

Deputy J. Macon
Scrutiny Office, States Greffe
Morier House
St Helier
Jersey, JE1 IDD

24th January 2018

Dear Deputy J. Macon,

Re: Scrutiny panel review of Student Financing Proposal

Digital Jersey welcomes the time and consideration being given by the Education and Home Affairs Scrutiny panel to review the proposed changes to student financing.

From our perspective, and that of our members, the scrutiny panel's review of the proposed changes to student financing clearly shows a willingness to engage with industry. This is a clear priority for Digital Jersey and our members, who believe that in order for Jersey to excel, it is essential for key digital skills to be developed and retained locally. We have taken the opportunity of this consultation process to discuss the issues with our members. The members of Digital Jersey represent a broad cross-section of Jersey's economy, with interests spanning core digital sub-sectors and professional services. These members extend from individuals in The Digital Hub to Jersey's largest digital and related businesses.

As an industry association the feedback provided in our response is positioned to reflect the needs of the business community, many of whom are, in principal, supportive of the proposed changes to student financing. However, our primary concern is with developing, attracting and retaining a digital skilled workforce. The proposed changes in themselves may not serve this objective, and could hamper these efforts if graduates are not convinced to return. We would therefore like to propose a number of additional initiatives to support the development of Jersey's workforce, including: a resourced diaspora engagement program aimed at helping Islanders abroad move back, changes to the course eligibility criteria of student financing to recognise new and emerging training pathways, such as Degree Apprenticeship and boot camp courses, and efforts to foster Jersey's post-secondary provision by making funding available to local training providers and increasing the tuition allowance granted to on-island degree providers.

Executive Summary:

1. Purpose

- a. As the digital sectors industry body, our primary objective is:
 - i. To increase the pipeline of pupils entering post-secondary education in digital subjects
 - ii. To foster a workforce that is resilient, flexible and responsive to the digitalisation of the economy
 - iii. To improve the availability of 'digital talent' in the local workforce, helping to attract inward investment and to retain growing local digital businesses
 - iv. That funding is available to study post-secondary qualification on-island

2. Why do Skills Matter & Age?

- a. Skills are inextricably linked with the growth and development of the digital economy. A strong link can be shown between higher education, higher salary levels and a successful digital sector.
- b. the Innovation Review 2015 concluded that access to the right talent and the skills in the workforce are a major constraining factor for Jersey's innovation performance.
- c. The age at arrival of inward migration is an important element in determining the net tax impact of immigrants. Findings suggest that immigrants who arrive as young adults provide a positive pay-off to the public purse over their life-cycle in most countries. The net tax value of future payments then declines and generally turns negative somewhere between the age of 40 and 45, depending on the country.
- d. Many countries have introduced weighted consideration to age alongside education in their work permit criteria. With a younger profile of inbound migrations comes both a lessened fiscal burden on Government and a pipeline of skilled graduates to feed productivity led growth.

3. Profile of Jersey's Digital Skills

- a. Research undertaken by the Marchmont Observatory uncovered the current pipeline of digital skills. The principal findings from this work are:
 - i. The number of students pursuing digital qualifications at all levels is insufficient to meet the island's needs
 - ii. Education provision at GCSE/key stage 4 is insufficient and inconsistent, A level/Level 3 provision is satisfactory
 - iii. The provision of post-secondary opportunities for retraining and upskilling is extremely insufficient
 - iv. Industry demand for digital skills exceeds supply significantly
 - v. There is a strong tendency to expand abroad or to relocate once a digital business grows to about twenty staff
 - vi. The most common response to recruitment difficulties is to reduce the job specification. This suggests that businesses are operating with skills levels below the optimum
- b. As part of the study, the research team spoke with 18 industry leaders, representing 40% of industry employment. Without exception, all spoke of the challenges they faced in recruiting locally; *"We wanted to recruit and advertised simultaneously in Jersey and Sussex for someone with 5+ years' experience. In Jersey, we had 1 applicant in 6 weeks and he had no relevant skills. In Sussex, we had 25 applicants and I could pretty much have recruited any of them. We will open an office there at some point."*

4. Recommendations

Graduate Retention Incentives

- a. Digital Jersey recommends that Government works with industry and third sector organisations to create a 'Diaspora Policy'. The policy framework should outline key performance indicators in relation to returnee graduates and industry-learner connectivity.
- b. Efforts should be made to explore in detail the use of fiscal incentives, similar to those in Malaysia and elsewhere, to attract the islands highly skilled diaspora back.
- c. Government should commit resources to monitoring labour market movement, and in particular to harness Student Finance data to set reasonable targets for graduate retention. The effectiveness of a diaspora policy would depend on a complete understanding of the number of high-skilled islanders living and working abroad.

Pragmatic approach to funding

- d. Digital Jersey recommends that the criteria determining eligibility for student finance is amended to reflect changing circumstances. In particular, Digital Jersey recommends the following changes:
 - i. Financial assistance for 'Undergraduates' is made available to students enrolled on 'Degree Apprenticeships' with local employers.
 - ii. That Student Finance works with Digital Jersey and industry to identify and recognise accredited and non-accredited courses delivered online (Distance Learning) that would meet employee needs and should thus be eligible for 'distance learning' funding.
 - iii. That the eligibility for 'Skills Bursaries' are broadened to accept applicants up to the age of 25 and that Student Finance works with Digital Jersey and Industry to identify off and on-island courses, accredited or non-accredited that should be applicable for 'Skills Bursary's.'
- e. To maximise effectiveness, we recommend that efforts are made to raise the profile and awareness of assistance provided via skills bursaries, distance learning and opportunities to study Degree Apprenticeships.

Foster post-secondary education in Jersey

- f. Student Finance should take steps to proactively foster Jersey's post-secondary education and the role it has in attracting and retaining the islands pipeline of skills. This could be achieved by:
 - i. Working with industry and training providers, both on and off-island to channel resources into education initiatives that will enhance our post-secondary proposition.
 - ii. Steps should be taken to bring complete parity to the maintenance grant available to on-island students compared with that available to students studying off-island.
 - iii. Student Finance should recognise the commercial realities of Jersey's limited scale by increasing the £9,250 maximum tuition allowance granted to degree programmes taught on-island.

The following document looks to elaborate on these points and to answer the specific questions raised in your consultation, where Digital Jersey believes an industry response is most useful.

Kind regards

Tony Moretta
CEO, Digital Jersey

Consultation Response

PURPOSE:

The cost of studying post-secondary education is a sensitive subject which has attracted significant attention from local media and politicians following the significant increase in UK tuitions fees in 2011. However, this attention has overwhelmingly represented the struggles of parents facing the increased financial burden of tuition costs.

As the body responsible for growing the local digital sector, it is not our place to comment on the circumstances of family finances, but rather to represent the island's long-term economic and social needs by emphasising the critical importance of increasing the island's skills base.

As primarily a 'social policy,' the proposed changes to student financing could benefit the island in three ways:

- In further enhancing the social mobility of young islanders
- The social and economic contribution made by those graduates that return to work in Jersey
- And in attracting and retaining young families with children approaching university age

However, from an industry standpoint, greater clarity is sought on the islands economic 'return on investment'. As the digital sectors industry body, our primary objective is:

1. To increase the pipeline of pupils entering post-secondary education in digital subjects
2. To foster a workforce that is resilient, flexible and responsive to the digitalisation of the economy
3. To improve the availability of 'digital talent' in the local workforce, helping to attract inward investment and to retain growing local digital businesses
4. That funding is available to study post-secondary qualification on-island

WHY DO SKILLS & AGE MATTER:

Skills

Skills are inextricably linked with the growth and development of the digital economy. A strong link can be shown between higher education, higher salary levels and a successful digital sector. In the SoJ Strategic Plan 2015-18, the States prioritise action to drive productivity improvements. It acknowledges that "*our home-grown talent must be able to compete with the skills available elsewhere. A focus on improving education outcomes for Jersey's young people has to be a priority.*" Separately, the Innovation Review 2015 concluded that access to the right talent and the skills in the workforce are a major constraining factor for Jersey's innovation performance. The Review states that to tackle this, requires changes relating to both the education system and migration policy.

The SoJ Skills Strategy, 2017-2022 develops this this by recommending action to position Jersey as an international centre of excellence for training in 'Digital', improving vocation pathways to higher level skills, aligning training with priority sectors, and linking employers with learners.

The OECD Employment Outlook reinforces this point in finding that cities with a high concentration of workers with higher education have seen increased productivity and earnings in their Digital Sectors¹. The relationship between innovation and a highly skilled work force is reinforced by research undertaken by the 'Centre for Cities' which found cities with the greatest share of graduates have seen the biggest increase in 'new work' professions e.g. Creative and Digital sector. These same factors have corresponded to the greatest rise in job growth, productivity and average earnings².

This has occurred in the broader context of a polarizing jobs market, with an increase of low and high-skilled jobs and fewer medium-skilled jobs. This trend can partly be attributed to automation, which is beginning to remove the need for many mid-level jobs occupied by the lowest educated³. This trend is further exacerbated by the proliferation of remote working, which is increasingly removing physical barriers to company expansion and in doing so fuelling the success of towns and cities with a high skills profile.

According, if Jersey is to take advantage of opportunities to boost the growth of niche sectors with potential to grow such as fintech, digital health and IoT, there is a need to develop the skills of the workforce.

Age

¹ OECD Employment Outlook. Paris: OECD, 2012. Web. 12 Apr. 2017. Labour Losing to Capital: What Explains the Declining Labour Share?

² Small Business Outlook 2015. London: Center for Cities, 2015. Web. 4 Nov. 2016.

³ Ibid

The age at arrival of inward migration is an important element in determining the net tax impact of immigrants. Findings suggest that immigrants who arrive as young adults provide a positive pay-off to the public purse over their life-cycle in most countries. The net tax value of future payments then declines and generally turns negative somewhere between the age of 40 and 45, depending on the country.

A strong body of evidence comparing the demographic and educational profile of inward migration in OECD countries found a positive net tax impact from a relatively young migrant population, with the opposite true for countries with older migrant patterns. These findings are deduced by the difference between tax contribution minus related public expenditure for that migrant. This approach is extrapolated over a lifecycle to take account of increased age-related health expenses, education, dependencies and propensity for wage growth, among other factors.

As a response, many countries have introduced weighted consideration to age alongside education in their work permit criteria. With a younger profile of inbound migrations comes both a lessened fiscal burden on Government and a pipeline of skilled graduates to feed productivity led growth.

PROFILE OF JERSEY'S DIGITAL SKILLS

Building on this research, Digital Jersey has worked with the research team at the Marchmont Observatory to uncover the current pipeline of digital skills, inconsistent training opportunities, and industry demand. The principal findings from this work are:

- The number of students pursuing digital qualifications at all levels is insufficient to meet the island's needs
- Education provision at GCSE/key stage 4 is insufficient and inconsistent, A level/Level 3 provision is satisfactory
- The provision of post-secondary opportunities for retraining and upskilling is extremely insufficient
- Industry demand for digital skills exceeds supply significantly
- There is a strong tendency to expand abroad or to relocate once a digital business grows to about twenty staff
- The most common response to recruitment difficulties is to reduce the job specification. This suggests that businesses are operating with skills levels below the optimum

As part of the study, the research team spoke with 18 industry leaders, representing 40% of industry employment. Without exception, all spoke of the challenges they faced in recruiting locally; *"We wanted to recruit and advertised simultaneously in Jersey and Sussex for someone with 5+ years' experience. In Jersey, we had 1 applicant in 6 weeks and he had no relevant skills. In Sussex, we had 25 applicants and I could pretty much have recruited any of them. We will open an office there at some point."*

Employers emphasised that they were not necessarily seeking graduates or postgraduates with a computer science degree but were willing to recruit people with a background in a related discipline from the STEM subjects (Science, Technology, Engineering or Math's) or in the case of web design agencies, an Arts qualification.

The point was made that given the difficulties local firms face, a degree is "a massive bonus". Another employer said that Jersey was different from the UK in that in the UK, they would use a candidate's qualifications to differentiate between applicants but in Jersey the talent pool is so small that they recruit on merit: "Qualifications are a plus, it is the demonstrable application of skills over a 3 to 5-year period that is important. In the UK, there is a broader talent pool to recruit from and there the qualification is a useful measure to differentiate between applicants and so qualifications have a big impact."

These interviews revealed the impact that the islands acute digital skills gap is having on business decisions. For instance, one local business is looking to consolidate its European development operations into a single dev centre with upwards of 80 staff. In spite of being a Jersey business, with a significant local footprint, the business will not consider Jersey as its key considerations are the *"available talent in volume today and access to graduate talent and university R&D capability."*

Current Pipeline of Skills

Figures from the 2011 census show that just 21% of Jersey's working age population are considered highly skilled (e.g. *tertiary education and above*). To put this in perspective, data compiled by 'Eurostat Education' on 330 cities from 17 EU countries found Cambridge to have the highest percentage share of its workforce considered highly skilled at 61.07%. If Jersey were included in the list, it would sit at number 283 (the bottom 15%). This relatively poor standing can partly be attributed to the island's low graduate retention rate, with just 54% of local graduates from both on and off island working in Jersey eight years on from graduation.

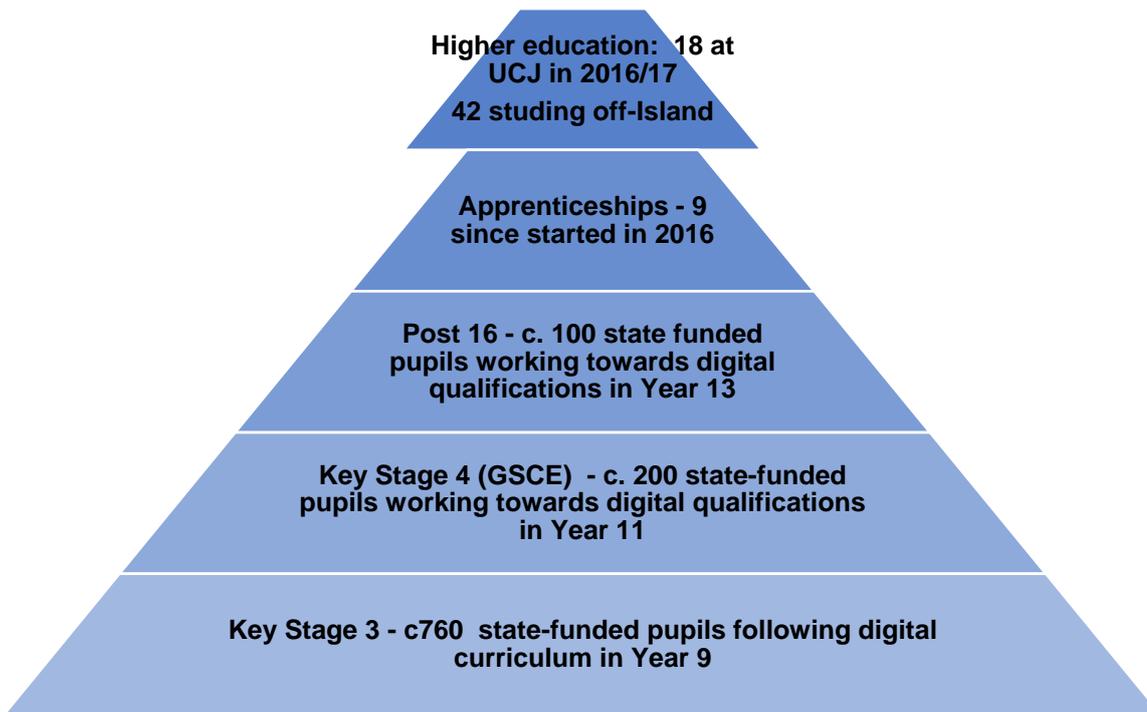
On average 420 local students graduate annually, of these roughly 64% work in Jersey the year of graduation, however this figure steadily declines to 54% eight years on from graduation (figures from SoJ data). Therefore, roughly 195 skilled graduates from every year group do not return to Jersey. Accordingly, in the absence of comprehensive tertiary education opportunities on-island and the inward migration of students typically associated with said opportunities, Jersey has a net-outflow of highly-skilled young people.

When extrapolated over time, this low graduate retention rate contributes significantly to Jersey’s low levels of ‘highly skilled’ workers. This in turn restricts the much-needed pipeline of highly skilled graduates to foster productivity gains in the economy.

Specifically, with regards to digital related higher education courses, differences in the way statistics are published make it difficult to ascertain a complete picture of enrolment. Those that want to continue their education on island can do so at University College Jersey by undertaking a foundation degree which can be topped up to a full degree at Plymouth University. Around 10 students a year have started the foundation year since it started 5 years ago, and UCJ expects 12 students to start the degree level programme when it launches in September 2018.

A small number of students – probably around 10 each year based on data from the Higher Education Statistics Agency (HESA) accessed via the States of Jersey, leave the island to start undergraduate degrees in computing subjects on the UK mainland.

In order to retain some of this talent, local partners are planning degree level digital apprenticeships. KPMG are already in the process of recruiting two degree apprentices for their Jersey office with apprentice’s workings towards a BSc (Hons) in Digital and Technology Solutions delivered by the University of Exeter. Additionally, UCJ are planning to launch a degree apprenticeship in partnership with Plymouth University in September 2018.



This constraint of skills is particularly harmful to the growth of the digital industries as subject specific graduates are essential to enable tech businesses to innovate at the same speed as technology.

Therefore, this evidences that too few local students are graduating abroad and returning to Jersey after their studies, that too few locals are pursuing higher education in digital technology related qualifications, and lastly, that of an under provision of on-island tertiary training.

RECOMMENDATIONS:

In consideration of the challenges outlined above, Digital Jersey recommends that the steps outlined in this response are taken to increase the proportion of graduates that return to Jersey, and to better prepare Student Financing to meet the needs of an evolving training landscape.

Graduate Retention Incentives:

Digital Jersey recommends that Government works with industry and third sector organisations to create a 'Diaspora Policy'. The policy framework should outline key performance indicators in relation to returnee graduates and industry-learner connectivity. As part of this, efforts should be made to explore in detail the use of fiscal incentives, similar to those in Malaysia and elsewhere, to attract the islands highly skilled diaspora back.

The effectiveness of a diaspora policy would depend on a complete understanding of the number of high-skilled islanders living and working abroad. For this reason, Government should commit resources to monitoring labour market movement, and in particular to harness Student Finance data to set reasonable targets for graduate retention.

Government led program to engage with their respective diaspora communities emerged in the late 1990s as a tool aimed at utilizing the human, economic and social capital of migrant populations to reverse perceived 'brain drains' and revitalize levels of investment, skills and development. According to findings by the World Bank, these policies are particularly valuable to island economies where emigration has traditionally been an obstacle to development.

For Jersey to maximize its return on investment from student financing, it is critical that efforts are made to engage with those islanders who do study post-secondary education off-island, ultimately working to convince those islanders to return to Jersey. To achieve this, it is important to understand the underlying which determine their decisions.

One of the most widely utilized models to explain this decision-making process is a series of 'push-pull' factors that influence students' decisions. Push factors are characteristics of the home country that compel a student to study abroad, particularly economic or social factors that limit educational opportunity. Pull factors refer to perceived benefits of the destination country or institution and include personal recommendations, cost, the overall environment, geographic proximity, and social links. Reverse pull factors, such as family links and economic incentives can limit the effectiveness of these push-pull factors.

Given the real and perceived economic benefits of those with higher education, particularly in STEM fields, many countries have incentives aimed at retaining the brightest students as well as convincing their highly skilled diaspora to return home.

Listed below are three case studies detailing the proactive approach taken by authorities elsewhere to engage with their respective diaspora.

Taiwan – Attracting Returnees

Taiwan experienced a major brain drain in the 1970s-1980s but has managed to encourage emigrants from Silicon Valley to build a thriving electronics and technology industry. Some of this success can be attributed to strong economic growth and relative political stability. But three policies contributed to the success: actively networking with the Taiwanese diaspora so as to promote its return; subsidizing vocational rather than advanced education so that returnees would find a ready labor force; and the creation of science parks that replicated the Silicon Valley environment and lifestyle that the returnees were used to.

Ireland – Global Irish Campaign

Launched in 2015, 'Global Irish' is the public front of a diaspora policy which acknowledges the importance of the Irish abroad to its economy. In recognition of this value, the Government has appointed a Minister for Diaspora Affairs within the Department for Foreign Affairs. The Minister is responsible for overseeing the online 'Global Irish Hub' that provides information on Irish organisations and networks overseas. Crucially, the website provides information on returning to Ireland, with details on job and training opportunities, housing, education, and how to set up a business.

'Global Irish' holds an annual economic forum which effectively promotes the nation as a place to visit, invest and live.

Malaysian – Returning Expert Program (REP)

The REP program offers a 15% income tax rate for five years and a tax exemption on the importing of up to two cars. The main eligibility criteria for the program is whether the applicant has sufficient employment experience. Research from the World Bank shows that the program attracted applicants from the top end of the skills distribution. Approximately three quarters of those who returned through the scheme were in the top 1% of the Malaysian income distribution. The program is large too, with the annual application rate for REP at around 25% of the annual out flow migration from Malaysia.

The study estimates an 11%-point increase in the return probability of all REP applications regardless of whether they have a pre-existing job offer or not. These findings were consistent with a 2014 analysis of a similar program created in Denmark to attract high skilled foreigners.

The fiscal benefit occurs because individuals return to Malaysia, invest in the economy and pay income and consumption taxes. The analysis suggests a small benefit of around \$1,700 per applicant. The program is thus relatively cost-effective.

PRAGMATIC APPROACH TO FUNDING

Digital Jersey recommends that the criteria determining eligibility for student finance is amended to reflect changing circumstances. In particular, Digital Jersey recommends the following changes:

- Financial assistance for 'Undergraduates' is made available to students enrolled on 'Degree Apprenticeships' with local employers.
- That Student Finance works with Digital Jersey and industry to identify and recognise accredited and non-accredited courses delivered online (Distance Learning) that would meet employee needs and should thus be eligible for 'distance learning' funding.
- That the eligibility for 'Skills Bursaries' are broadened to accept applicants up to the age of 25 and that Student Finance works with Digital Jersey and Industry to identify off and on-island courses, accredited or non-accredited that should be applicable for 'Skills Bursary's.'

To maximise effectiveness, we recommend that efforts are made to raise the profile and awareness of assistance provided via skills bursaries, distance learning and opportunities to study Degree Apprenticeships.

Career progression in the 20th century was typically characterised by regulated professions that required 'professional degrees'. These occupations include law, architecture, dentistry and many more. However, unlike traditional occupations, professions in the emerging digital sector are neither regulated, nor require standardised qualifications.

On the contrary, the traditional approach to training the next generation of digital leaders has come under considerable criticism for teaching an outdated curriculum which inadequately prepares students for work in the digital industries. These sentiments were reflected in our own conversations with local industry where a strong preference was given to 'skills' and 'enthusiasm' over 'qualifications'.

Together, the rapid emergence of the digital sector, along with an acute skills shortage and lagging HE pathway, has led to the proliferation of industry-led post-secondary courses around the world. Listed below are three case studies of new learning approaches:

The General Assembly

General Assembly began in early 2011 as a co-working space, having since evolved into a private school. General Assembly focuses on offering short courses, online classes (including overnight courses and free short online courses), and immersive 10-12 week 'boot-camp' style courses in computer programming, data science, and project management, with an emphasis on web development and user experience design. Approximately 20% of its courses are offered through companies to their employees.

As of September 2016, General Assembly has 15 campus locations on 4 continents. General Assembly is not accredited but has been approved by the [California Bureau for Private Postsecondary Education](#). They have also begun the process to become accredited, working with partner corporations such as GE, PayPal, Adobe, IBM, and many others to review such criteria to measure skills and competency in each program offered.

42

42 is a private, non-profit and tuition-free [computer programming](#) school. The school was first opened in Paris in 2013. Out of more than 80,000 candidates in France, 3,000 were selected to complete a four-week intensive computer programming boot camp called *piscine*.

The school does not have any professors, does not issue any diploma or degree, and is open 24/7. The training is inspired by new modern ways to teach which include [peer-to-peer](#) project-based learning. The School has been endorsed by many high-profile people including the CEO of Snapchat, CEO of Periscope, CEO of Slack, and CEO of Airbnb among others.

Digital Degree Apprenticeships

Degree Apprenticeships are training schemes designed to help employees tailor graduate-level candidates to their business needs through on-the-job and academic training. The qualifications are taught at 9 Universities in England and enable students to obtain a fully integrated honours degree in computer science related disciplines, alongside jobs training. Students receive a salary and fees are jointly funded by Government.

The qualifications are a government backed collaboration between the Tech Partnership, the leading U.K. Trade body for the digital sector, and leading higher education institutions. Presently the Tech Partnership is the accrediting body for 'Digital & Technology Solutions BSc (Hons)' degree apprenticeship courses.

FOSTERING POST SECONDARY EDUCATION IN JERSEY

Building on these recommendations, we urge Government to consider the broader setting in which Student Finance operates, harnessing its position and resources to support the island's wider economic objectives.

To this end, Digital Jersey recommends that Student Finance takes steps to proactively foster Jersey's post-secondary education and the role it has in attracting and retaining the islands pipeline of skills. This could be achieved by:

- Working with industry and training providers, both on and off-island to channel resources into education initiatives that will enhance our post-secondary proposition.
- Steps should be taken to bring complete parity to the maintenance grant available to on-island students compared with that available to students studying off-island.
- Student Finance should increase the maximum tuition allowance granted to degree programmes taught on-island, currently set at £9,250, which would recognise the commercial realities of Jersey's limited scale.

In working with industry to adopt a diaspora engagement strategy, underpinned by changes to the eligibility of student financing and a renewed focus on developing the islands post-secondary proposition, Government will have unified its approach to attracting and retaining the island's talent pipeline.

Together, the recommendations outlined in this paper will enhance the island's 'reverse pull factors' by fostering post-secondary education on-island, supporting the island's economic needs and creating an attractive proposition for inward investment.

END