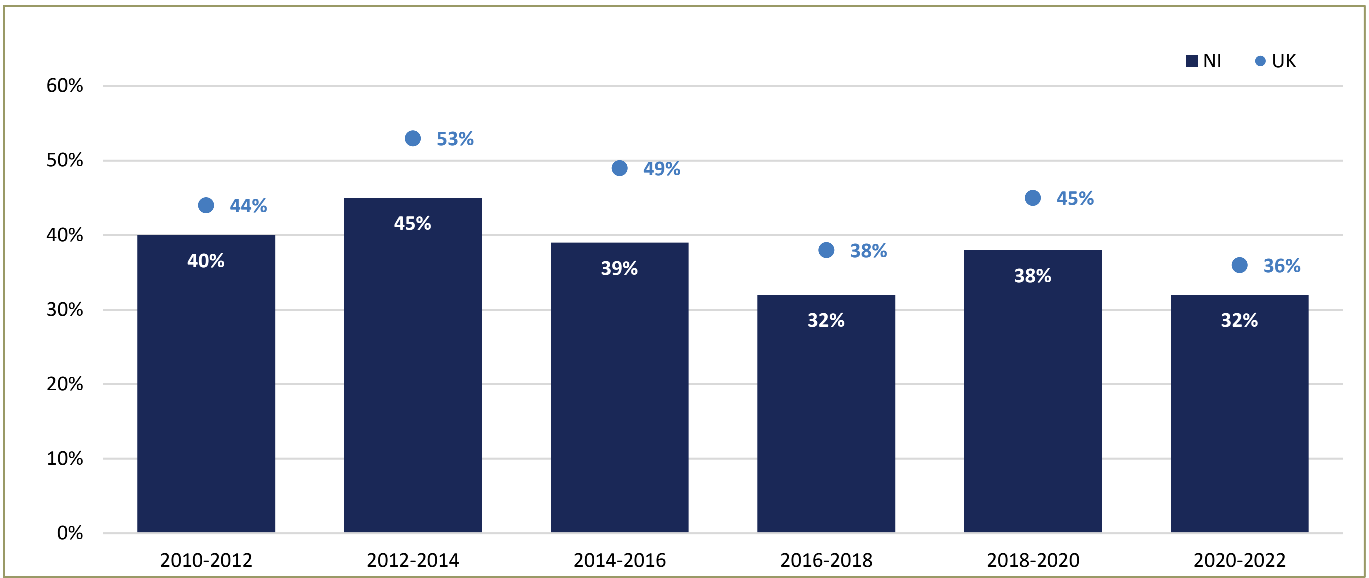
Statistical bulletin

Business Innovation Activity in Northern Ireland

NI statistics from the UK Innovation Survey (2023), covering the period 2020-2022

Innovation activity in NI has decreased by 6 percentage points (pps) since 2018-2020; just under one-third of businesses engaged in innovation during 2020-2022.

Chart 1: Percentage of businesses engaging in innovation activity, 2010-2012 – 2020-2022



% of innovation active businesses	% of innovation active large businesses (250+ employees)	% of innovation active SME businesses (10-249 employees)	% of process driven innovation active businesses
32%	45%	32%	27%
UK 36%	UK 49%	UK 36%	UK 29%
2020-2022	2020-2022	2020-2022	2020-2022

This statistical bulletin reports on innovation activity in NI businesses (with 10 or more employees) in 2020-2022 using results from the UK Innovation Survey. The results show that the percentage of innovation active businesses in NI has decreased during the period 2020-2022 compared to the period 2018-2020, with just under one-third of businesses (32%) engaging in innovation in 2020-2022 compared to just under two-fifths (38%) of businesses in the previous period. The rate of innovation activity was lower in NI than in the UK overall, where 36% of UK businesses were innovation active in 2020-2022.

Across the UK, the percentage of innovation active businesses ranged from 31% in Wales to 40% in the South East of England. There has been a reported decrease in innovation activity across all regions of the UK between 2018-2020 and 2020-2022.

As is the case across the UK, a higher proportion of large businesses (with more than 250 employees) in NI were innovation active (45%) than small and medium businesses (10-249 employees, 32%).

In 2020-2022, 27% of NI businesses reported engaging in process driven innovation activities (see definition on page 3), compared with 29% in the UK overall.

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Introduction

Defining Innovation

The UK definition of innovation is based on an Organisation for Economic Co-operation and Development (OECD) definition adopted by Eurostat. This definition includes any of the four activities below, if they occurred during the survey period:

1. Introduction of a new or significantly improved product (good or service) or process.
2. Engagement in innovation projects not yet complete, scaled back, or abandoned.
3. New and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies. ‘***Wider Process Driven Innovation***’
4. Investment activities in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.

‘Innovation Active’

‘Broader Innovator’

For the purpose of the UK innovation survey and in line with the European-wide Community innovation survey, a business that had engaged in ***any*** of the activities described in points 1 to 3 is defined as ‘innovation active’. A business that had engaged in ***any*** of the activities described in points 1 to 4 above is defined as a ‘broader innovator’. A business that had engaged in the activities described in point 3 were classed as a ‘wider process driven innovators’.

About the UK Innovation Survey (UKIS)

The survey (UKIS 2023) is the UK contribution to the thirteenth Europe-wide Community Innovation Survey (CIS). The survey focusses on business adoption of innovation through new and improved products and services, investments in different types of innovation, and changes in business structures, management, design, and marketing innovations. The survey also asks businesses about the drivers which motivate innovation and barriers to innovation.

The sample selection was conducted by the Office for National Statistics (ONS) and followed the same sampling methodology as the previous surveys. A sample boost of 1,000 businesses was made for NI to bring the NI sample to 2,385 enterprises in NI. Further details of the methodology are available on page 11.

UKIS 2023 (covering innovation activity in the three-year period from 2020 to 2022) sampled 32,273 UK businesses (2,385 NI businesses) with **ten or more employees**. The survey was voluntary and was conducted primarily through an electronic questionnaire. Businesses that did not complete an electronic response were contacted for a telephone interview. A response was received from 14,570 businesses across the UK, 1,075 of which were NI businesses (which equated to a response rate of 45% in NI).

About this bulletin

This bulletin focusses on the Northern Ireland responses to UKIS 2023. The period covering 2008-10 was the first survey data collected using a sample based on the Standard Industrial Classification 2007 (SIC 2007). This created a break in the time series, so comparisons to surveys prior to this are not included in this bulletin.

This bulletin presents weighted data, in order to be representative of the business population. The responses were weighted to the total business population, using information from the Inter-Departmental Business Register (IDBR).

The main UK report (and accompanying statistical annex), which includes some regional analysis, is produced by the Department for Business and Trade (DBT) and was published on 9th May 2024. Data are made available to NISRA following the publication of the DBT report to enable the production of this NI bulletin.

The statistics in this bulletin are used by a broad range of users with an interest in assessing and reporting on business activity within the NI economy, such as economists in the public and private sector, academics, media and the general public.

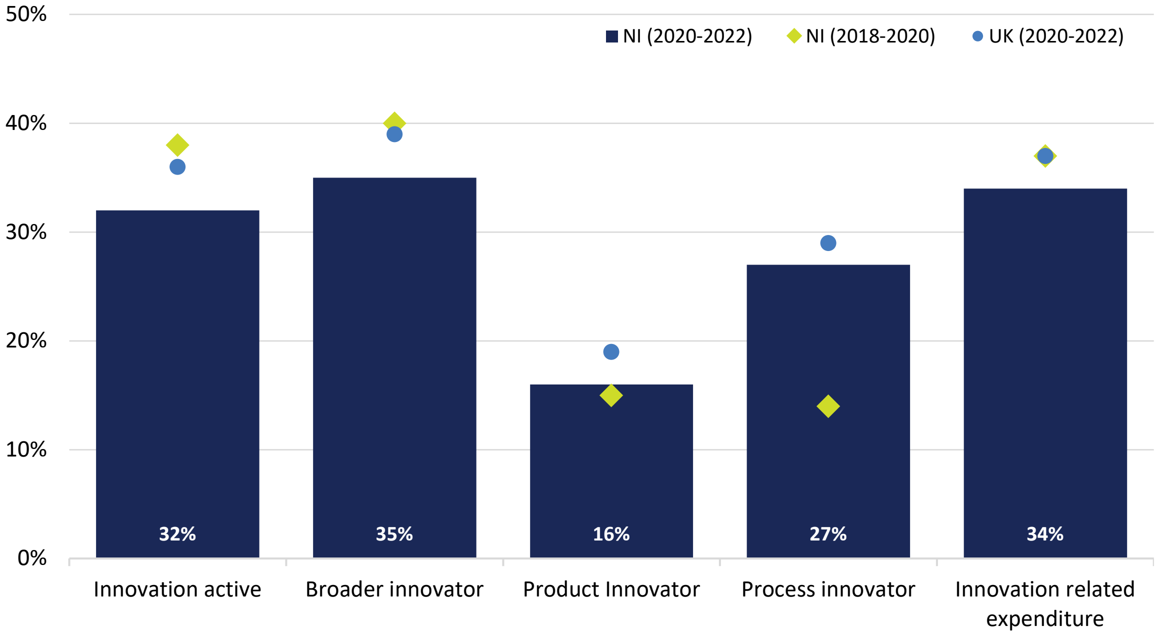
We welcome feedback to help us improve and add value to these statistics.

Summary of Innovation Activity

Type of Innovation Activity

Just under one third of NI businesses (32%) were innovation active in 2020-2022. This is lower than was the case in 2018-2020 (38%) and remains lower than in the UK overall during 2020-2022 (36%). In 2020-2022, 35% of NI businesses were broader innovators and 27% were process innovators. Please refer to page 3 for the various definitions of innovation.

Chart 2: Percentage of businesses engaging in innovation by activity, NI (2018-2020, 2020-2022) and UK (2020-2022)

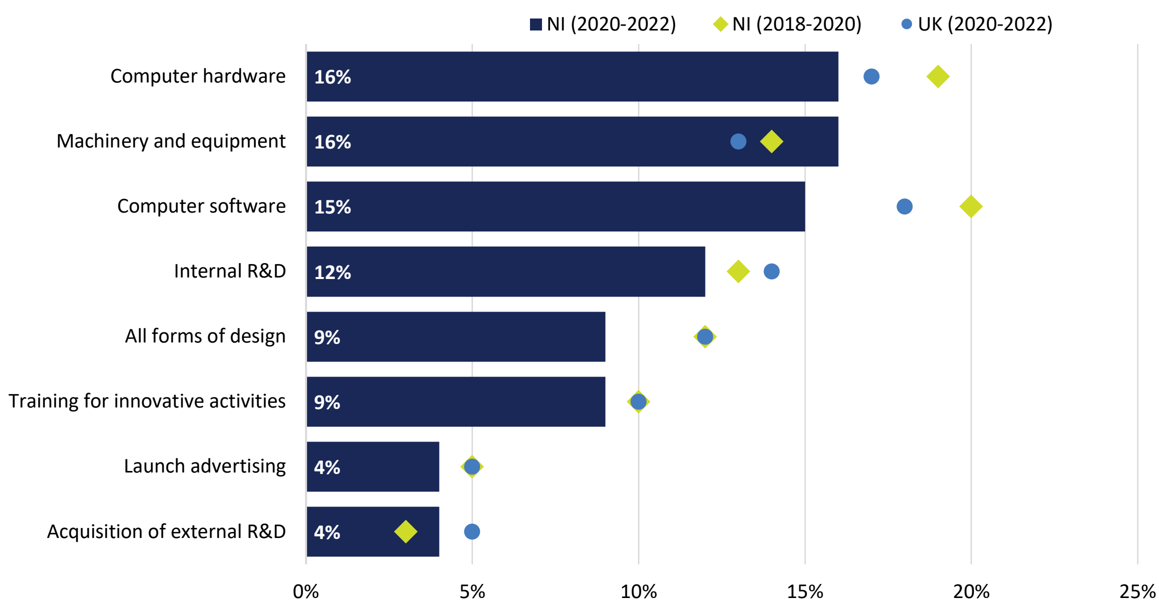


Further breakdowns of NI and UK business innovation activities are available in the [Statistical Annex.]()

Type of Investment

Chart 3 shows that the most commonly reported innovation investments during 2020-2022 was in the acquisition of 'computer hardware' and 'machinery and equipment', with both representing 16% each of investments ('computer software' was the most common type of investment during 2018-2020).

Chart 3: Percentage of all businesses engaging in innovation by type of investment, NI (2018-2020, 2020-2022) and UK (2020-2022)

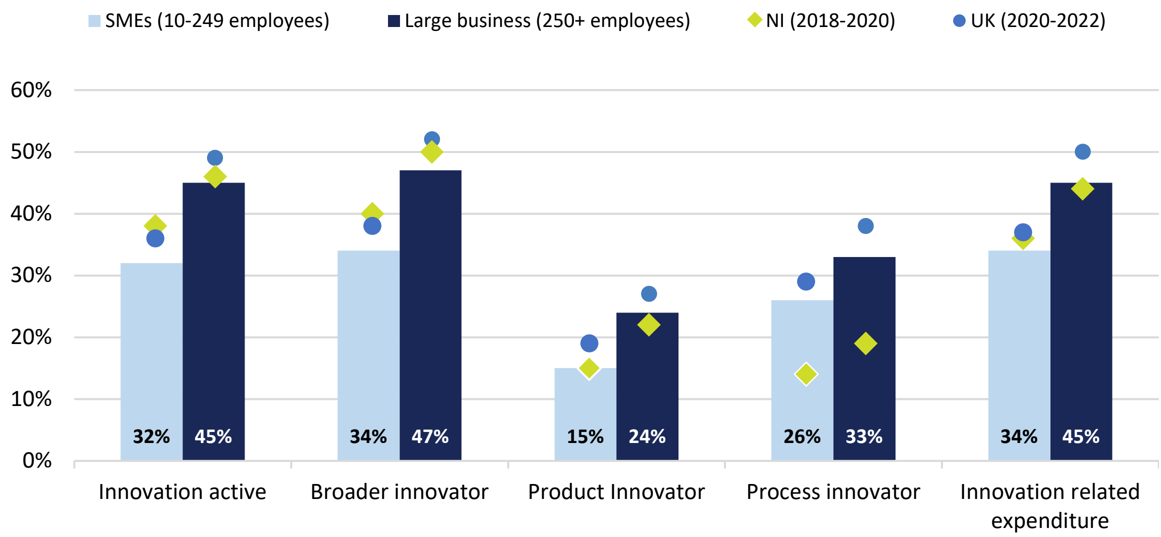


Innovation Activity by Size of Business

Large businesses were more innovation active (45%) than small and medium sized enterprises (SMEs; 32%) and Chart 4 shows that this was the case for every type of innovation activity. In the UK overall, 49% of large businesses were innovation active, compared with 36% of SMEs.

Across all activities in the chart below, the level of innovation among both SMEs and large businesses tended to be lower in NI than was the case among SMEs and large businesses in the UK.

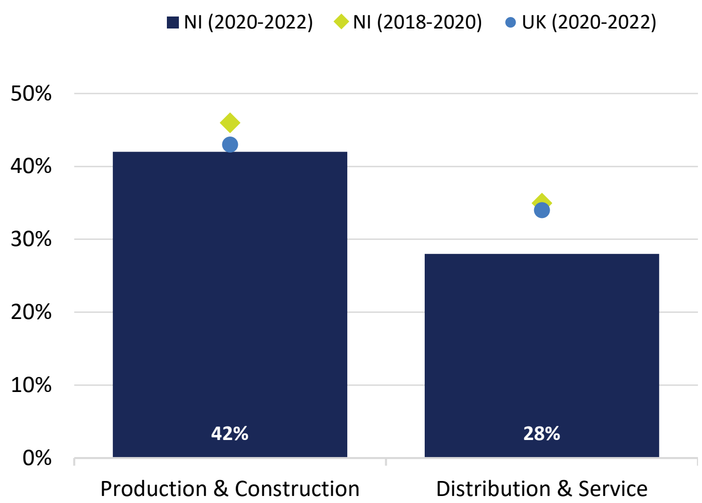
Chart 4: Percentage of NI businesses engaging in innovation by activity and company size, NI (2018-2020, 2020-2022) and UK (2020-2022)



Innovation Activity by Sector

Innovation activity was higher among businesses in Production and Construction industries than in Distribution and Service industries in NI in 2020-2022 (42% compared with 28%). In the UK overall during 2020-2022, the rate of innovation activity was 43% among businesses in Production and Construction industries and 34% among those in Distribution and Service industries.

Chart 5: Percentage of NI innovation active businesses in Production & Construction and Distribution & Service Industries, NI (2018-2020, 2020-2022) and UK (2020-2022)



Production & Construction industries include

Mining and Quarrying, Manufacture of food, clothing, wood, paper, publishing & printing, Manufacture of fuels, chemicals, plastic, metals & minerals, Manufacture of electrical and optical equipment, Manufacture of transport equipment, Manufacture not elsewhere classified, Electricity, gas & water supply, and Construction.

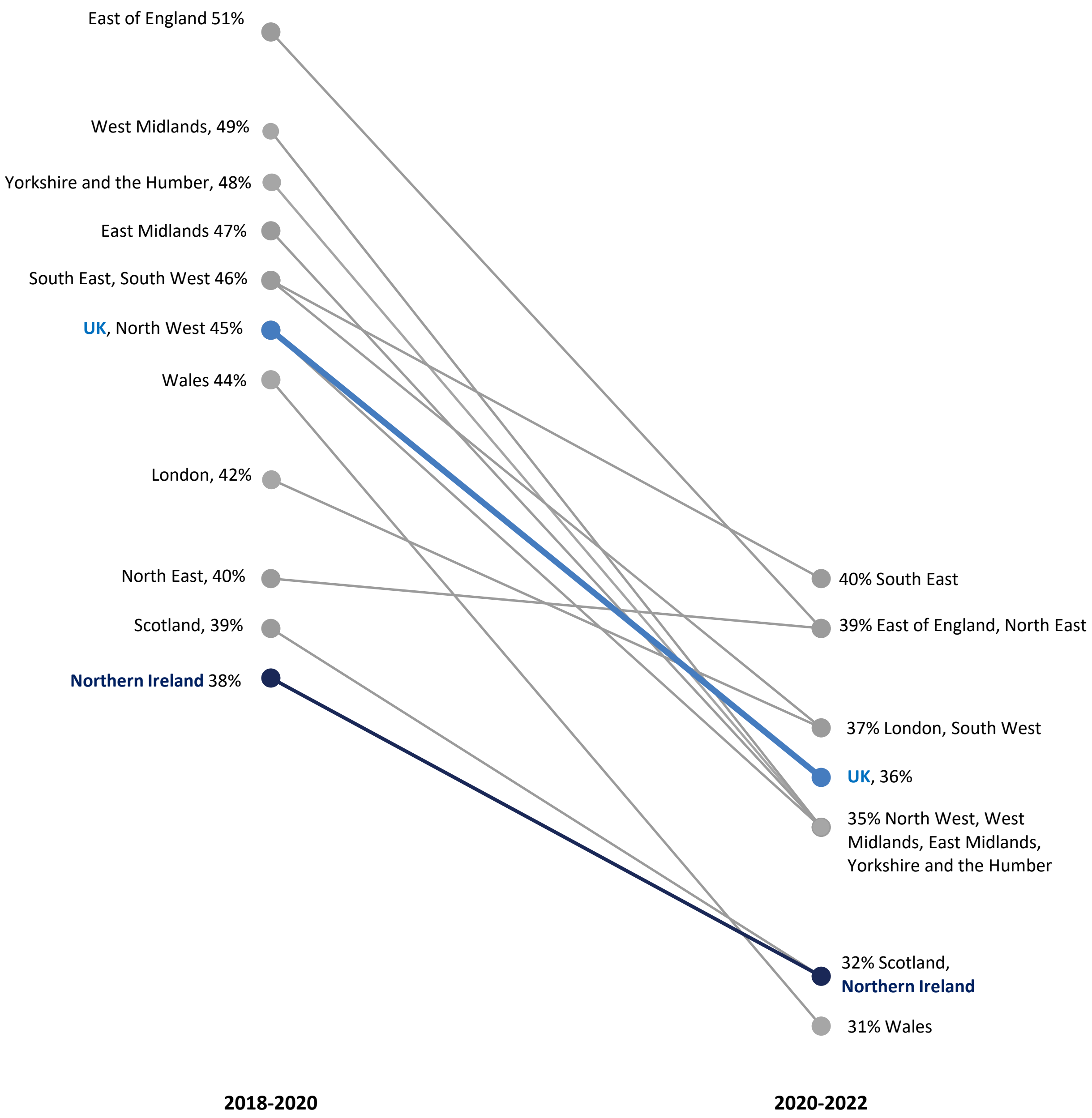
Distribution & Service industries includes

Wholesale trade (including cars & bikes), Retail trade (excluding cars & bikes), Transport, storage & communication, Hotels and restaurants, Financial intermediation, Real estate, renting and business activities, and Motion Picture and Video Production.

Innovation Activity by Region

There has been a reported decrease in the rate of innovation activity across all regions of the UK between 2018-2020 and 2020-2022. The largest percentage point decrease was in the West Midlands. Across the UK, the percentage of innovation active businesses ranged from 31% in Wales to 40% in the South East.

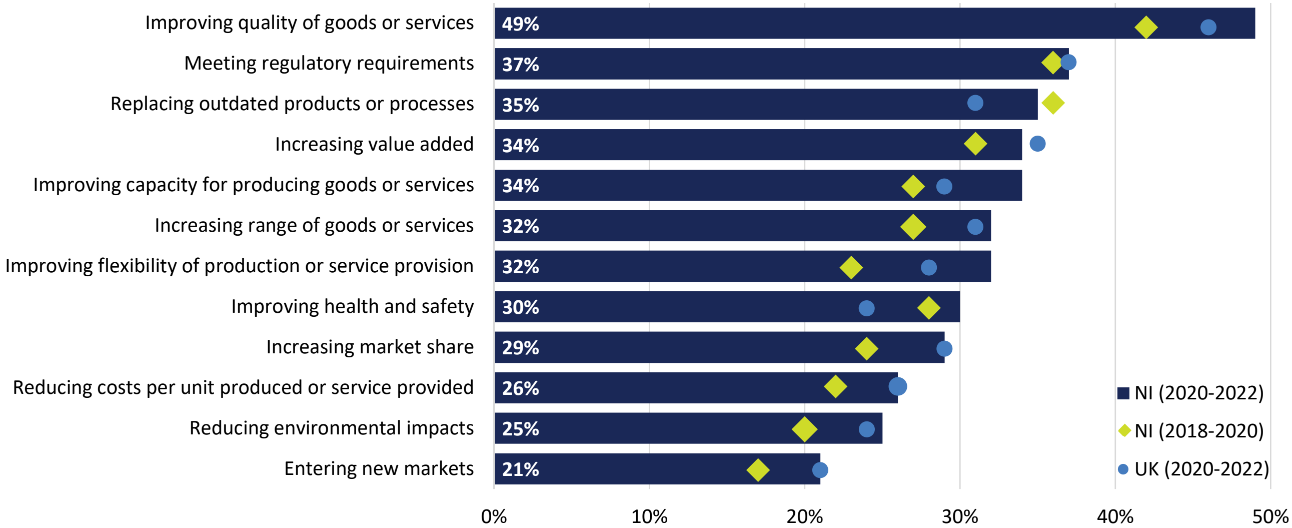
Chart 6: Percentage of innovation active businesses by UK region, 2018-2020 to 2020-2022



Factors Driving Innovation

There are a range of motivations for businesses to engage in broad forms of innovation, which may relate to firms' strategies of improving quality, reducing environmental impacts or increasing value added. In consideration of this, broader innovator businesses were asked how important each of twelve factors (presented in Chart 7) were in driving their innovation activities. The proportion of broader innovator businesses that rated each factor as 'high' in importance is presented below.

Chart 7: Innovation Factors: Percentage of NI broader innovators rating factor as of "high" importance to their decision to innovate, NI (2018-2020, 2020-2022) and UK (2020-2022)



Further breakdowns (by company size) of driving factors for innovation for both NI and the UK are available via the [Statistical Annex.]

'Improving quality of goods or services' remained the top-rated factor, being of 'high' importance to 49% of broader innovators in NI during 2020-2022.

In contrast, 'Reducing environmental impacts' was of 'high' importance to their decision to innovate for 25% of broader innovators, with 'entering new markets' of 'high' importance to 21%.

Similar to NI, at the overall UK level, 'improving quality of goods or services' was also the top-rated factor (46% of broader innovators) and 'entering new markets' the least commonly reported driver (21%).

Non-Innovators – Reasons for not innovating

Sixty-five percent of NI businesses were categorised as non-innovators[1] in 2020-2022. These businesses were asked to indicate why it had not been necessary or possible to innovate. Just over two-fifths of these businesses (44%) indicated that there was no need due to market conditions, while 37% reported that there was no need due to previous innovations. Around one in ten (9%) of non-innovators cited issues arising from the COVID-19 pandemic as a reason for not engaging in innovation.

Innovation Co-operation and Support

Co-operation Arrangements - Broader Innovators

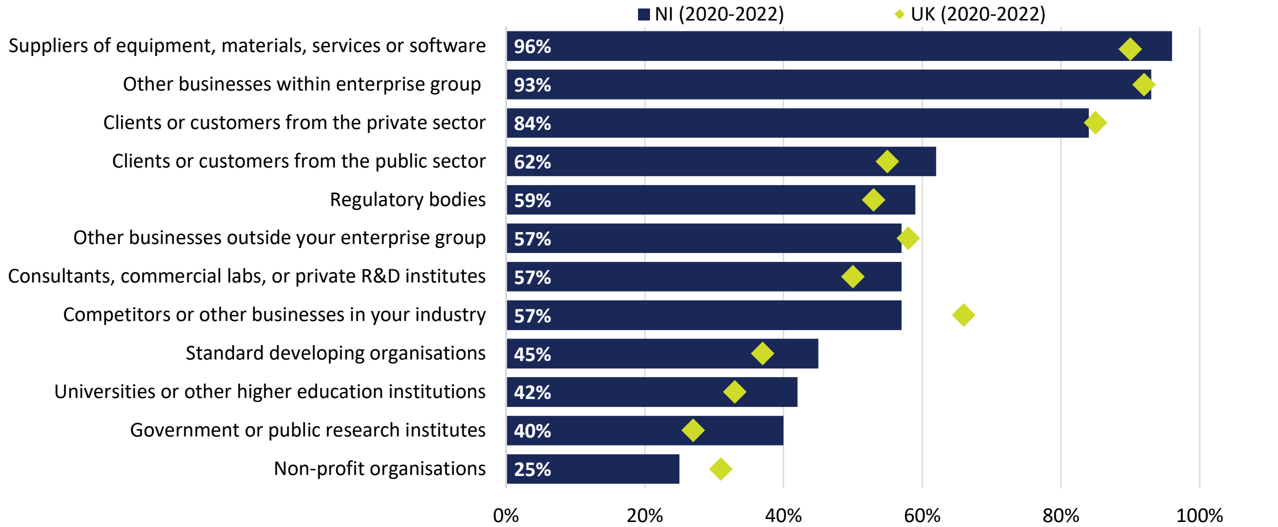
Developing innovations of any kind can be a complex process and businesses may decide to work jointly with other organisations and seek access to sources of advice and information to help the creative process. The most commonly reported co-operation partner in NI in 2020-2022 was with suppliers of equipment, materials, services

[1] i.e. did not report conducting any of the activities which define a broader innovator (see page 3)

or software (96% of broader innovators; UK, 90%), followed by co-operation with other businesses within the enterprise group (93% of broader innovators; UK, 92%).

Co-operation with non-profit organisations was the least reported arrangement in NI during 2020-2022, with 25% of broader innovators reporting this (UK, 31%).

Chart 8: Percentage of NI businesses with each type of cooperation arrangement (of broader innovators with any cooperation arrangements only), NI and UK 2020-2022



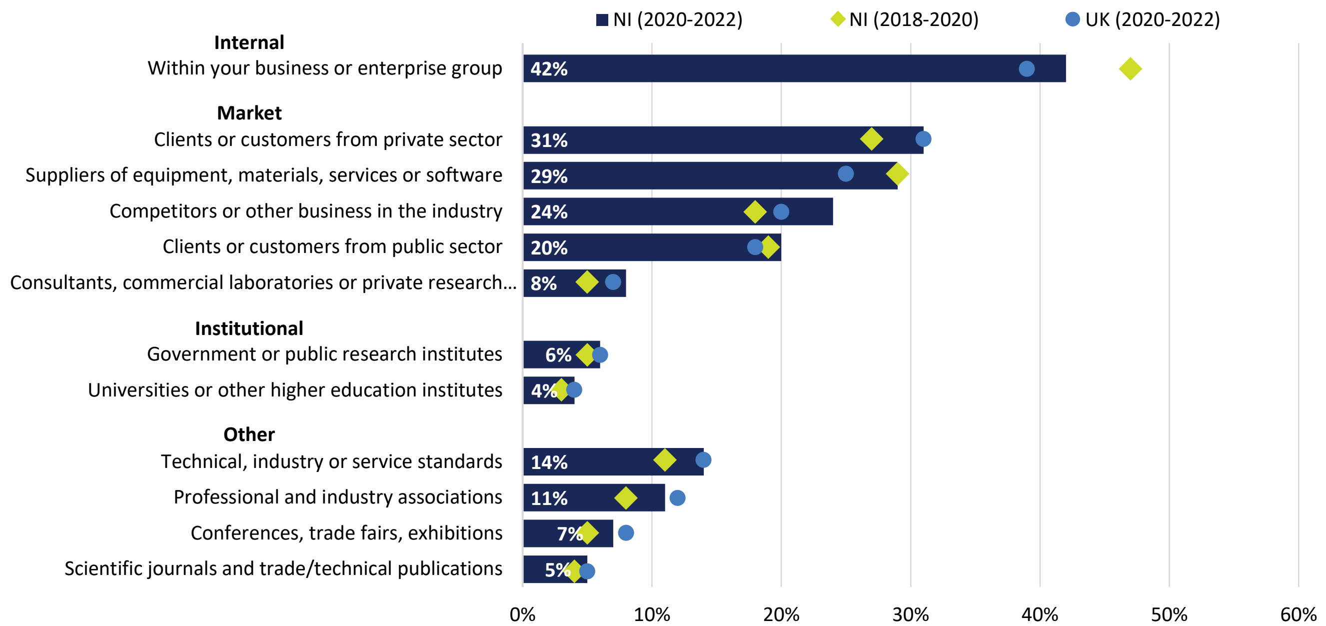
Further breakdowns (by geography of co-operation, and over time) of innovation co-operation in NI and the UK are available via the Statistical Annex.

Information Sources Used - Broader Innovators

Broader innovators were asked to rate the importance of a range of information sources to their innovation activities. Just over two-fifths of broader innovators in NI (42%) felt that information from within their business or enterprise group was highly important to its innovation activities during 2020-2022. This was higher than in the UK overall (39%).

Just under one-third (31%) of broader innovators in both NI and the UK overall reported that information from clients or customers in the private sector was highly important.

Chart 9: Percentage of broader innovator businesses rating the importance of information sources as 'high', NI (2018-2020, 2020-2022) and UK (2020-2022)



Further breakdowns (by size of business and over time) are available via the Statistical Annex.

‘Wider Process Driven’ Forms of Innovation

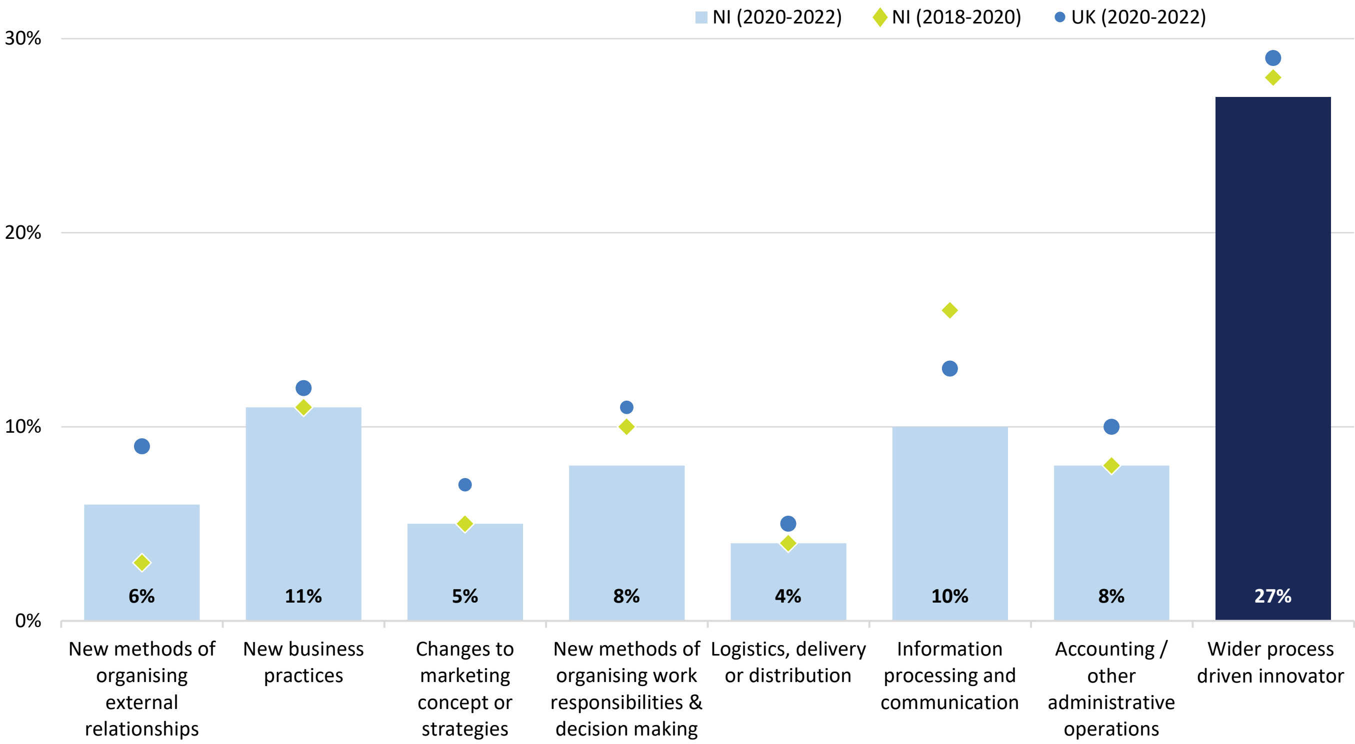
Innovation is not wholly about the development or use of technology or other forms of product change. Enterprises can also change their processes, behaviour or business strategies to make themselves more competitive, often in conjunction with product innovation, but also as an independent means of improving competitiveness.

Enterprises were asked whether they had made major changes to their business processes, structure and practices in the three-year period (2020-2022). Headline results are summarised in Chart 10. Around one-quarter of NI businesses (27%) reported any of the wider process driven innovation activities in 2020-2022 (29% across the UK).

The most reported form of wider process driven innovation in NI during the 2020-2022 period involved ‘New business practices’[2] (11% in NI; 12% across the UK).

Compared with 2018-2020, the change in the proportion of NI businesses reporting wider process driven innovation was most marked in the area of ‘Information processing and communication’[2], (down from 16% of businesses in 2018-2020 to 10% in 2020-2022).

Chart 10: Percentage of businesses engaging in wider process driven innovation by activity, NI (2018-2020, 2020-2022) and UK (2020-2022)



Further breakdowns of NI and UK business innovation activities are available in the [Statistical Annex.](#)

[2] Questionnaire text:
‘**New business practices** for organising procedures or external relations…’
‘Methods for **information processing and communication**, the maintenance and provision of information and communication systems…’

Background and Methodology

Methodology

This report presents findings from the Northern Ireland element of the UK Innovation Survey (UKIS), which was conducted by the UK Office for National Statistics (ONS). The survey is based on a core questionnaire developed by the European Commission (Eurostat) and Member States. This is the thirteenth iteration of the survey (CIS13), which was conducted in 2023 and covers the period 2020-2022. CIS12, covering the period 2018 to 2020, was carried out in 2021 and the results form part of various EU benchmarking exercises for international comparisons (see Eurostat: Community Innovation Survey, latest results).

The survey was voluntary and conducted primarily through an electronic questionnaire and telephone interview for businesses that had not yet completed an online response.

The majority of the survey questions are concerned with innovation through new and improved products and processes (technological) and with the investments that are used to develop and implement them along with changes in business structures, management and marketing practices (non-technological innovation).

All results are grossed up to the business population, and all figures quoted relate to the UK Innovation Survey 2023 unless stated otherwise. Results presented are rounded to the nearest percentage point.

The methodology, statistical annex, sample details and UK-level findings from CIS13 can be found on the UK Department for Business and Trade (DBT) website.

Coverage and Sampling

The UK Innovation Survey 2023 surveyed 2,385 enterprises in NI. The sample is a stratified design drawn from the Inter-Departmental Business Register (IDBR) with Neyman allocation used to determine the sample size in each stratum. Overall, approximately 15% of the target population is sampled in the UK (36% in NI).

With 1,075 of the 2,385 enterprises selected responding, the NI element of the survey had a response rate of 45% (at the UK level, a response rate of 45% was also achieved).

The 2023 survey sampled enterprises with **10 or more employees** in **sections B to N** of the Standard Industrial Classification (SIC) 2007. This is the seventh survey using a sample based on SIC 2007, which enables a more consistent comparison with the 2011, 2013, 2015, 2017, 2019 and 2021 survey data in the time series.

Stratification was based on three variables:

1. **Region** – All regions in the UK (9 Standard Regions in England plus Scotland, Wales and Northern Ireland)

2. **SIC Division** - This was the sixth time survey data was collected using a sample based on SIC 2007. The groups included are as follows:

- **SIC 05-09**: Mining and quarrying
- **SIC 10-18**: Manufacture of food, clothing, wood, paper, publishing, printing
- **SIC 19-25**: Manufacture of fuels, chemicals, plastic, metals and minerals
- **SIC 26-28**: Manufacture of electrical and optical equipment
- **SIC 29-30**: Manufacture of transport equipment
- **SIC 31-33**: Manufacture: not elsewhere classified
- **SIC 35-39**: Electricity, gas and water supply
- **SIC 41-43**: Construction
- **SIC 45-46**: Wholesale trade (including cars & bikes)
- **SIC 47**: Retail trade (excluding cars & bikes)
- **SIC 49-52**: Transport
- **SIC 53**: Post and courier activities
- **SIC 55-56**: Hotels & restaurants
- **SIC 58, 62 & 63**: Computer and related activities/ICT
- **SIC 59-60**: Motion picture, video and TV programme production/programming & broadcasting
- **SIC 61**: Telecommunications
- **SIC 64-66**: Financial intermediation
- **SIC 68**: Real estate activities
- **SIC 69, 70, 75, 76, 78-83**: Other services not elsewhere classified
- **SIC 71.1**: Architectural and engineering activities and related technical consultancy
- **SIC 71.2**: Clinical testing and analysis
- **SIC 72**: Research and experimental development on social sciences and humanities
- **SIC 73**: Advertising and market research
- **SIC 74**: Other professional, scientific and technical activities

- **SIC 77**: Renting of machinery, equipment, personal and household goods

3. **Business Size**:

    Small: 10-49 employees

    Medium: 50-249 employees

    Large: 250+ employees (to ensure representativeness, a census for all large firms was taken)

Response and Weighting

The questionnaires from the survey covered business innovation in the 3-year period, 1 January 2020 to 31 December 2022 (the population and achieved sample are summarised in Table 1 below).

The composition of the 2023 achieved sample comprises a similar percentage of large firms (9% of returned forms) to the last survey (8%).

In order to be representative, the responses have been weighted back to the population and this is reflected in the results shown throughout the publication. The responses were weighted back to the population using the inverse sampling proportion in each stratum, that is, the weight attributed to each enterprise was the number of enterprises in the population divided by the number of responses in that stratum.

Table 1: Summary of sample frame (number of enterprises)

Entire Population			Returned Sample		
SMEs	Large	All	SMEs	Large	All
6,430	212	6,642	981	94	1,075

Please note that as with all sample surveys, the estimates provided in this publication are subject to an associated degree of sampling error.

Future Publications

The 2025 UK Community Innovation Survey results for the reporting period 2022-2024 (CIS 14) will be published in spring 2026. The 2025 CIS Northern Ireland results bulletin will be published as soon as possible after the main UK report is published.

For further information

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