

NI DIGITAL ECONOMY: TAKING STOCK, LOOKING AHEAD

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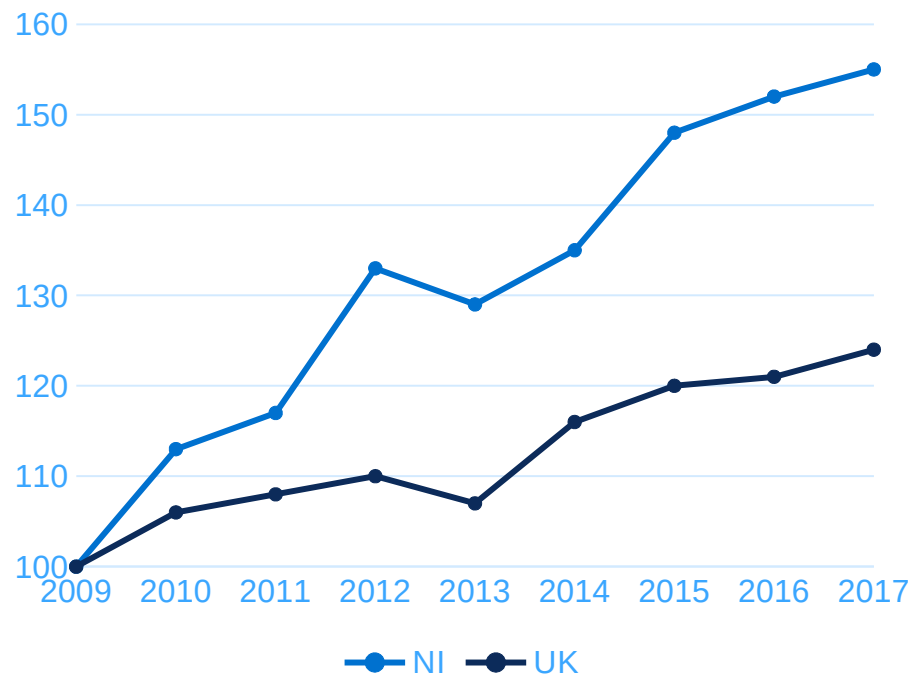
OVERARCHING CLAIM

“The digital economy has been successful in Northern Ireland, but a number of barriers are hindering growth.”

£3.2bn

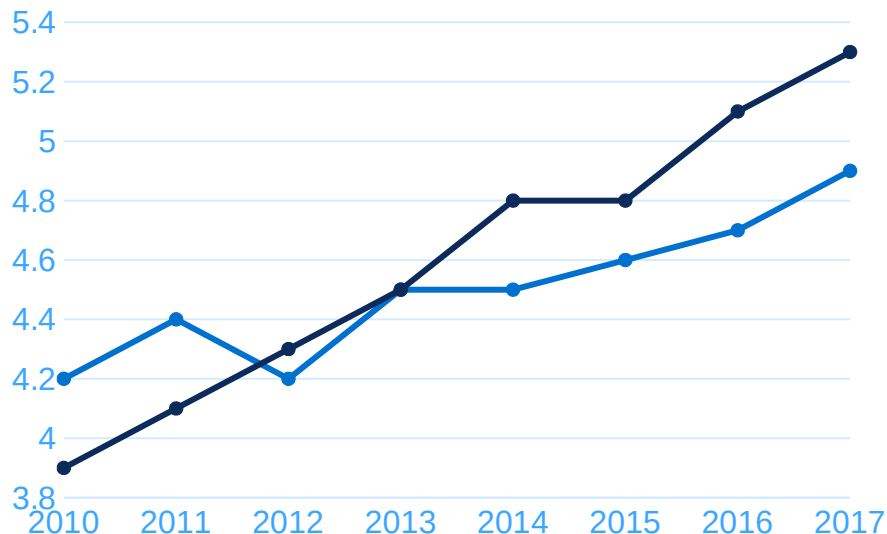
generated through direct, indirect and induced (*spillovers*) in GVA. It now generates over 8% of NI total GVA.

Digital Economy Index



JOBS GENERATED BY DIGITAL ECONOMY

Composition of workforce



45,541

workers currently employed in the digital economy.

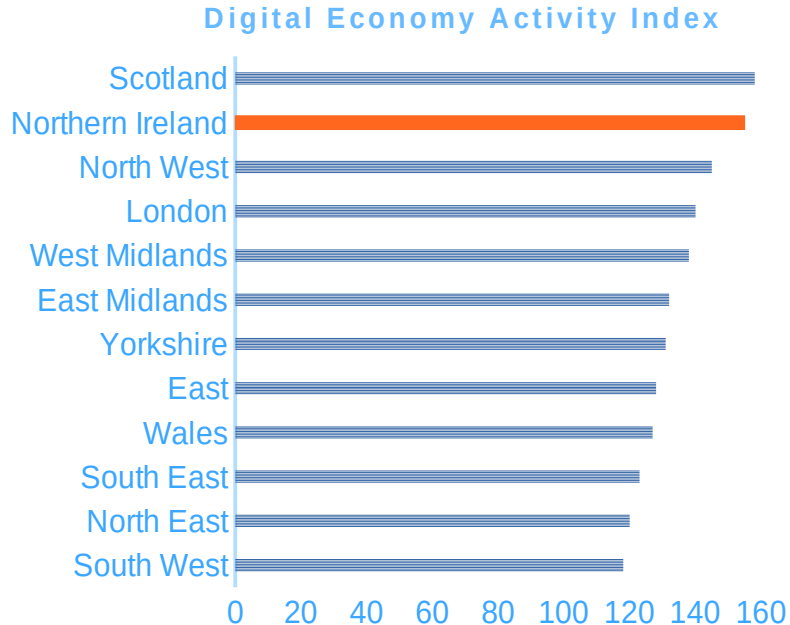
79,000

direct, indirect and induced jobs in 2017, accounting for 8.5% of total NI employment.

~1.73

One of the largest multipliers in the Northern Irish economy.

SUCCESS OF THE DIGITAL ECONOMY

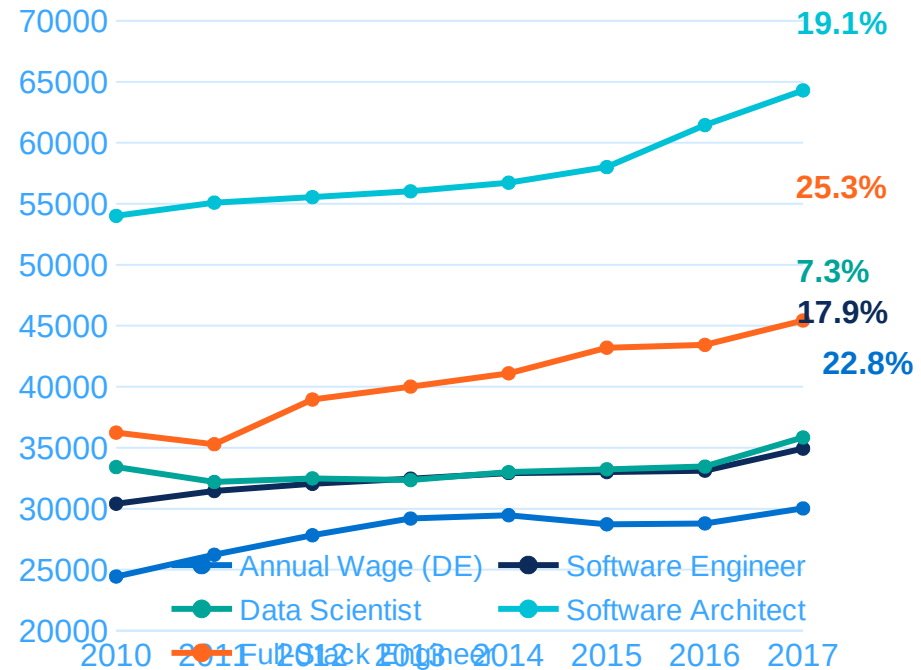


- NI has been the second fastest growing region in terms of Knowledge Economy activity, second only to Scotland.
- However:
 - It is starting from a relatively low base.
 - There are a number of indicators that show the environment is unstable.

SKILLS: RISING WAGE COSTS

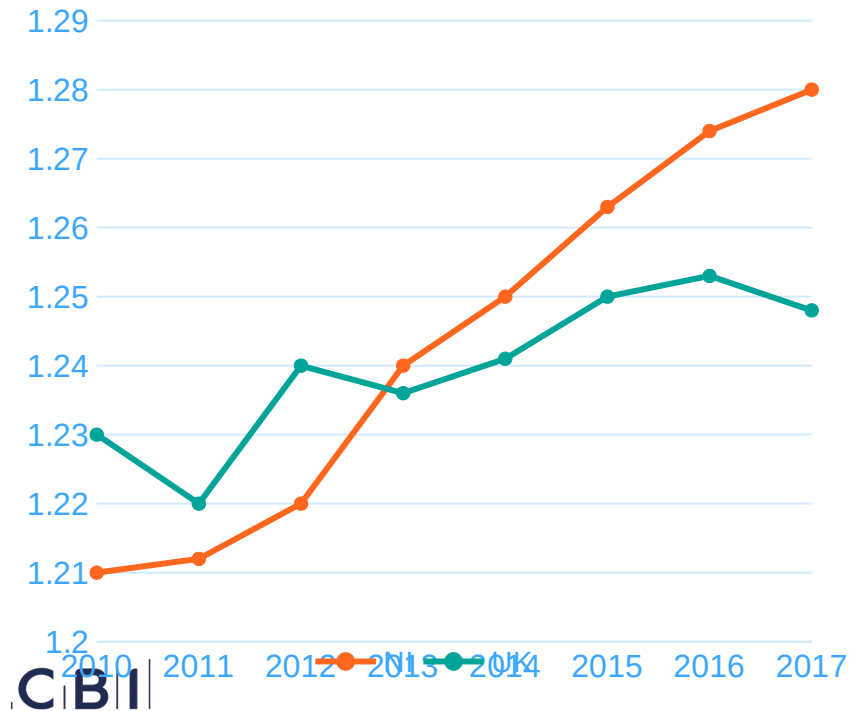
- Overall, average wage in private sector in Northern Ireland: **£22,717**.
- Is **25%** lower than in Public sector.
- On average, wages in the knowledge economy have increased by **22.8%**, now average over **£30,000**.
- **“Average”**: The digital economy is comprised of SIC codes, as opposed to SOC. Requires parsing out of specific roles.

Annual full-time salaries

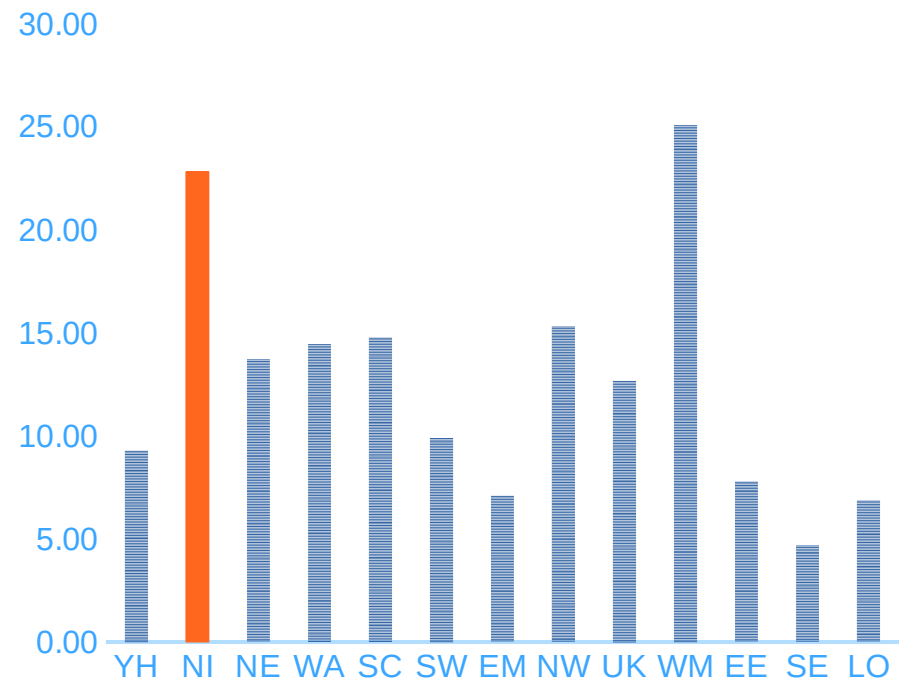


SKILLS: THE PACE OF WAGE INFLATION

(technical roles / average salary) ratio



Annual wage changes (2010 – 2017)



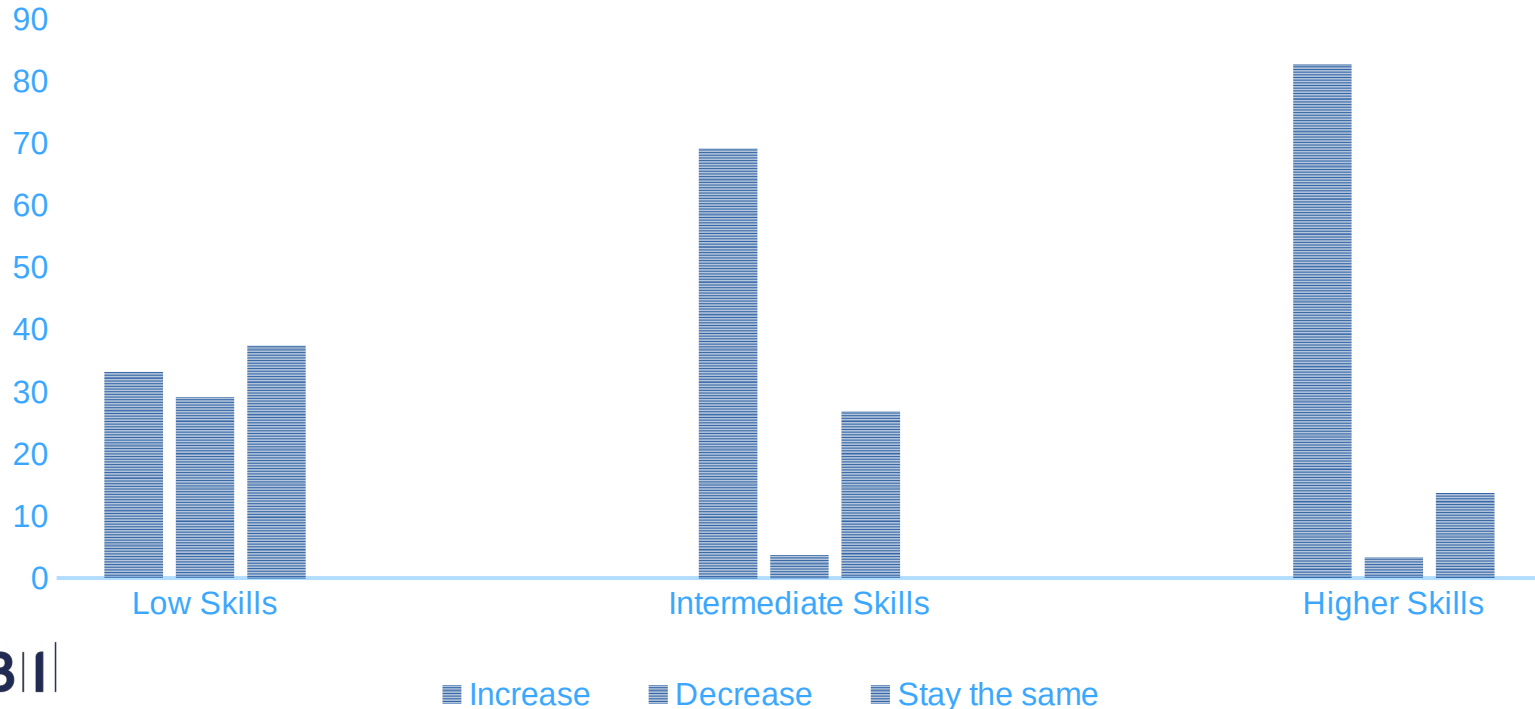
SKILLS: DEMAND ALREADY OUTSTRIPPING SUPPLY

Rank	Subject area	Vacancies	Skills barometer
1	Computer science	2895	Under-supplied
2	Engineering	1589	Under-supplied
3	Mathematics	1301	Under-supplied
4	Computer software engineering	640	Under-supplied
5	Business administration	545	Over-supplied
6	Electrical engineering	504	Under-supplied
7	Statistics	484	Broadly in balance
8	Physics	430	Under-supplied
9	Computer engineering	234	Under-supplied
10	Economics	154	Over-supplied

- Top 10 disciplines sought by technology / AI employers.
- Many are under-supplied.
- Supporting apprenticeships could be mechanism to resolve this issue, but Apprenticeship Levy in NI causes a problem.

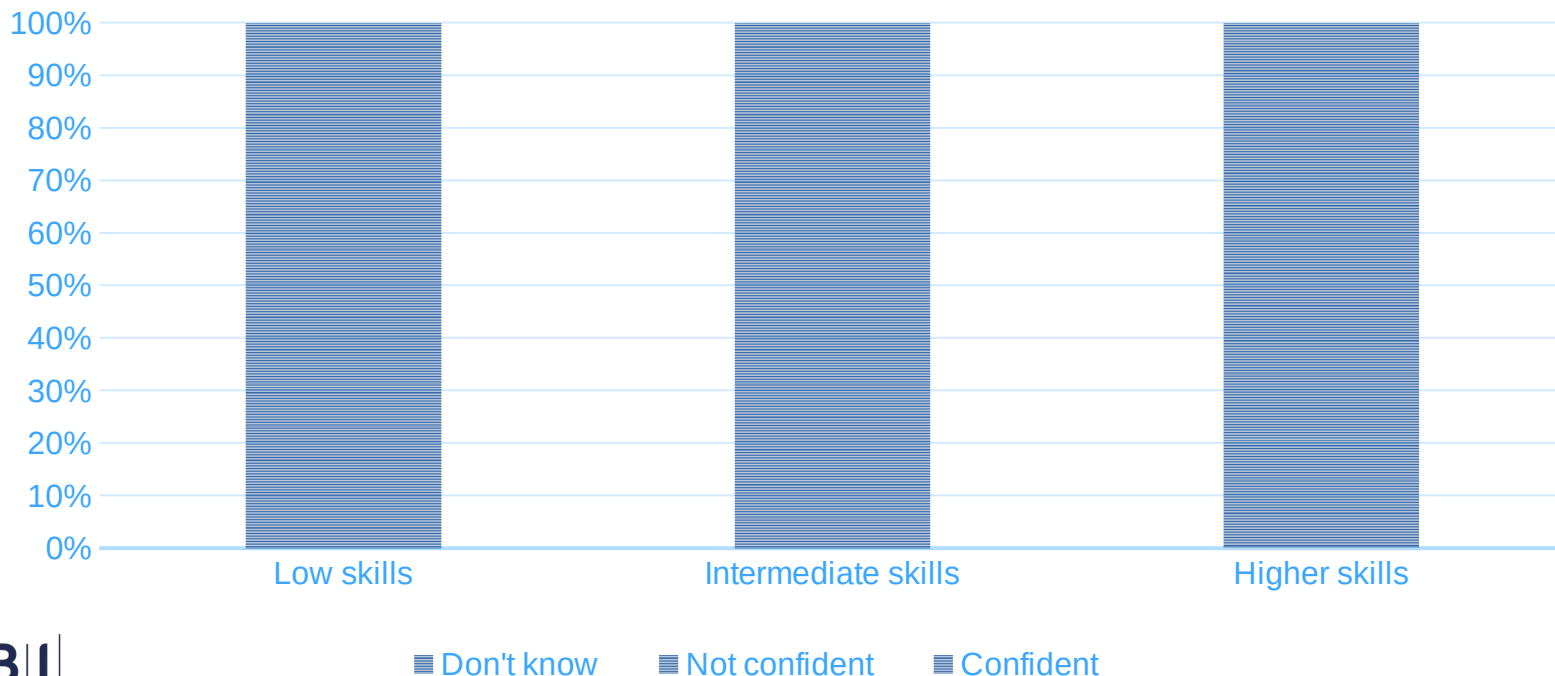
SKILLS: THE NEED FOR SKILLS IS INCREASING

How will your organisation's need for individuals at different skills levels change over the next 3-5 years?

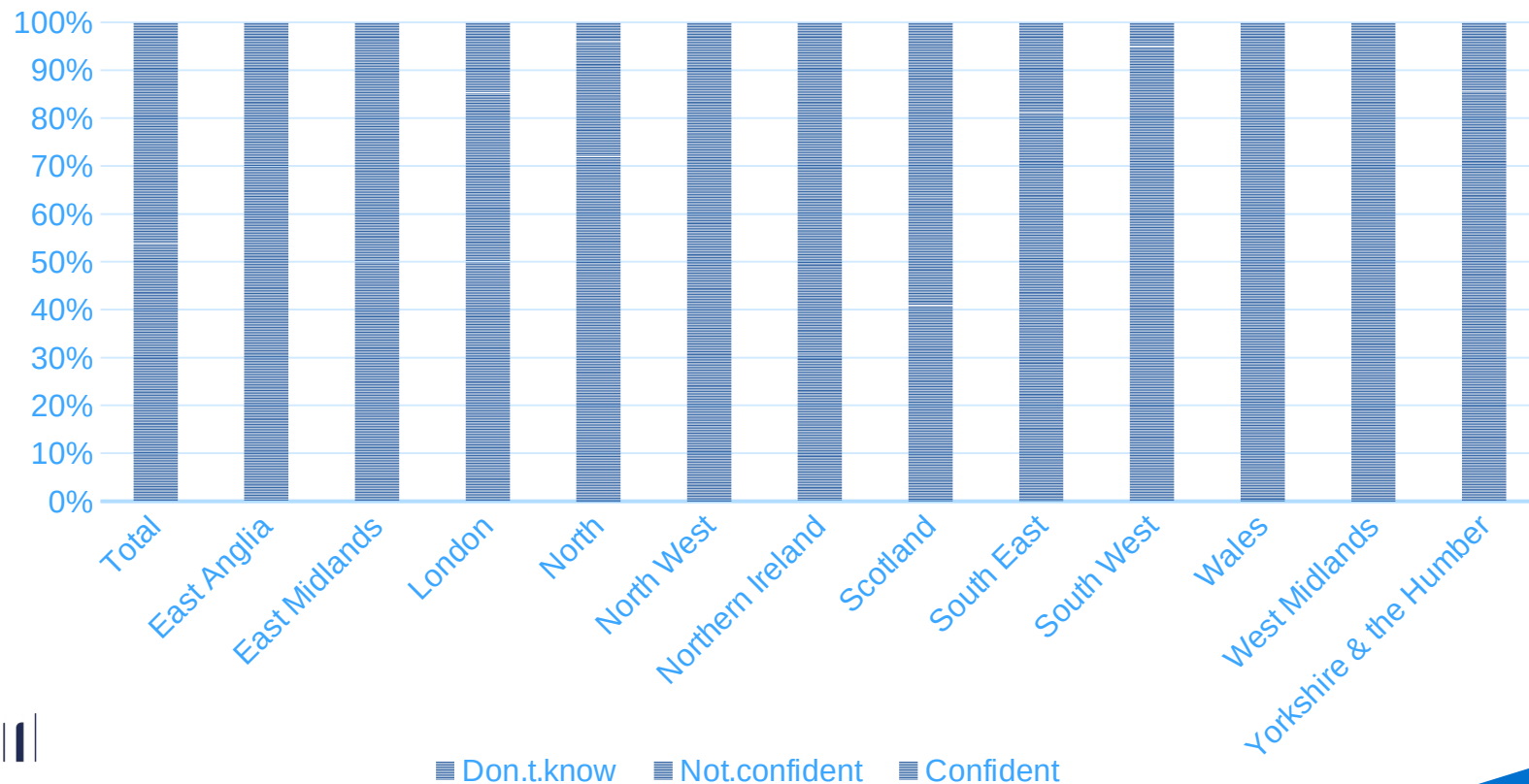


SKILLS: CONFIDENCE OVER THE FUTURE SUPPLY

How confident are you that there will be sufficient people available in the future to meet your organisation's skills needs?



SKILLS: UK-WIDE CONFIDENCE



SKILLS: WHAT YOUNG PEOPLE WANT TO BE...

51/49

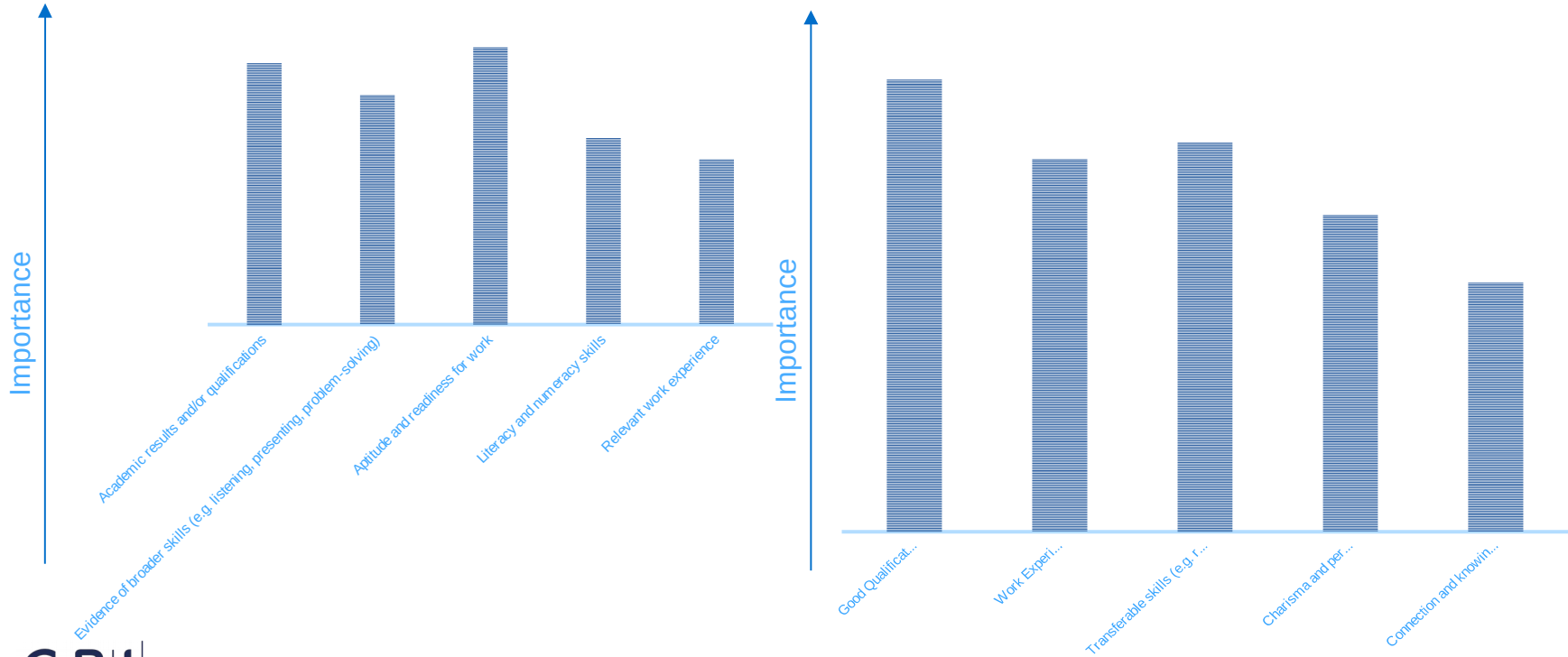
51% of young people know what career they want
49% are undecided

Physiotherapist Software Developer Sports Classroom Assistant Lawyer
Graphic Designer Midwife Photographer Therapist Pilot
Architect Journalist Teacher Manager Engineer
Plumber Nurse Game Designer Programmer Social Worker
Technician Police Officer Psychologist Business Woman Mechanic
Scientist

Top 10 careers

1. Engineer
2. Teacher
3. Nurse
4. Architect
5. Programmer
6. Technician
7. Midwife
8. Psychologist
9. Lawyer
10. Therapist


SKILLS: WHAT FIRMS ARE LOOKING FOR...








SKILLS: FIRMS ARE CLEAR ABOUT SCHOOL PRIORITIES

Which of the following should be the priority area for action in schools?

Primary Schools

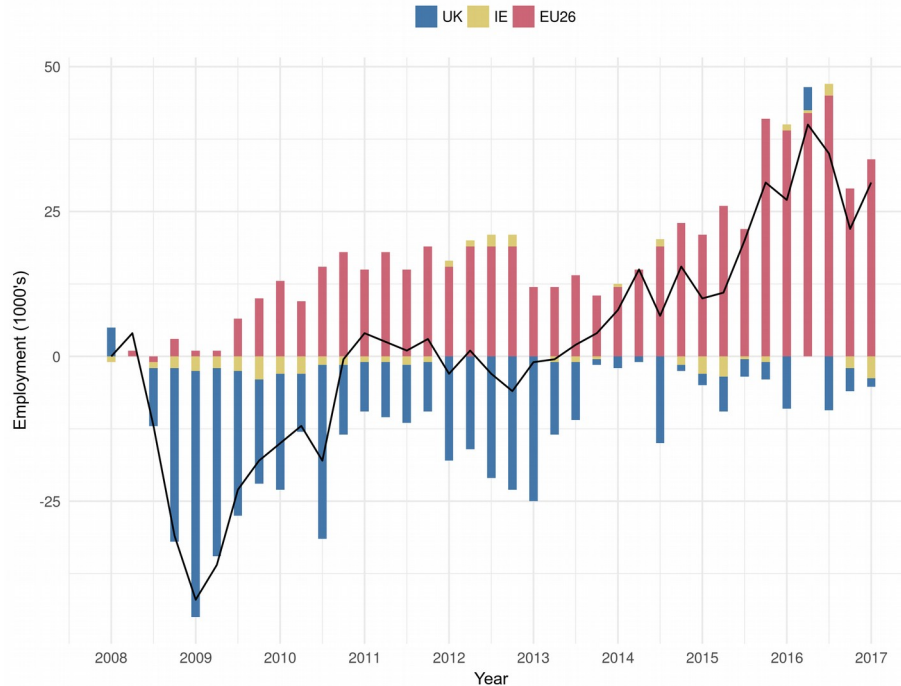
- 
1. Promoting STEM Subjects
 2. Broader Skills (listening, creativity, teamwork)
 3. Awareness of career options
 4. Foreign language learning
 5. Promoting humanities subjects

Secondary Schools

- 
- 
- 
- 
- 
1. Promoting STEM Subjects
 2. Awareness of career options
 3. Broader Skills (listening, creativity, teamwork)
 4. Foreign language learning
 5. Promoting humanities subjects

SKILLS: MIGRATION

Change in employment by country of birth, Northern Ireland, 2008-2017

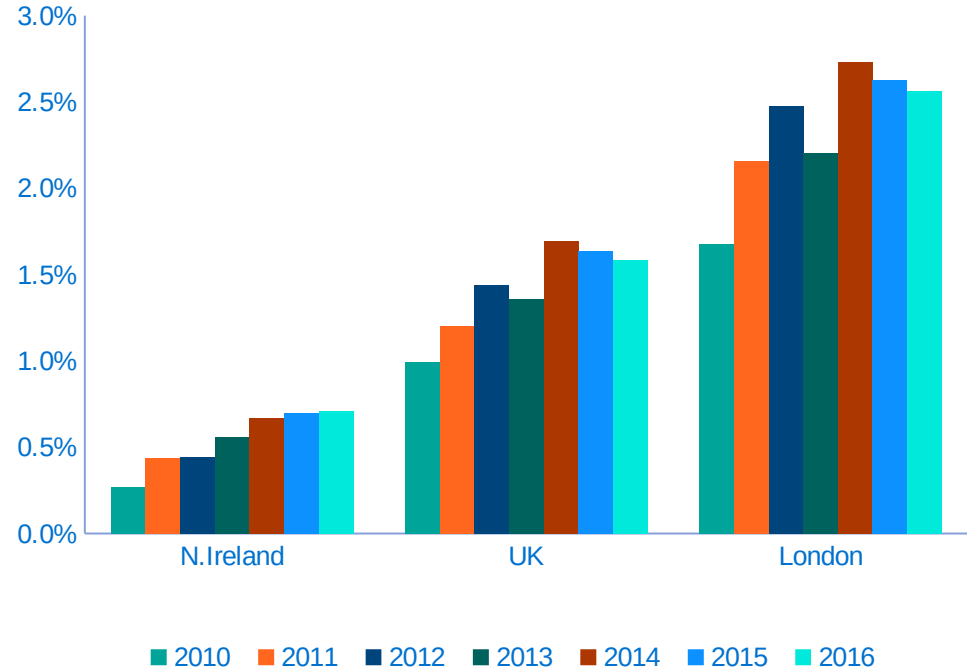


- Northern Ireland is increasingly dependent on supply of migrant labour
- Fills skills gaps at all levels of operational complexity
- Technology sector in NI is exposed to the proposed threshold of £30,000.

FISCAL: START-UP BLOCKERS

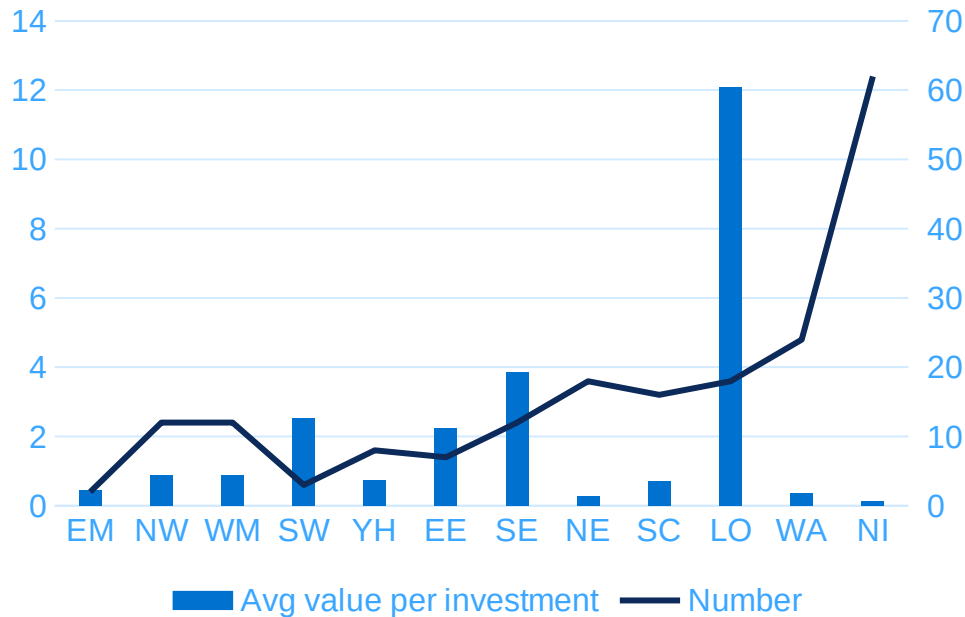
- NI has nearly doubled the number of digital start-ups since 2010.
- Still remains a low % relative the rest of the UK.
- Start-ups have noted:
 - Lack of finance
 - Access to markets
 - Business ratesas the main barriers to growth.

Tech start-ups (% of enterprises)



FISCAL: PRIVATE EQUITY & VENTURE CAPITAL

Amount and value of venture capital



- The number of private equity and venture capital investments to firms in NI has continued to increase over the last decade.
- However, the value of each investment has diluted.
- In terms of the number of enterprises, NI has the highest number of investments but the lowest value.

INFRASTRUCTURE: DIGITAL & PHYSICAL

City Deal

- £350 million available for development of the Belfast City Region
- Looking for £500+ million of private funding
- Momentum to engage with tech firms
- Employing a Digital Officer

Stratum

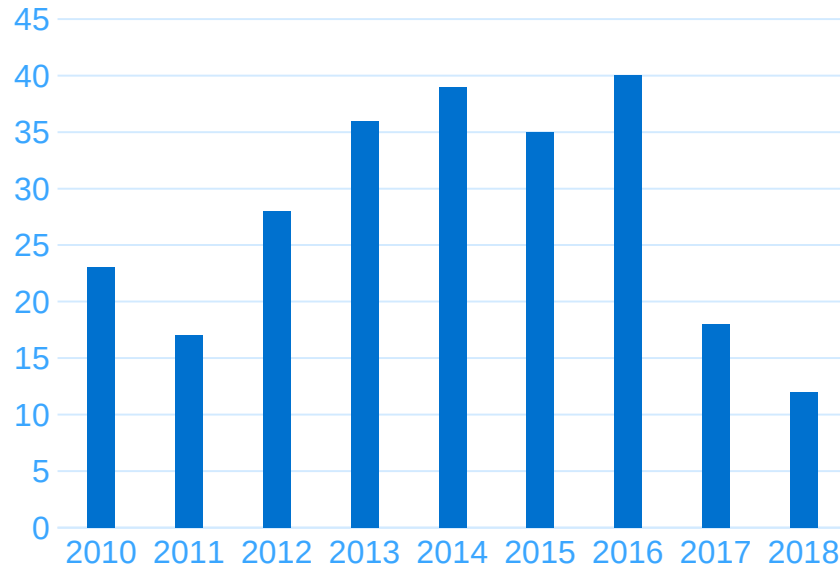
- Only 88% of premises in NI have access to at least superfast services
- Falls short of the 95% target set by UK Government
- Up to £200m of funding could be made available

Belfast/Ireland

- Translink have proposed better connecting Dublin & Belfast Enterprise
- Reduces time & increases frequency
- Makes journey 'commutable'
- Could provide access to workforce.

FDI: COMPLEMENTED WITH ECONOMY

Number of FDI projects



- FDI increases employment
- Employees hired by foreign companies tend to have a higher GVA, but the calculation is skewed.
- Smaller economies are more exposed and prone to capital flight.
- Investment must be made in the wider digital economy alongside FDI
 - Develop a *virtuous cycle*

OTHER CONCERNS

- Lack of Executive
- Impact of Brexit on:
 - Future labour supply
 - Cross-border cooperation
 - Capital flows
 - Free flow of data
 - Digital Single Market
- The Future of Work

OPPORTUNITIES

- Review of the 14 – 19 curriculum
- Permanent Secretaries given more decision-making power
- Region City Deals
- Success of Ireland
- Focus FDI on specific target areas for growth (e.g. AI clusters)
- Facilitate knowledge spill-over

THE CBI NI DIGITAL FORUM

- The CBI NI Digital Forum has been established to:
 - Develop policy for Northern Ireland's Digital Economy;
 - Inform organizations of developments within the economic environment for digital skills & investment; and
 - Convening companies and educational organisations with policy-makers and government officials.
- Builds on recommendations and work conducted by MATRIX NI.
- Output will take the form of policy recommendations to help construct a Digital Strategy.

Any questions?