Universities and research institutes can be engaged to support. They can be organised at all levels of activity – from villages, to cities, even to countries. They demonstrate that public authorities are engaging with citizen’s concerns and open to change. Public sector employees are also encouraged to make suggestions.



The UAE’s 50 year challenge invites citizens and enterprises to bid for development funding.

There is little consolidated data about the extent of citizen driven innovation. But there are a growing number of case studies around the world attracting attention to this approach. The [OECD innovation case studies](#) are increasingly showcasing “co-creation” programmes. A prominent national example, just launched, is the [UAE 50 Year Challenge](#), inviting citizens and enterprises to bid for development funding. [Amsterdam](#) is a leading example of a city engaging citizen ideas and expertise.

Legal issues in innovation procurement

Although many countries consider legislation a major constraint for the adoption of innovative procurement practices, global surveys show that the legal regimes are not obstructing the use of innovation procurement methods. There are diverse legal frameworks, although countries in the World Trade Organisation (WTO) all have a basis of core principles drawn from the [GPA procurement regime](#). None of these constrain innovative practice.

However, the need to encourage innovation procurement has already been addressed in major economies. The EU 2014 rules introduced general provisions to encourage innovation, including clear possibilities for pre-market consultation and competitive dialogue. As noted earlier, they also launched a new procedure to promote innovation, the Innovation Partnership. However, the European Commission is very concerned that this encouragement to innovate is not being fully exploited. It issued a [report in 2018](#), setting out the benefits, supported by many case studies. These demonstrated the wide scope for innovation available under the new framework but also noted the relatively low rate of adoption.

Unusually for a legislative review, the report also focused on innovation leadership initiatives taken by National and Local administrations. It noted:

“A clear policy vision provided at political level to the institutions and the professionals involved in strategic procurement makes a difference, as it

provides them the necessary mandate to act. When accompanied by a clear communication campaign and supported by a long-term budgetary commitment, the policy vision has greater chances to succeed.”

In the US, the Federal Procurement Office has a comprehensive innovation section on its [Acquisition Gateway web site](#), which provides extensive guidelines and training material to encourage innovative practices. It also issues “myth busters” that clarify the conditions for precompetitive tendering and encourage more innovative solutions. The SBIR programme is operated by the Small Business Administration as a separate programme and is positioned as a technology transfer initiative.



Headquarters of the US Federal procurement office

It is therefore clear that countries such as Brazil may deploy innovative procurement mechanisms without being hindered by current legislation and practices. Innovative procurement has the potential to be implemented within the existing legal framework.

Global evolution of innovative procurement

Special procurement approaches and tendering procedures to encourage the public sector to work with innovative suppliers have been deployed world-wide for many years.

However, there have been few studies benchmarking procurement policy instruments and specific practices that actively encourage innovative procurement. The last [OECD report](#) was published in 2017, supported by 35 countries who supplied policy data and case studies.

This showed that 80% of responding countries supported procurement for innovation, but only 50% had developed action plans. Few countries had an integrated national policy. Many of the case studies came from local and regional administrations, with the move to innovation procurement frequently being driven by local service providers realising the benefits of harnessing innovative suppliers to deliver better solutions.

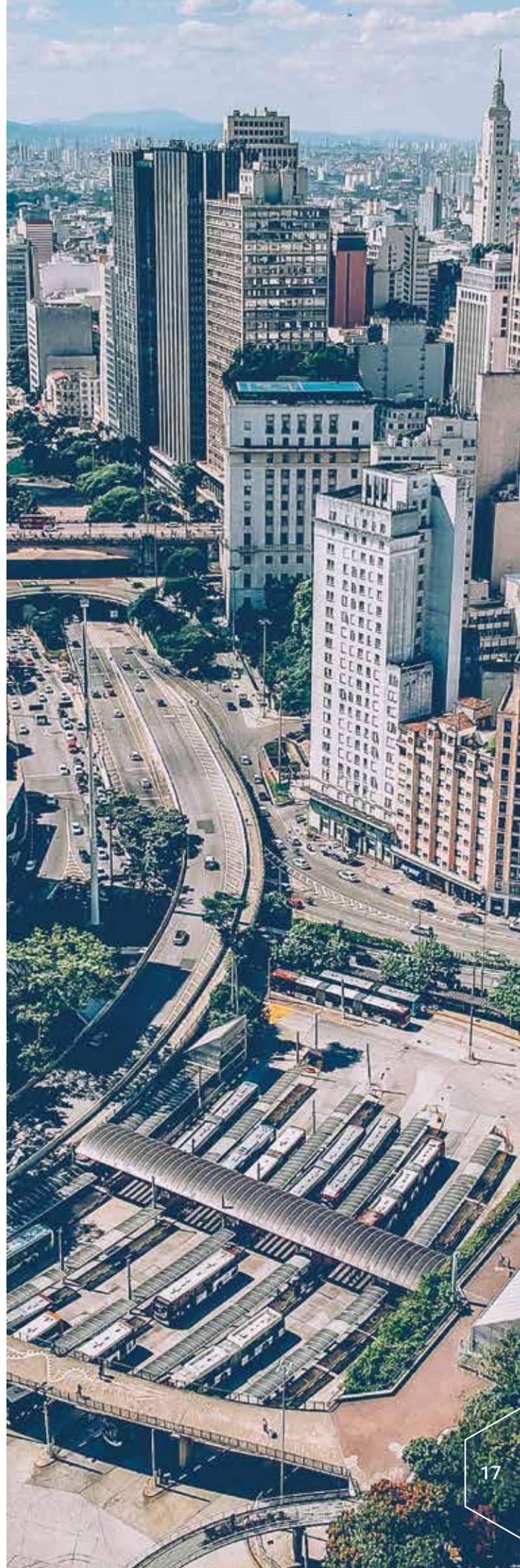
The report concluded with nine actions for government. These clearly set out the need for a policy framework underpinned by legislation, leadership, and skills development. They also promoted good practice sharing, early stakeholder engagement, and the value of standards. Significantly, the need for adequate financial support was highlighted.

Country leaders in innovative procurement

In the EU, [a study published in 2019](#) has provided country by country reports on *“The strategic use of innovation in the digital economy”*. This research was commissioned by the Commission Directorate for digital policy, DG CONNECT. This directorate has been the principal proponent of innovation procurement within the European Commission. They promoted the first policy guidelines, published in 2008, that made it clear that pre-commercial procurements could be carried out without infringing the prevailing EU rules.

This enabled the Commission to start funding capability development in pre-commercial procurement and support local authorities in undertaking more risky and complex projects.

Best practice started to be shared and procurement networks established. The potential for procuring more sustainable solutions was also recognized. Innovation Procurement has now become a mainstream policy in the EU, with the 2014 reforms aiming to remove any legislative barriers. Innovation Procurement is also being integrated into the new Horizon Europe Research and Innovation programme.





In the EU benchmarking study, Finland scored very highly because of the integration of innovation procurement into its national strategic programme, with targets for achievement and provision of financial support. It has developed the [Competence Centre for Innovation and Sustainable Procurement \(KEINO\)](#), which promotes best practice, develops skills, and facilitates open market dialogue. Innovation Procurement is positioned as the key factor to boost Finland as an innovative economy.

The [UK](#), along with [Spain](#), were the two largest economies ranked as good in the EU benchmarking for innovation procurement practice. The UK was rated particularly highly for its track record as an early adopter of pre-commercial procurement through the small business research initiative program.

The central procurement agency, [Crown Commercial Services](#), was also commended for promoting pre-market consultation and for training programmes to encourage the use of new procurement instruments. The [Local Government Association](#) was highlighted for its work in developing procurement strategy recommendations for municipalities with a priority on innovative practice.

The government's digital service (GDS) also has a strong record in contributing to OECD projects on the adoption of digital government. It has produced a wide ranging [Technology Strategy](#) and encouraged the use of innovative procurement practices, with a particularly strong record in engaging the small enterprises as suppliers to government. Further details of

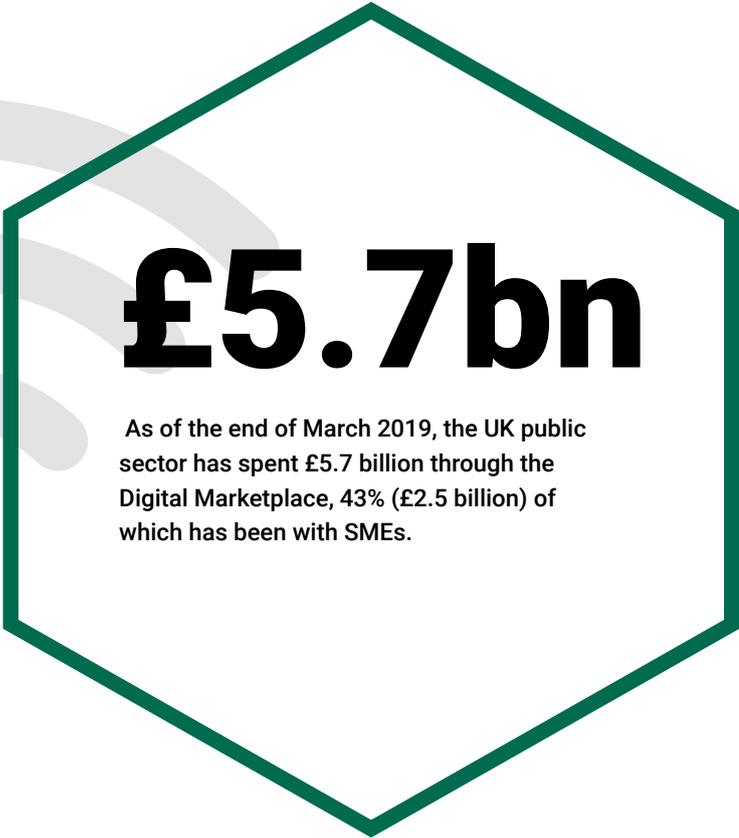
the UK procurement system and global case studies are provided in the section below.

Also apparent from case studies and data is the pioneering use of innovative procurement in local and regional administration. In Europe, [Flanders](#) and [Scotland](#) are leading proponents.

Cities as drivers of innovative procurement

Cities are facing significant challenges. Mass migration, climate change, aging infrastructure, technological change, and widening social and economic inequalities all disproportionately impact urban centres. To address these, progressive cities across the globe are already developing innovative organisations and are becoming leaders in deploying innovative procurement. They have a particularly strong understanding of how technology can solve problems and are often moving ahead of national governments. They want to accelerate overdue investments in technology and are eager to be good business partners to start-ups and small and medium size companies (SMEs).

Innovative cities organise procurement processes that encourage innovative companies, particularly SMEs, to offer solutions. They are embracing their role as market makers, embracing different procurement structures that allow them to set outcome goals for projects, then inviting innovative companies to offer solutions. They recognise that creating an open, receptive environment in which innovators can thrive



£5.7bn

As of the end of March 2019, the UK public sector has spent £5.7 billion through the Digital Marketplace, 43% (£2.5 billion) of which has been with SMEs.

is just as important as directly procuring their new technologies.

Innovation led cities are exploiting the flexibility of procurement rules and codes and have reformed procurement without needing legislation. They are generating quick wins and shaping longer term reforms. They are also partnering with third party funders, universities and research institutes to bring an innovative idea to implementation quickly.

Cities are also pioneering many different business models to deliver services, such as concessions, where risks are shared with suppliers. They are developing new models to deliver social services and funding them via mechanisms such as “social impact bonds”.

The procurement consultancy [Citymart](#) recently published results from its tracking of procurements in 318 cities in the US, Canada, UK and Ireland to provide a comparative view on how accessible and open cities are to small business and their ideas. In absolute terms the US,



Hong Kong is one of the most densely populated regions of the world, while also being one of the most economically productive.

with 512 innovative procurements, was by far the biggest market. Yet, adjusted to population size, Canada is twice as active and Ireland and the UK almost three times as active, indicating a significantly more robust adoption of innovation in city government.



The UK public procurement landscape

Devolved responsibility in a rules based system

Until the end of the current transition period, public procurement is governed by the rules framework set by the European Union. It is likely that these rules will be subject to future reforms once the UK is fully separated from the EU single market. However, the current

UK Public Contract Regulations, introduced in 2015, replicate the major reforms introduced in the 2014 EU directives. The UK [Cabinet Office](#) – the Prime Minister’s Policy and Administration team - was deeply involved in the negotiation of the 2014 reforms and publicly endorsed the changes. It was notable that the UK was the first major economy in the EU to fully implement the new rules.



Strong focus on best commercial practice

Recent UK Governments have recognised the importance of procurement in delivering high quality services, on time and within budget, and enhancing public value. These objectives are being delivered through the establishment of the Government Commercial Function (GCF), a cross-government network of civil servants procuring goods and services, managing contracts and planning future commercial needs. Commercial professionals work across the procurement cycle from strategy and pre-market engagement and procurement, through to contract delivery.

GCF's aim is to improve the commercial capabilities of the Civil Service, helping them to make significant savings for the taxpayer while delivering improved public services. It has developed Commercial Operating Standards to define how departments should operate commercially to ensure consistency of behaviours and purchasing. It supports a wide range of programmes to develop the knowledge and skills needed to compete successfully in commercial environments. It has a strong culture of benchmarking against its internal standards and external best practice. It provides advice and guidance across the public service – a notable recent example being the Outsourcing Playbook.

All UK Government Directorates have Commercial Directors and work to agendas set by their departments. Expert support and advice are drawn from GCF central teams. Their activities are co-ordinated by the Government Chief Commercial Officer.

Stepping up delivery

Crown Commercial Service (CCS) operates as an independent provider of purchasing services across the whole UK public sector.

It operates as a UK Government trading fund under direct ministerial control. It can be accessed by any organisation purchasing under the UK public procurement rules.

As well as central government and local administrations, it works with health and educational organisations, police, and fire services. It is now the largest public procurement organisation in the UK.

CCS offers policy and advice alongside direct buying. It can deploy its consolidated buying power on common goods and services. Regular commodities, such as office supplies, are available from CCS catalogues and can be bought online for rapid delivery. Catalogues currently include technology products, office supplies and multi-function devices for printing, copying and scanning.

CCS also develops procurement frameworks, a format embraced by EU/UK procurement rules. These comprise a list of suppliers who have been evaluated as capable of delivering to public sector requirements, with standardised contract terms. These are attractive to small and medium enterprises, a category that CCS is keen to encourage.

UK innovation procurement case studies

GDS technology code of practice

The [Government Digital Service](#) (GDS) leads the UK Civil Service digital function. It was launched in 2011 with the objective of accelerating the adoption of digital technologies across the UK public service. Since then it has become globally recognised for delivering one of the leading digital government transformation programmes in any large economy.

It has developed into a focal point for digital expertise across Government, setting standards and building capability by identifying, curating and sharing best practice. It has built, commissioned and operated products and services that are critical to key services across government, facilitating information sharing and building user friendly interfaces. It is supporting departments across the UK public sector in their digital transformation.

It has also strengthened the digital, data and technology communities across government – setting professional standards and standardising approaches to recruitment, retention, pay and career development.

GDS has been very influential in shaping the Government's approach to technology. It has produced a [Government Technology Innovation Strategy](#) which makes wide ranging recommendations on skills development, procurement processes, use of data and applications of artificial intelligence.

It has developed a [Technology Code of Practice](#) which should be followed by commissioners of new digital products or services. The Code focuses strongly on ensuring user driven solutions, accessibility, open standards and interoperability. It encourages the inclusion of small ICT suppliers in the bidding process. GDS approves proposals for all new ICT projects initiated in central government and requires their Service Standards to be met before their full deployment. They have a very open culture of information sharing, with a public Blog site reporting on project progress and policy initiatives.





GDS worked with Crown Commercial Services to transform the way the public sector buys digital and technology services. The [Technology Innovation Marketplace](#) is a dynamic purchasing system that allows the public sector to access new and emerging technology. The process of applying to become a supplier is simple and fast, encouraging businesses of all sizes to partner with the public sector. As of the end of March 2019, the UK public sector has spent £5.7 billion through the Digital Marketplace, 43% (£2.5 billion) of which has been with SMEs.

Innovate UK and SBRI

[Innovate UK](#) is tasked with turning innovative ideas into commercially successful products and services across all areas of the UK economy. It comes under the overall remit of [UK Research and Innovation \(UKRI\)](#), the national funding agency investing in science and research. With a combined budget of more than £7 billion, UKRI brings together 7 Sectoral Research Councils, Innovate UK and Research England.

Innovate UK funds business and research collaborations to accelerate innovation and drive business investment into research and development. It works with companies to de-risk, enable and support innovation. It connects businesses to the partners, customers and investors that can help them turn ideas into business growth.

Innovate UK has a long standing interest in engaging public sector customers as partners in deploying innovative solutions. It pioneered the Small Business Research Initiative [SBRI](#) which was launched in 2009.

The lessons drawn from this long standing programme were analysed and published in the 2017 [SBRI Review](#). This report includes a history of the US programme that inspired the UK pilot, and a range of case studies. It concludes with recommendations for an enhanced 5 year programme that will fund bids to support innovative solutions across the public sector. It also identifies the need for better mechanisms to allow innovative solutions, generated by SBIR, to be scaled up and successfully deployed. These include the encouragement of external investment partners to work with the supplier and customer.

UK innovation procurement case studies

SBRI boosting city revenues

Belfast City Council wanted to cut the level of uncollected business rates. It saw the potential to use data analytics to do this, mining existing public sector data to identify businesses escaping rate payments or paying lower rates than appropriate. With Innovate UK, the Department of Finance and Connected Places Catapult (then Future Cities Catapult), it set up a pre-commercial procurement

with a budget of £130k. For phase one, awards of £5,000 each were made for proofs of concept. Two companies proceeded to phase two and were awarded £55,000 for prototypes, including two weeks of field testing which immediately identified significant additional revenue opportunities. The council is now working with one of the successful companies to develop a comprehensive solution on business rates.



SBRI and GDS launch GOVTECH Catalyst

The GovTech Catalyst is a £20 million programme launched by the UK Government in November 2017. The whole UK public sector, including local administrations, have been invited to submit challenging problems seeking innovative solutions. The challenges to be funded are chosen by a cross-government board, and pre-commercial procurements organised. The projects use the established procedures of the UK SBRI programme, managed by a dedicated project team from Government Digital Service, supported by Innovate UK. So far, 3 rounds of 5 challenges have been launched, and demonstrator projects funded from the first rounds are being evaluated. Among the very diverse projects are technologies to keep firefighters safe inside buildings, tracking waste across the UK, and reducing loneliness and rural isolation. More than 90% of funding has gone to small and medium-sized enterprises.

National Health Service accelerator

The SBRI review identified health as the most successful and longest running SBRI programme. By February 2017 it had funded 67 projects over a quarter of which had led to commercial product sales to the NHS. A report undertaken by PA for NHS England SBRI Health gives details of the SBRI funded technologies and their potential economic benefit.

However, SBRI is just one initiative that has been introduced to encourage health innovation. In 2015 the NHS launched a dedicated Health Accelerator programme. It addresses the internal barriers to healthcare innovations, and ways of adopting them faster and more systematically. It focuses on practical benefits for patient and population. Led by innovator during the evolution of the developed solution.

The programme has achieved good results and is generating valuable insights about innovating in a complex organisation. A new 20-21 programme has recently been launched.

The Mayor of London innovation challenges

The Mayor of London's Civic Innovation Challenge, launched in 2018, is his flagship technology innovation programme. In partnership with the Social Tech Trust, the Civic Innovation Challenge calls on tech start-ups and innovators to develop solutions to London's biggest challenges. Each challenge is sponsored by a leading corporate or public body who will work with start-ups to test their solutions.

In 2018, seven challenges were organised, spanning areas such as active travel, creating culturally representative dementia resources, electric vehicle charging, increasing uptake in physical exercise, and tackling loneliness. This resulted in the creation of entirely new products based on direct learning from the market and has constituted the beginning of long-term relationships for several companies. A further Challenge was launched in 2019 and the successful innovators are now building solutions in the Pre-Commercial phase.

Transport for London (TfL), which reports to the Mayor, has a very well established programme of commercial innovation procurements. It has a rolling programme of challenging projects, with many successful deployments. It is very keen to engage with innovative suppliers, as exemplified by their web site offer *"We want to make it easy for market innovators to work with us, so we'll keep this page up to date to share areas where we are looking for innovation. Whether you are a start-up or SME, a corporate, an accelerator or an investor, register your details on our innovator database."*



TfL also has innovation partnerships with large corporates who have R&D activity focusing on London. They are developing innovative solutions to deliver key goals in the Mayor's Transport Strategy.

Scottish government CivTech initiative

One of UK's most successful innovative procurement experiences comes from Scotland. The Scottish Government's [statutory guidelines](#) provide clear guidelines and encouragement for innovation. The 2014 Procurement Reform (Scotland) Act includes a "[Sustainable Procurement Duty](#)" which requires the promotion of innovation to be considered in the procurement process.

Scotland is pioneering new ways of delivering this duty. "[CivTech](#)" is their flagship project. Run by the Scottish Government's Digital Directorate, it brings together public sector expertise and private sector creativity to solve real problems, develop new products and deliver better, faster and easier services. It uses the Pre-Commercial Procurement model, presented as an "[Innovation Flow](#)" that progresses from Challenges, through the companies that progress through the Challenge. They aim for them to enjoy

success in global markets with their innovative products or services.

A distinctive feature of CivTech is co-production with the citizen. It has promoted citizen engagement in identifying problems and matching them with solution providers. Now in its [5th round of challenges](#), it has generated great public interest and enthusiasm by arranging open Demo Days. The March 2020 event was attended by over 500 interested participants including staff from Connected Places Catapult. Twenty international delegations were in Scotland to learn more about this innovative procurement model.

CivTech is also deploying the experience of its "[Innovation Flow](#)" to boost innovation in the Scottish Public Service. Evolving since the launch of the first challenge, CivTech now organises an "Intrapreneurship Leadership Programme". This is focused on their team's belief that "*developing an entrepreneurial mindset with public service leaders builds the skills and confidence to spot opportunities to add public value for citizens, and the knowledge and tools to take action*".

Global case studies

The power of the EU public purse

The European Union has co-invested with public authorities in a wide range of pre-commercial procurements (PCP) in the digital sector. Over 150 PCP Contracts have been supported since 2016. A report, [The Power of the Public Purse](#), published in 2019, highlights the value generated by PCP contracts. It shows how innovative solutions developed through the PCP process have improved the quality and efficiency of public services. Over 60% of contracts were won by SMEs, with the majority of suppliers exploiting new market opportunities generated from their initial contract.



Fully integrated support for innovation procurement

The Flemish Government is a pioneer in innovation procurement, launching its first programme in 2008. Its current [Programme for Innovative Procurement](#) (PIP) was launched in 2015. The PIP is integrated into all areas of the public service. All organisations covered by the Public Procurement Act can turn to PIP for information, advice, guidance and co-financing on innovation procurement projects. From an annual budget of €5 million, it co-finances pre-market consultations, hiring external expertise, purchasing research and development services, or carrying out validation or testing phases of the solutions to be procured. A comprehensive website includes [extensive case studies](#). The PIP is integrated into a strategic public procurement plan incorporating sustainability and social value objectives, managed through the Flemish Cooperation Forum



The Flemish government building in Brussels.

on Government Procurement. This encompasses regional and local administrations, business, academia and other representative groups.

Acquisition innovation hub

The US Government has a very comprehensive web site ([Acquisition Gateway](#)) for all public procurement practitioners. Within this resource, there is a separate [Acquisition Innovation Hub](#) which provides access to best practice and training in innovative procurement. It presents many case studies and promotes a network of "Acquisition Innovation Advocates". There is guidance, and, where appropriate "myth busting" on compliance with Federal Acquisition Rules. The Hub also links to Federal Agency programmes promoting innovative procurement in Homeland Security ([Procurement Innovation Lab](#)) and Digital Services ([TechFAR Hub](#)).



Innovative procurement in response to COVID-19

The case for Strategic Procurement as an accelerator of public benefit has been dramatically demonstrated by global governments in their response to the COVID crisis. There have been no changes to legal frameworks and the rules have not prevented decisive actions in times of emergency.

The EU and the UK Government have issued clear guidance to public authorities encouraging them to use all the freedoms available. The [EU guidance note](#) includes a clear reference to innovative solutions and the tools that can be used to generate them.

It even mentions the use of “hackathons” to accelerate the generation of new ideas.

Examples of fast and successful deployment of innovation through flexible procurement methods can be used to overcome risk aversion and bureaucratic perceptions that have held back the deployment of innovative procurement for too long. The examples from this situation could generate a positive legacy of the COVID crisis. The post-COVID environment could well offer a fruitful moment for enhancing new innovative procurement initiatives.

Perspectives for Brazil

Brazil's unexploited innovative potential

As noted in the introduction, Brazil is setting out a clear path to becoming a more innovative economy. This is demonstrated by its support for the OECD Public Sector Innovation Initiative and Expert Study. Preceding this OECD engagement is a significant policy initiative, the 2016 [Law 13,243](#), Marco Legal da Ciência, Tecnologia e Inovação, enacted by [Decree No. 9,283](#), of February 7, 2018.

These rules provide an excellent platform on which Brazil can drive innovation through public procurement. Technology commissioning (encomenda tecnológica) is explicitly encouraged, and public administrations encouraged to engage directly with prospective suppliers and innovation agencies to obtain an innovative product, service or process. These arrangements can be given public support through cost sharing (subvenção econômica) or assistance with technology transfer (bônus tecnológico).

If public authorities move into a market making role, the rules allow public institutions to cement an innovation partnership by taking minority stakes in supplying companies, in their own right or through special funding vehicles. The contracting parties can agree on the exploitation of intellectual property rights developed through the partnership.

These far sighted rules have unexploited potential for igniting innovation at all levels of the Brazilian economy. They have removed administrative barriers and provided clear encouragement for the public sector to invest their know-how and funds in partnerships with innovative companies. The Federal Government could “kick start” an innovation drive by high level advocacy, targeted funding and programmes to develop the necessary skills in new procurement

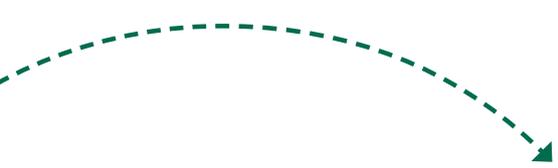
methods. To ensure that all obstacles are removed, it should scan all aspects of their current procurement legislation, and clarify or amend aspects that may inhibit the application of innovation procurement processes.

Areas that Brazil could target

Government resources are inevitably limited. Brazil will clearly need to target its resources and look for the most effective and efficient ways to launch an innovation procurement culture. The countries and regions demonstrating global leadership target their funding on best practice promotion and technology challenges. Offers to fund technology development, chosen on the basis of the best ideas, are a powerful way to attract new companies and to focus activities within procurement teams.

Many countries are focusing on digital technologies, as it is an area where new procurement solutions are already being exploited and where small innovative companies can participate very effectively. The OECD report indicates that this is already an area making progress in Brazil. It should continue to be a priority investment, while ensuring that innovative procurement tools are exploited, and best practice is diffused to all levels of the public administration.

It is also evidence that State and City authorities in Brazil are already aware of the potential of innovation procurement. Strong and well presented case studies of successful innovation procurement are particularly important in overcoming risk aversion to embracing change. It would therefore be essential to encourage these centres of excellence to develop by offering targeted financial support, promotion of their work as best practice, support with research and training.



Case studies with potential for replicability in Brazil

This report has encompassed many examples of global good practice in developing strategic and innovative procurement. Mapping these onto Brazil's ambitions, and the desire to make some quick and visible progress, it is suggested that there is a great opportunity for a city or state to pilot a high visibility project, especially one that engages public and business imagination.

Drawing on the case studies that were presented earlier, the Scottish Government's CivTech programme is a mature and well-developed instrument that is internationally transferable. It is well scaled to Brazil's Federal Government, a large Brazilian economic state, such as São Paulo or a large city or metropolitan region. The approach taken in Scotland, through which public challenges are defined and procured via rounds of calls to develop experimental solutions, is well suited for replication in Brazil. Through the CivTech project the Scottish government has used procurement as a tool for delivering better public services projects whilst helping to cultivate a broader innovation ecosystem throughout the economy. The CivTech workshop programme gives support and guidance to innovative businesses, helping them to scale up and market their products globally. With this approach, Brazil will benefit

from access to a wide range of new solutions, while developing new businesses and new technologies.

As a further significant advantage, CivTech's accompanying skills development programme addresses many of the innovation boosting challenges that Brazil needs to address, as identified in the OECD Innovation report.

The CivTech team would be available to work with Connected Places Catapult to help design, develop and launch a distinctively Brazilian programme. A more detailed description of CivTech, with examples of recent projects, is attached as an Appendix.

It is also suggested that, alongside the launch of this beacon project, Brazil's Federal, State, and Municipal Governments examine their procurement legislation and consider the formal integration of an innovation and sustainability requirement when considering public tenders. This could also be linked to the launch of an Innovative Procurement Hub and Best Practice Centre in connection with Prosperity Fund's objective of creating local city labs and deploying technologies in Brazil.

The Connected Places Catapult team would be keen to provide advice in these areas and would draw on the UK's national experience with innovative procurement programmes, especially SBRI and GovTech.



Welcome to
DEMO DAY 4.0**Appendix**

The Scottish government CivTech initiative

Part of the Scottish Government's Digital Directorate, CivTech® brings together public sector expertise and private sector creativity to solve real problems, develop new products and deliver better, faster and easier services for everyone. Central to the approach is co-production with the citizen.

The CivTech approach is already helping transform the public sector with technological innovation - delivering significant benefits to public services and producing genuine uplifts for the Scottish economy. And along the way, it's making people's lives better.

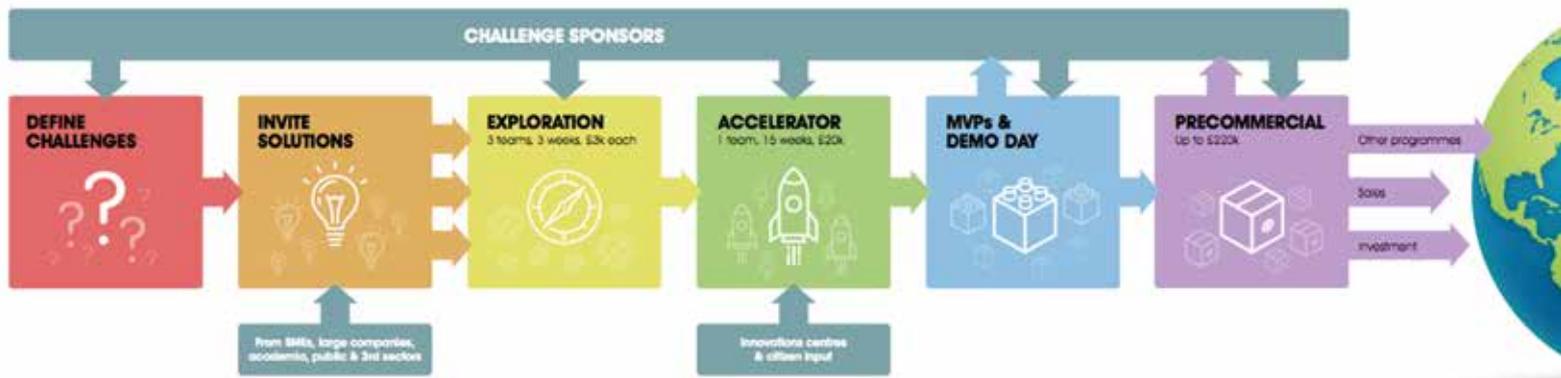
The main objectives of CivTech are:

- To start with the problem, not the solution.
- To publish the identified problem as a challenge.
- To combine public sector expertise with private sector products and solutions.
- To ensure the public sector remains active in solving the challenges and innovating.

Questions CivTech tries to answer include:

- How do you procure what you don't know exists?
- How can procurement be used to promote economic growth for the countries and cities?
- How can the public sector innovate?

CivTech®



The innovation flow

The CivTech *Innovation Flow* is designed to create digital solutions to public sector problems as quickly and effectively as possible. Open Challenges are set, and any organisation, team or individual can respond to them. Applications are assessed, and shortlisted proposals go into an Exploration Stage where they are developed further. The best go through to the Accelerator for intensive work to create the solution. And through CivTech’s unique workshop system, a business moving to the Pre-Commercial stage is capable of taking the emerging product to the world.

The Challenges are well calibrated to offer entrepreneurs the chance of a significant market outside Scotland. To quote their team: “*The Challenges we issue aren’t ‘single organisation’ problems – most exist worldwide*”. The Challenge Sponsors are committed to working with the solution providers to help them develop the optimum results.

The heart of the CivTech Innovation Flow is the Accelerator - four months of fast-track product development. Teams and Challenge Sponsors come together at the CivTech Studio in Codebase Edinburgh to produce an MVP: a minimum viable product that both works and is capable of further development. There’s a focus on collaborative working and sharing knowledge and experience to stimulate innovation and maximize cross-pollination of ideas. Business development is central, and our comprehensive workshop system means that all teams—whatever stage they’re at—have the best possible grounding with which to take their products forward.

The CivTech demo days

The Challenges are strongly promoted to citizens, public sector customers in all parts of the economy, and innovative business. Now in its 5th round of challenges, CivTech has generated great public interest and enthusiasm by arranging open Demo Days. The March 2020 event was attended by over 500 participants including staff from Connected Places Catapult. Twenty international delegations have already visited Scotland to learn more about this procurement model.

The pre-commercial phase

The projects that are successful in the Challenge move into the Post-Accelerator Stage. Companies have the opportunity to deepen their relationship with Challenge Sponsors, to further develop the solution and roll it out. This stage will give companies a strong base, and many will gain further funding for the post-commercial development that will come from winning other clients. Many of the teams that have gone through the Innovation Flow are winning contracts from both the wider public sector, and the private sector, based on the work they do with CivTech.

Examples of Challenges Addressed in CivTech Demo Day 2020

The 4th CivTech conference “CivTech 4.0” took place in the city of Edinburgh in March 2020. It centred around the eleven challenges identified by public agencies in Scotland, with each offering support to develop prototype solutions in their identified challenge area. These covered a remarkably wide area, and are listed in the table below.



How can technology help us inform and inspire primary school pupils to think differently about their future careers?



How can we harness the power of data to help Glasgow’s citizens reduce their carbon footprint and make the city more resilient to the impacts of climate change?



How can we help people with long-term illnesses access technologies that can enhance their care?



How can we use technology to track off-network Council assets at minimal cost?



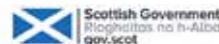
How can we use technology to enable the Scottish Government to share digital resources and expertise?



How can technology help support line managers and employees to be proactive in sharing and accessing available support when it is needed?



How can technology be used enable easier access to all available SAAS funding opportunities and reduce drop-out rates for disadvantaged groups?



How can we use technology to make the Scottish Government pre-employment check and on-boarding process more efficient?



How can we use technology to manage the property condition of communal areas in privately owned tenements?



How can we use Technology to help enforce a potential Blue Badge holder exemption from Low Emission Zones in Scotland?



How might we use technology to make better use of Scotland’s valuable but limited supply of high quality tree seed?



The CivTech Intrapreneurship Leadership programme

Running alongside the CivTech Innovation Flow is the Intrapreneurship Leadership programme. Its objective is to take the lessons from the Innovation Flow and use them to develop an entrepreneurial mindset across Scotland's public services.

This idea emerged from the first CivTech programme as the original Challenge Sponsors found they were getting more than just a new product. They found themselves changing the way they approached other areas of their work. Seeing the huge leaps made by the teams in the workshop system, they naturally wanted to know what was happening beyond product development.

CivTech has now launched a full programme for Challenge Sponsors including workshops, mentoring, and opportunities to put the learning into practice. The core principle is that developing an entrepreneurial mindset with public service leaders requires the skills and confidence to spot opportunities to add public value for citizens, and the knowledge and tools to take action.

Potential for knowledge transfer

The approach taken in Scotland, through which public challenges are defined and procured via rounds of calls to develop experimental solutions, is well suited for replication in Brazil. Through the CivTech project the Scottish government has used procurement as a tool for delivering effective projects whilst helping to cultivate a broader innovation ecosystem throughout the economy. Through adopting a similar approach Brazil stands not only to benefit from access to a wider range of new solutions, but also to deepen the unique offering of its commercial ecosystem.

Apart from the Brazilian Federal Government, states and cities in Brazil may benefit tremendously from the CivTech model. State and local governments in Brazil are currently developing their own initiatives on fostering innovation and supporting the local ecosystem of start-ups and SMEs. CivTech can definitely play a key role in addressing local and regional challenges and at the same time support economic development.

Visit our website

<https://cp.catapult.org.uk>

Follow us on Twitter

@cpcatapult

Or send us an email

info-LDN@cp.catapult.org.uk

CATAPULT
Connected Places