

# **Written evidence submitted by the Innovation City Belfast (ICB) Partnership, relating to the Investment in Northern Ireland inquiry (INI0031)**

## **Introduction**

Innovation City Belfast (“ICB”) welcome this inquiry by the Northern Ireland Affairs Committee to examine investment in Northern Ireland and welcome the opportunity to provide evidence to support this inquiry.

Belfast is home to a vibrant and engaged community of SMEs, researchers, corporations, and start-ups. Together we have made Belfast a great place to nurture new ideas, to grow a business, to solve urban challenges, and to impress the world.

ICB aims to build on these foundations and establish Belfast as a globally significant destination for innovation.

This partnership has been formed by six of the city’s key institutions: Belfast City Council, Belfast Harbour, Catalyst, Queen’s University Belfast and Ulster University, with Invest Northern Ireland as an advisory partner.

We are committed to delivering an ambitious long-term plan that will maximise the impact of the £1 billion Belfast Region City Deal which includes an investment of £230 million in university research centres and £120 million in digital innovation.

Our vision statement is:

***Belfast is a place where global excellence in innovation supports inclusive economic growth, delivers more and better jobs, and has a sustainable positive impact on our city, its citizens, and the wider region.***

In relation to this submission we will provide evidence in the sequence of the questions and areas of interests put forward by the Committee. There will be some areas in which ICB will not put forward any comments because we feel that the issues are political and beyond the scope of the consortium and other areas in which individual organisations are better placed to provide evidence.

ICB would also like to take the opportunity to commend any evidence submitted by our individual partners. As a consortium we recognise the value of partnerships and in this submission will aim to put forward evidence which reflects the broader thoughts of our members which includes representation from local government, universities, ports, economic development agencies and entrepreneurial ecosystems.

The UK Government aspires for the UK to become a global ‘science superpower’ by 2030 and, has committed to a significant increase in public spending on R&D over the next three years as part of ambitious plans to increase whole-economy R&D spend as a proportion of GDP to 2.4%. This process has clearly highlighted the importance and need for investment by the UK Government for the region. We are bringing forward proposals that we believe provide a means of creating, stimulating, and sustaining economic growth and associated job creation.

ICB, for example, have recently been involved in the 2021 Spending Review process and submitted a proposal for a Global Centre for Secure and Intelligent Regulatory

Technologies (G-SIRT). Located in NI, 'G-SIRT' will be the UK's national institute in RegTech, bringing together companies, academics and public bodies to drive world-class research and innovation; to understand and address at pace the real-world, cross-sectoral challenges within RegTech; and ensure the UK is acknowledged as the global hub for innovative and influential leadership in this area. If fully funded, we anticipate G-SIRT would create up to 16,500 (10,200 direct with 6,300 indirect and induced) new jobs and £931m in gross value added (GVA) by 2031.

This proposal aligns to the greater commitment by the UK Government to place Research & Development at the heart of its plans for growth. A full green book business case is currently underway aiming for completion at the end of March.

Given our focus on the delivery of the 10X strategy together with investments in Innovation through the Northern Ireland City Deals we have sharpened our value proposition from one centred on 'talent' to one centred on 'innovation'.

## **1. Steps the UK Government can take to encourage investment in Northern Ireland, including through the Shared Prosperity Fund, Levelling Up Fund, and Internal Market Act**

The UK Government has put research and innovation at the heart of its Industrial Strategy, setting an ambition for the UK to become the most innovative country in the world and increase its total R&D expenditure from 1.69% to 2.4% of GDP by 2027.

ICB recognise that the UK's expenditure on R&D is an important driver of economic growth, however, currently the approach remains regionally imbalanced. ICB understand the value of R&D investment which leads to innovation, and innovation creates productive industries and well-paid jobs.

"Levelling Up" has been a core policy commitment of the UK Government and recently there have been several consultations under HM Treasury (Freeport) and BEIS (R&D Place Strategy) which seek to deliver on this commitment. The UK Government published its R&D Roadmap on the 1st July 2020 with a commitment to doubling public R&D investment to £22bn a year by 2025.

The Missing £4bn - Making R&D work for the whole UK, published in May 2020 by Tom Forth and Richard Jones, brings together evidence that the differences in the UK's regional economic performance has been exacerbated by regional imbalances in R&D spending. Its main thesis is that there are currently two economies in the UK. The first - London, South East England, and the East of England - has a highly productive, prosperous knowledge-based economy. However, outside of this "golden triangle" in places such as the Midlands, North of England, South West England, Northern Ireland and Wales, the economy lags in prosperity, productivity, and competitiveness. The report finds that the UK regions and sub-regions containing London, Oxford, and Cambridge account for 46% of public R&D in the UK, but just 31% of business R&D and 21% of the population. According to the authors, they estimate to level up to the "golden triangle" region, additional public spending of more than £250m per annum is required in Northern Ireland (NI).

In attempting to address this imbalance ICB believes that Long Term Funding by the UK Government through emerging funding streams such as Levelling-Up and

Shared Prosperity Fund should be ring-fenced to devolved regions that should have localised autonomy and decision-making through regional partnership models. In doing so, the UK Government must align 'funding machinery' through which research funding is allocated by block allocations, competitive project funding and 'place-based' interventions more closely with regional need.

ICB also believe that this place-based approach will enable place-based innovation across the four regions of the UK which will locally support the importance of urban centres as the foci for knowledge-based innovation. As an example, Belfast is developing a Smart District and Innovation District – specific areas of the city being developed on the evidence of work by the Brookings Institution and the example of places such as Smart Docklands which demonstrate that there are a set of factors (beyond the traditional FDI formula) that are necessary to attract modern high-quality investment based on innovative capability.

These include commitment to collaborative innovation between enterprise, SMEs, universities and other institutions focussing on quality of life factors, etc. As such ICB provides a collaborative partnership which will support the development of Belfast's Smart District and Innovation District in support of this agenda.

Government is asked to consider funding for innovative models to deliver an end-to-end research and innovation strategy that coalesces stakeholders around common goals.

The establishment of an ARIA agency including secretariat with a significant presence in NI to fund higher-risk R&D.

The introduction of a Free Port to provide vital fiscal incentives to ensure NI can attract investment resulting in new and better paid jobs and enabling us to compete with financial incentives offered by ROI.

## **2. Steps the UK Government can take to ensure investment, including foreign direct investment, is economically effective**

ICB believe that the UK government has a key role in promoting Northern Ireland as a place which is attractive to foreign investment. We believe that in doing this the UK Government needs to work closely with the NI Executive, Invest NI and consortiums such as ICB to ensure that the investment being targeted and secured will be economically effective and fits in with the wider local and regional priorities identified by the NI Executive. Our belief is that by doubling down on our innovative capability and investing in the innovation ecosystem will result in a more impactful result.

ICB recognises that in the current climate that overseas investment is an important factor in helping our economy bounce back from the economic shock of Covid-19.

Northern Ireland has an excellent reputation for its highly skilled workforce in areas such as cyber-security and fintech and it has been attracting the attention of companies across the world. The quality and availability of our talent, along with our capacity to offer competitive operating costs, is vital in bringing inward investment and the significant economic and social benefits that go with it. We believe that this position should be sponsored by the UK Government and through its support it is likely that foreign investment would increase. Other sectors where we have specific strengths are greentech and life sciences.

ICB commend and support the work of Invest Northern Ireland in showcasing the unique strengths that Northern Ireland has to offer and to date over 1,000 international companies have recognised the opportunities offered and have invested here. This demonstrates the ability of Northern Ireland to operate on a global scale and it is crucial that we continue to do so as we slowly rebuild our economy following the shock of Covid-19, and the support of the UK Government in these efforts will be crucial.

ICB believe that going forward to speed up our economic recovery and raise our international profile, we should focus on specific sectors where capability has been demonstrated and innovative investments are already being made. These include fintech, advanced manufacturing, life sciences and clean energy.

The partners which make up the ICB consortium will continue to work with the Department for International Trade and Invest Northern Ireland to leverage their international networks to positively position Belfast, and the wider City Region, globally for FDI investment and development.

Government should consider targeted ring-fenced investment in applied research centres geared towards NI's existing industrial base along-side wraparound interventions to promote knowledge diffusion, facilitate collaboration, and attract international investment.

Government should ensure NI is fully funded and integrated into the Catapult network offering and enhance regional networks, or similar partnerships, that drive triple-helix co-creation through UK and Ireland.

**Establish a new UK funding offer for international collaborations to include discreet funding allocation for NI to scale the successful model that NI has developed targeted in key sectors and export markets.**

NI has been highly successful at establishing international collaboration within target sectors, notably our cyber cluster led by the Centre for Secure Information Technologies' (CSIT) is recognised as an exemplar of innovation to drive economic and societal impact through world-class research. Funded by EPSRC, Innovate UK, and Invest NI, and based at Catalyst in Belfast, this flagship Centre has helped attract over 50 high-tech start-up companies and Foreign Direct Investments (FDI). These companies employ more than 2,000 people and is evidence of the wider economic benefits to be gained from translating science into wider business and economic opportunity. CSIT works with many large multinational partners including Allstate, BAE Systems, eBay, First Derivatives, Thales, and Seagate.

Attracting new commercial partners to work collaboratively on these new technologies we are fostering international collaboration with leading Institutes in the USA, South Korea, Singapore and Europe. Similarly, we have a strong research pedigree in HealthTech with the development of the world's first portable defibrillator and an emergent international cluster including Stryker. International issues require international solutions and our global innovation hubs have a unique approach in facilitating speculative blue-skies and industrial informed research projects. With the appropriate funding support, this platform provides a strong template to build on in emergent target sectors.

The health and life sciences industry is central to Northern Ireland's economy, one of five sectors identified by the department of the economy as having the highest growth potential. Between 2015 and 2017 saw a 14% increase in employment.

It supports 18,000 high quality jobs, with a Gross Value added (GVA) of £1.1Billion. This, combined with 80,000 jobs in the health service, represents >5% of the working population of this region. It is the leading industry for R&D investment and in 2018, industry invested £74M in R&D and demonstrating a track record of globally recognised research achievements to go with its valuable manufacturing base.

We support HIRANI in their vision that Northern Ireland's 1.9 million patients are able to quickly access the latest medicines and medical technology, which not only improve lives but positively contributes to economic growth and employment. In Northern Ireland it is industry that funds the majority of research. A well-resourced pro-innovation health system, alongside collaborative universities are fundamental to our success. Supporting the life sciences ecosystem through investing in clusters that foster health, industry and academic collaboration and levelling up Regulatory leadership will be crucial to promote biomedical R&D and address place-based health inequality.

### **Emerging Health and Life Science Cluster opportunities for levelling up**

HIRANI's insights have highlighted some regional inequality influenced by devolution and poor historical connectivity to the rest of the UK. This will be important to recognise to identify future levelling up opportunities to ensure that Northern Ireland's H&LS sector can deliver on its unique potential as part of the UK innovation ecosystem.

We support the three key recommendations outlined below to provide opportunities in Northern Ireland for both Regulatory, publicly funded Health and Industry collaborative clusters to maximize opportunities to translate and adopt place-based health and clinical interventions into practice. This would build on strengths realizing the 10x economic strategy's critical Life sciences pillar and safeguard the city deal investments and continued stability and growth of the life sciences sector in Northern Ireland.

1. Fund the £30M UKRI SIP Wave-2 bid: Future medicines institute. This leverages >£23M in-kind support and would level-up the platform to accelerate Northern Ireland's life sciences innovation pipeline and enable us to deliver transformative growth in productivity (50% in 5 years) through harnessing collaboration of our recognised, leading capabilities in diagnostics, analytics and a successful life sciences CRO industry to accelerate commercialisation and better integrate digital and diagnostics care into patient care. (appendix 1)
2. Level-up the Health service as an innovation partner. Extend resources for health-service sectoral collaborative environments such as Academic Health Science Networks to Northern Ireland. These have been transformative in England to provide a trusted environment to better connect health with academia and industry opportunities. This is urgently needed to build towards the BRCD launch of clinical Research centre of excellence (iREACH) to address a significant barrier to clinical trials, R&D and health equality here.

Ensuring that medical consultants in NI are incentivised to conduct research as they are in GB is another aspect requiring amendment to ensure an innovative approaches are adopted (appendix 2)

3. Creation of a Northern Ireland Regulatory Science office to work alongside the MHRA to better represent Northern Ireland's strategic interests, attract investment and conduct clinical research. This will provide regulatory leadership to industry, the health service, government and the sector's innovation pipeline and BRCD aspirations, in order that it can deliver on its potential aligning with the UK Life Sciences vision to enable equality in access for patients to health innovation and capitalize on Northern Ireland's unique position between UK and EU markets.

### **Direct funding to support partnership models in Devolved Regions should be an immediate investment by the Government.**

Challenge Funds can boost innovation and support the development of technologies and innovative solutions in response to key sectors of opportunity defined at regional level and could be used to support regional collaboration or clustering. The aim would be to positively impact the amount firms spend on R&D and improve employment, productivity, and societal outcomes. With government being such a powerful buyer in the UK economy, its actions can stimulate demand for new technologies, through SBRI and other innovative approaches to challenge calls. Levels of funding for SBRI remain relatively small and the transition from early stage SBRI funding to larger project-based funds that incentivise ongoing business engagement is a major issue that requires a more joined-up approach. Furthermore, to encourage greater levels of innovation 'Proving Grounds' are needed in the form of 'Urban Sandboxes' such as the Belfast Smart District programme that provide environments to lower physical, infrastructure, regulatory barriers to innovation for the public/private sector and provide a route to scale technologies at the higher end of the technology readiness levels to commercialisation.

Government should consider support for public and private sector challenge funds and low regulatory testing environments aligned with the innovation poles of the NI regional economy on a ring-fenced basis.

The application of R&D tax credits is crucial for driving up levels of private sector investment in R&D and for incentivising collaborative research activity. Similarly, the Seed Enterprise Investment Scheme (SEIS) Fund is an important mechanism to drive entrepreneurial activity and stimulate investment into IP-rich and innovative businesses. The recent Government consultation on establishing Freeports across the UK provides an additional mechanism to help regions increase levels of innovation and attract inward investment. Other interventions could include increased KTP numbers and 'super-scale' innovation vouchers for small businesses – which is hugely important in a micro-business economy.

### **3. The economic effectiveness of investment under the New Deal for Northern Ireland and New Decade, New Approach funding**

The restoration of the Northern Ireland Executive in January 2020 was welcomed with enthusiasm. The New Decade, New Approach (NDNA) agreement set out an

ambitious agenda for investment and reform in public services, to address both short- and long-term economic and social challenges.

However, shortly after this deal had been reached the new administration was faced by a global pandemic and has dominated local politics since. Therefore, it is extremely difficult to assess the economic effectiveness as much of the funding identified within this approach has not been realised.

NDNA is extremely ambitious, promising large-scale investment and reform across many public services. The deal includes commitments to address long-standing issues like health waiting lists, educational inequality, under-investment in infrastructure and climate change. NDNA was welcome in its recognition of the scale of Northern Ireland's economic and social challenges.

However, its ambition also created some immediate difficulties. There was no funding package agreed alongside the commitments, there was no agreed delivery plan, so there was no political agreement on prioritisation between the huge number of different elements within NDNA. Therefore, NDNA said there would be quick publication of a Programme for Government setting out what the Executive would deliver over the next three years. However, development of this Programme for Government was postponed because of Covid, and the new Programme for Government is yet to be agreed and published.

ICB believe that some of the NDNA priorities need to be pursued at pace to ensure that the region can benefit from potential funding and investment opportunities. There is also a need for collective progress based upon the Department for Economy's 10x economic strategy which recognises the role of digital innovation as having the potential to transform our economy.

#### **4. The potential effect of City Deals on economic growth in Northern Ireland**

Recently a model for this has begun to emerge from the investment in the Belfast Region City Deal (BRCD). The creation of ICB provides a forum through which future regional R&D investments, arising from the Levelling Up agenda, can be delivered in a consolidated manner to achieve broader benefits.

##### **Importance of City Deals**

City Deals are bespoke packages of funding and decision-making powers negotiated between central government and local authorities. They're aimed at helping to harness additional investment, create new jobs and accelerate inclusive economic growth.

The Belfast Region City Deal (BRCD) provides a once in a lifetime opportunity to accelerate economic growth in the region in an inclusive and sustainable way, with the potential for 20,000 jobs over the next 10-15 years.

The work undertaken thus far to develop delivery plans aligned to the Innovation programme of BRCD, is a prime example of how institutions can work together to focus efforts on areas of strength at regional level. In the case of BRCD this involves growth sectors such as life and health sciences, the digital and creative industries, and advanced manufacturing.

The investment will support next generation digital capabilities, boost tourism and support the regeneration of our region, underpinned by infrastructure developments and investment in skills to connect people to jobs and services. Queen's and Ulster universities are each leading projects under the Innovation Strand, with BRCD contributing £245m of capital (facilities and equipment) funding across the Innovation programme.

The example of BRCD also demonstrates an example of how universities with partners have demonstrated their commitment to civic leadership and driving inclusive growth and impact in NI.

In support of economic growth, the Digital Investments in the Belfast Region City Deal is focusing on a number of approaches:

### **Infrastructure to enable digital innovation**

In an analysis that is supported by the UK Government's own Future Telecoms Infrastructure Review, BRCD partners are placing great importance on the roll-out of advanced wireless networks as a key general purpose technology that will underpin the future success of an innovation-led economy.

BRCD is planning to invest £39m to support the deployment of such infrastructure. This investment is based on the premise that while investment in fibre is expected to reach sufficient levels in the next few years, investment in advanced wireless networks will lag considerably— potentially undermining the region's growth ambition for key sectors and our universities' research ambitions.

Wireless connectivity (4G, 5G, mm Wave, 6G, etc) is expected to be the enabling infrastructure for the modern economy (connected health, advanced manufacturing, screen and media, agri-food, etc).

In addition to the proposed investment, work is required to foster a more supportive environment for wireless investment. Partners would welcome much more proactive support from DCMS and the national Digital Catapults in relation to engagement with the Mobile Network Operators; to encourage funding in the region for wireless trials and pilots. And to work with regional and city partners to develop a more supportive regulatory, planning and asset management environment for the deployment of wireless networks.

### **The use of challenge funding to encourage collaborative innovation.**

Belfast Region City Deal partners are developing new funding programmes to support innovative businesses across in targeted cluster areas of strength as well as a £20m Innovation for Societal Impact fund to encourage collaboration between SMEs, enterprises, universities, and government.

### **5. Steps that business can take to invest effectively in Northern Ireland**

ICB fully support any steps which makes Northern Ireland a more attractive place for targeted and strategic investment which will increase and expand our innovative capability and attractiveness.

Northern Ireland has ambitious plans to harness innovation to massively increase the region's productivity. This ambition is built upon our universities' rock-solid

history of research excellence, a grassroots tradition of hard work and entrepreneurship, a highly skilled workforce, and a flourishing knowledge economy sector that is punching well above its weight at national levels.

Complemented by NI's sustained success in attracting first class Foreign Direct Investment, ICB is well placed to provide a critical role in the delivery of a regional balanced economy built on innovation. It has a strong track record of effectively commercialising the outputs of its public research base. Pound-for-pound, NI universities have proven themselves more efficient at turning research into economic wealth – whether measured by investor returns, by turnover, or by job creation than most UK peers. This is reflected in our fastest growing companies such as, £bn+ valued Kainos Plc, a NI University spinout. NI's innovation clusters are consistently highlighted as case studies of regional excellence including publication in the UK R&D Roadmap. Belfast is ranked by fDi Intelligence as the only UK city aside from Cambridge to make the top 10 'Tech cities of the Future' for 2020.

## **6. Steps the UK Government can take to encourage investment that addresses the skills gap and increases employment opportunities for people with few or no qualifications**

ICB believe that the UK Government should increase support for a range of interventions to prioritise targeted NI skills base and career pathway progressions including assessment of short-term interventions to rapidly reskill individuals whose careers have been adversely impacted by COVID-19.

Recognising the long-standing socio-economic challenges within the region, we would welcome the establishment of a NI Levelling Up R&D Task Force to provide a greater understanding of regional priorities. For NI to successfully retain and attract highly skilled talent there is a clear need to develop its competitive position in key strategic areas. To achieve this a collaborative cross-government approach will be required to ensure skills provision is informed by and aligned to industry needs and to promote the competitiveness of NI globally, establishing the region as a location of choice for external talent in key areas. The implications with respect to the immigration system post Brexit will compound the challenge in attracting talent to relocate to NI.

Schemes across Wales (e.g. Ser Cymru) have leveraged EU funding to attract, at scale, established and early career researchers. Similarly, Science Foundation Ireland has provided sizeable recruitment and start-up packages to attract and retain global talent into Ireland.

As a starting point, the UKRI Research Leaders scheme could be adapted on a regional basis as part of a levelling up agenda through ring-fenced regional funds. NI Connections has also developed a successful diaspora program, which can be leveraged as platform.

## **7. The potential impact on investment of GB regulatory divergence from NI**

no response

## **8. Steps the UK Government can take to support the decarbonisation of industry in Northern Ireland and stimulate investment in a sustainable economy**

Successful utilisation of the UK Governments decarbonisation strategy, including on jobs and skills, will require the Government working with partners at a regional level. The Government needs to work closely with the NI Executive to understand and unlock the unique barriers to decarbonisation faced by industry in Northern Ireland.

Unlike other parts of the UK, Northern Ireland does not have large industrial clusters. Manufacturing in Northern Ireland spans several dispersed sites across advanced and heavy engineering, life sciences and agri-food sectors.

Unlocking climate finance to help develop and de-risk projects and support industry to meet decarbonisation goals as well as developing new innovative products is critical.

## **9. Delivery of the prosperity agenda of the Good Friday Agreement**

no response

## **10. Relationships between schools and local Universities**

CBI research indicates that the UK's digital skills pipeline is struggling, and this is supported by analysis in a NI context. Career pathways guidance and digital engagement must start at an early stage and significantly more needs to be done within schools in NI to encourage the uptake of STEM subjects and to address diversity imbalances if we are to establish a long-term NI skills pipeline.

## **11. Assessments of the understanding of the importance of education**

The Government should develop a comprehensive and long-term range of programmes and interventions to address systemic issues in STEM imbalance and develop a comprehensive and long-term range of programmes to overcome barriers to inclusive participation of our youth in technology and to inspire the next generation of scientists and entrepreneurs.

School engagement through careers provides a clear opportunity to instil excitement around this vision and inspire a new generation of scientists and entrepreneurs. For this to be effective there is a need to:

- Develop a common message/brand supported by all partners.
- Integrate role models which are relatable to young people connecting to industry.
- Establish clear career pathways into the occupational areas identified, through which young people and their influencers can see the educational journey they need to embark on.
- Engage young people across the education system in new and innovative ways.
- Provide a long term and sustained engagement campaign, beyond the standard approach of one-off events.
- Integrate across the education system, instilling core innovation skills ensuring that young people even if they don't progress into a R&D specific role have still developed a set of core transferrable skills.
- Secure the commitment of the education system and develop the skill base of the teaching community to ensure they are equipped with the skills and knowledge to inform young people.

## **12. Status of technical, vocational education and apprenticeships**

To strengthen NI's skills pipeline there is a need for targeted interventions in key sectors, such as computer science where data indicates that many jobs cannot be filled due to shortages of graduates. Prioritising certain sectors and skills by introducing grant systems is one intervention that may help address supply side deficiencies. However, as skills supply interventions are generally long-term in nature, shorter-term approaches could focus on upskilling aspects of the existing workforce, especially those individuals adversely affected by COVID-19. To promote diversity across R&D roles, potential exists to look at alternative educational pathways beyond the traditional academic route usually associated with these roles. Vocational pathways such as apprenticeships/ higher level apprenticeships create avenues which could be utilised to create alternative pathways.

## **13. Identifying sectors of investment and employment potential**

Talented people are the key ingredient to a successful innovation ecosystem and a number of different initiatives are needed, particularly in light of Brexit and the implications for NI which faces a potential 'brain drain' to the Republic of Ireland. This requires both a focus on creating a strong domestic skills pipeline and attracting talent.

There is a need for better tools and data sources for identifying high potential growth clusters in Northern Ireland. The 10X Economy Ambition proposed that NI should be hyper-focused on those sectors that has the potential to greatly increase productivity and generate jobs. This targeted and sector-based approach will achieve the highest impact.

NI has struggled in the past to provide detailed quantitative analysis of these sectors (and for example their relationship to translational research strengths of our universities). Much of this was due to paucity of local data or the absence of common metrics. Work underway between Belfast City Council's City Innovation Office and Innovation City Belfast to exploit new technologies and techniques to better understand the landscape for cluster growth. The development of an economic monitor for NI with the level and granularity of data to be able to make place-based investment decisions would provide the evidence on an on-going basis to ensure investments and interventions are focussed in the right areas.

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