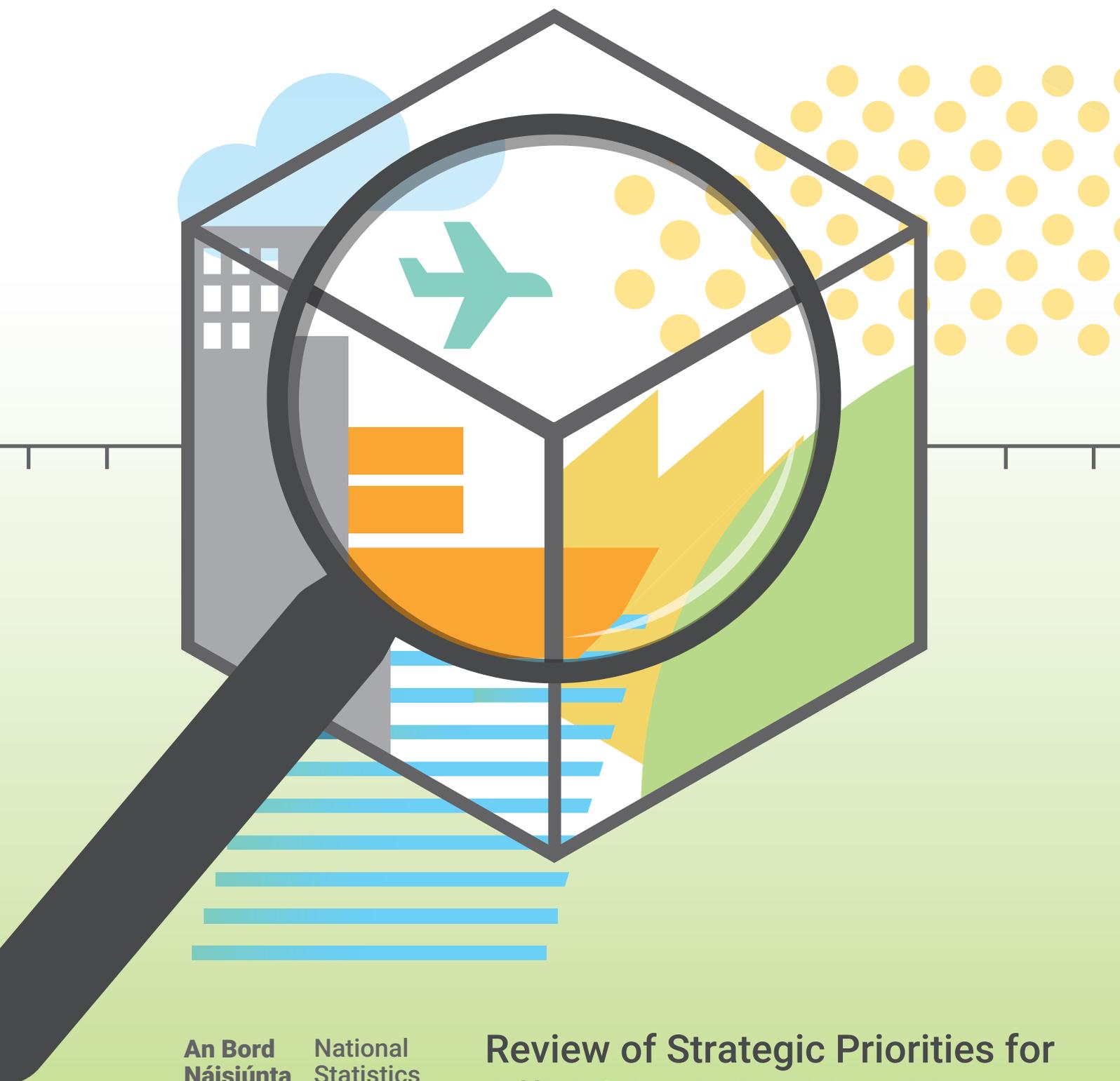


Achieving the Vision of a World Class Statistical System for Ireland

We're Making Progress



Achieving the Vision of a
World Class Statistical
System for Ireland
We're Making Progress

Review of Strategic Priorities for
Official Statistics 2015-2020

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Abbreviations

AIRO	All-Ireland Research Observatory
API	Application Programming Interface
CeADAR	Centre for Applied Data Analytics Research
CPPD	Continuous Professional and Personal Development
CSMB	Civil Service Management Board
CSO	Central Statistics Office
DCCAE	Department of Communications, Climate Action and Environment
DHPLG	Department of Housing, Planning and Local Government
DPER	Department of Public Expenditure and Reform
DPIA	Data Protection Impact Assessment
ES CoP	European Statistics Code of Practice
ESRG	Economic Statistics Review Group
ESRI	Economic and Social Research Institute
ESS	European Statistical System
EU	European Union
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GNP	Gross National Product
GSBPM	Generic Statistical Business Process Model
HEA	Higher Education Authority
ICHEC	Irish Centre for High-End Computing
ICT	Information and Communications Technology
IGEES	Irish Government Economic and Evaluation Service
IGSS	Irish Government Statistical Service
ISS	Irish Statistical System
ISS CoP	Irish Statistical System Code of Practice
MNO	Mobile Network Operator
MoU	Memorandum of Understanding
NAS	National Ambulance Service
NDI	National Data Infrastructure
NSB	National Statistics Board
NSI	National Statistical Institute
OGCIO	Office of the Government Chief Information Officer
OSi	Ordnance Survey Ireland
PPR	Property Price Register
PPSN	Personal Public Service Number
PSB	Public Sector Body
QMF	Quality Management Framework
RMFs	Research Microdata Files
SAPS	Small Area Population Statistics
SSCU	Statistical System Coordination Unit
STF	Statistical Training Framework
TII	Transport Infrastructure Ireland
UBI	Unique Business Identifier
VDI	Virtual Desktop Infrastructure

Chairperson's Preface



The National Statistics Board (NSB) was set up as a non-statutory body in 1986 and established on a statutory basis in November 1994 under the Statistics Act 1993. The role of the Board defined by the Statistics Act is to guide the broad strategic direction of the Central Statistics Office (CSO) and, in particular, to establish priorities for the development of official statistics in Ireland.

In its strategy for the period 2015-2020, the Board sets out its vision for the Irish Statistical System to become a world-class system of official statistics using the best available data to provide high-quality, independent and accessible information for Ireland. A world-class system makes greater use of secondary data and to achieve this vision the Board promotes the concept of a National Data Infrastructure with shared data management structures, standards and identifiers across the public sector. This vision is underpinned by values that stress independence, quality, data protection and confidentiality, and user engagement as the foundations for trust in official statistics. The overall goal is not just better official statistics but much greater administrative efficiency and improved public services.

In this midterm report, the NSB reiterates its vision for the Irish Statistical System and the actions recommended to achieve it in the Strategy, and charts the progress made during the three years since its publication. Some of the new challenges for official statistics that have since emerged are also discussed.

The Board is pleased to be able to report on the considerable progress made by the CSO and the wider public service towards achieving the goals set out in its Strategy. Critical to this progress has been support and leadership from the Civil Service Management Board. This commitment, underpinned by additional resources, allowed the CSO to set up the Statistical System Coordination Unit in 2016. Resourcing and growing the CSO's coordination role has provided a platform through which the Irish Statistical System's capacity to produce timely and relevant information to support enhanced evidence based policy development and evaluation has been deepened and strengthened.

In May 2017 the Government adopted the *Commitment on Confidence in Statistics*. This is a formal declaration of support for the policies and practices instigated by the CSO to meet its obligations under the European Statistics Code of Practice. The Commitment also reaffirms the value of the NSB's role in giving strategic direction to the Irish Statistical System.

As Chairperson, I would like to thank the current Board for their engagement with the implementation of the Strategy and their commitment to furthering the development of the Irish Statistical System.

A handwritten signature in black ink that reads "Patricia O'Hara". The signature is written in a cursive, flowing style.

Dr Patricia O'Hara
Chairperson

NSB Vision of the Irish Statistical System

Vision

A world-class system of official statistics using the best available data to provide high-quality, independent and accessible information for Ireland.

Mission

To promote and protect the independence, accessibility and quality of Irish official statistics.

To promote and encourage the use of administrative data for official statistics in Ireland.

To encourage the producers of official statistics in Ireland to adopt the Irish Statistical System Code of Practice.

Values

A strong commitment to the independence, objectivity and quality of Irish official statistics.

A belief in the importance of a system of official statistics that is flexible in meeting the needs of users.

The recognition of data protection, security and confidentiality as the basis for trust in official statistics.

Strategic Goals

The production of world class official statistics based on an Irish Statistical System comprising public sector administrative data and a comprehensive programme of surveys to support national user needs.

The adoption and implementation of a national data infrastructure across the public sector, incorporating permanent unique identifiers and common data standards.

Adoption of the Irish Statistical System Code of Practice by all producers of official statistics.

Executive Summary

Background

In 2015, the National Statistics Board published *A World Class Statistical System for Ireland - Strategic Priorities for Official Statistics 2015-2020*¹ setting out its vision for a modern and effective Irish Statistical System which maximises the quality and usage of data held across all relevant data sources, including public organisations.

Realising the NSB vision necessitates the creation of a National Data Infrastructure (NDI) which involves the consistent use of permanent unique identifiers on public data sources so as to allow linkage of data sets and the creation of a system of integrated base registers² for statistical purposes. An effective NDI requires: that the PPSN be used for interactions between the individual and the public sector; that a unique business identifier (UBI) be mandatory in interactions between enterprises and the state; and that the Eircode be used on all public data sources.

Also in 2015, the European Parliament and Council adopted an amendment to the 'European Statistical Law' (Regulation (EU) 2015/759)³ which included giving the Director General of the CSO legal responsibility, for coordinating statistical programming and reporting, quality monitoring, methodology, data transmission and communication of all European statistics produced within Ireland, regardless of which department or agency produces them. In addition, the CSO, as a member of the European Statistical System (ESS) was the subject of a Peer Review to assess its compliance with the European Statistics Code of Practice (ES CoP). This rigorous review made 26 recommendations which also have significant implications for the CSO.

In this midterm report, the NSB reviews progress made since 2015. The report contains a summary of the actions identified by the Board in its Strategy and achievements to date in relation to these. Some of the new challenges facing the Irish Statistical System are also discussed. The Board sets out some further actions required to achieve its vision for the Irish Statistical System.

Key Achievements

NSB promotes public sector leadership

The NSB Strategy identified public sector leadership as crucial to achieving its vision and promoted this idea throughout 2016, culminating in a high-level workshop and a seminar. Senior decision-makers from key data-holding Departments, as well as the Central Bank of Ireland and the ESRI, participated in the NSB workshop. The NSB stressed the importance of a NDI for official statistics, but also emphasised its value in providing data for policy, administration and research, and the need for Departments to act as champions of a NDI. The NSB follow-up seminar brought together key people from the Irish Statistical System to discuss the idea of data as a public good and how a NDI could provide more effective and targeted services to citizens and useful information to policymakers and administrators. The need for leadership to make this happen was stressed throughout.

1 Launched September 2015.

2 A base register is a large database that lists the details of every possible unit of interest such as all the individuals in the state, all the businesses in the state, or all the address points in the state.

3 Regulation (EU) 2015/759 amending Regulation (EC) 223/2009. Official Journal of European Union, 19.5.2015. Regulation (EC) 223/2009 is the framework legislation for the European Statistical System (ESS), which is made up of Eurostat and producers of official statistics in Member States. The Regulation defines the objectives, governance and statistical principles of the ESS.

Public sector responds with leadership and actions

In February 2017, the Civil Service Management Board (CSMB)⁴ agreed a proposal on the planned way forward under Action 24 of the Civil Service Renewal Plan: *Improving how data is collected, managed and shared*. The Director General of the CSO, along with five CSMB co-sponsors, took leadership of Action 24 and, as a consequence, the establishment of a NDI became an explicit part of the Civil Service Renewal Plan. Reports on progress are given at meetings of the CSMB.

A cross-departmental Champions Group comprising nominees of the CSMB members, monitors and promotes coverage of the three unique identifiers across public sector data holdings. A CSMB sponsored survey has now identified: (i) key data holdings in Departments (ii) coverage of identifiers across systems and processes. A 'dashboard' on coverage of the identifiers has been developed for the CSMB as a tool to monitor the measurement of progress.

CSO leadership and coordination

A new directorate was established in CSO in 2016 which incorporates a Statistical System Coordination Unit (SSCU). This unit, led by an Assistant Director General, is managing the advancement of the Irish Statistical System by supporting the Irish Government Statistical Service, with seconded statisticians to other government departments now numbering twenty-one. The SSCU is also driving the development of the NDI through the identification and execution of pathfinder projects⁵ with government departments.

The CSO has been allocated a significant increase in its budget in the past three years. This includes additional resources needed to carry out its obligations under Regulation (EU) 2015/759 and to respond to the recommendations of the 2015 ES CoP Peer Review.

Public sector initiatives and legislation

Two key developments which will facilitate the further advancement of the NDI are currently underway. The Public Service Data Strategy 2018-2022 outlines a vision to improve the governance, management and re-use of data across the public service in a secure, efficient and transparent way, for the benefit of citizens and businesses, and will be published by the end of 2018. The Data Sharing and Governance Bill 2018 which will give a clear legal basis to where data sharing is appropriate is progressing through the legislative process.

4 The Civil Service Management Board (CSMB) is made up of all Secretaries General and Heads of Offices and is chaired by the Secretary General to the Government. The Board's immediate focus is on overseeing the implementation of the priorities set out in the Civil Service Renewal Plan.

5 Pathfinder Projects are collaborative activities which demonstrate the value of administrative data by linking data sources using a common identifier. Such projects can deliver value to policy or services and progress the evolution of the NDI.

Key Challenges

Considerable progress has been made in moving toward the NSB's vision of a world class system for official statistics since 2015. Actions include public service leadership, advancement of legislation for governance, a strategy to maximise the potential of public service data, and a wide range of initiatives by the CSO facilitated by the provision of additional budgetary resources. While recognising and applauding what has been achieved, the NSB is conscious that its vision of building a world class statistical system for Ireland is ambitious and will take more time and painstaking effort to come to fruition. In this context, the Board points to the following key challenges.

Maintaining the leadership momentum

Continued support and recognition from the CSMB are crucial for advancement of the ISS. The CSO, with five CSMB co-sponsors, leads Actions 24 of the Civil Service Renewal Plan. The cross-departmental Champions Group is critical to ensuring a continuing focus on the NDI, and to measuring progress on increasing the coverage of permanent unique identifiers in data holdings of Public Sector Bodies (PSBs). This group should also play a strong role in promoting the use of PSB data sources for the benefit of the public service.

The NSB looks forward to the imminent publication of the Public Service Data Strategy 2018-2022 by the Department of Public Expenditure and Reform (DPER). This is fundamental to building a world class statistical system and a prerequisite to supporting a shared services approach. The actions associated with this strategy need to be as clear as possible and linked to concrete outcomes so that PSBs can become engaged with them, understand their logic and value, and make the necessary changes to well-established, if now outmoded, practices across a range of data sources. It is important to link the presentation of technical data architecture with structures and methods for ensuring data protection and citizen privacy, so as to allay any fears in this regard.

Advancing the use of Eircodes

The slower than anticipated progress in the adoption of Eircodes is a major concern. The Board notes that the collection of Eircodes by PSB's is not mandatory and believes that this is a significant obstacle to their wider adoption. While Circular 19/2017⁶ represents progress in the right direction, the Board believes that a greater impetus is needed to promote the collection, capture and use of Eircodes across the public service, including in the provision of frontline services.

The Board recommends that the measures to increase Eircode use, as set out in Circular 19/2017, form the basis of an action plan for the adoption of Eircodes by each PSB. Progress on the coverage of Eircodes on public sector data holdings should continue to be monitored by the CSMB and the Board recommends that the cross-departmental Champions Group compile a report on the obstacles to Eircode capture, with a view to addressing them directly.

6 Circular 19/2017: Arrangements for the recording and utilisation of Eircodes within the Public Service. See extract in Appendix 2.

CSO priorities

While the CSO has received additional resources to expand its staff and skills base, the Office is experiencing difficulties with staff recruitment and retention, particularly in areas of skill shortages such as data analytics and technology. The Board urges the CSO and DPER to work together to find a solution(s) that can address the emerging recruitment and retention issues within existing parameters.

The Board welcomes the significant work by the CSO in the areas of environment and energy and in well-being and urges the CSO to deepen their engagement with local authorities to assess the potential and quality of local authority data sources for compiling official statistics.

The Board welcomes the CSOs continuing efforts to utilise Big Data, and notes the potential of data from Mobile Network Operators to enhance or replace more traditional data sources in the compilation of official statistics. It should be noted however that the publication of official statistics exclusively based on Big Data sources is a challenge, not just for the CSO, but for National Statistical Institutes (NSIs) internationally⁷.

Privacy and data protection

The Board recognises the ongoing privacy and data protection challenges associated with the collection of personal data but stresses the importance of striking a balance between privacy and the 'public good'. The enactment of the General Data Protection Regulation (GDPR) in 2018 has changed the requirements for the processing of personal data. Data collection activities, as well as having a legal basis, now need to be proportionate, necessary and comply with the principle of data minimisation. The challenge for producers of official statistics is to ensure and demonstrate that the processing of personal data is performed in accordance with the Regulation by implementing the appropriate technical and organisational security measures, while continuing to engage with data producers to retain their confidence and willingness to provide essential data.

'Post-truth' era

Historically, society has turned to facts or official statistics to settle debate. However, facts seem to be losing their ability to support consensus and there is no longer a perceived single source of reality measurement. In this so-called 'post truth' era, social media platforms are playing a major role by providing wider and faster connectivity across a larger, and often previously untapped, audience cohort. A very different style of communicating content has emerged, one which empowers the individual, demands a shorter attention span and where images and sound bites are preferred. Furthermore, the convergence of social media and the data revolution has given rise to an environment where countless 'facts' can coexist unchecked. The challenge facing statistical authorities is to find ways to promote the value, quality and authenticity of official statistics as the basis for evidence-based decision making.

Achieving the Vision

Strong leadership from the highest levels in the public service, from the CSO, and support from Government has delivered the beginnings of a transformation in the Irish Statistical System. Implementation will take committed and sustained management from all parts of the public system as well as continued leadership and belief from the top. As always in a process of reform, the big challenges will be maintaining momentum in all the parts, avoiding diversions and inertia, and addressing new risks. The prize is a world class Irish Statistical System; the NSB believes that this can be achieved and will continue to monitor progress.

⁷ <https://ec.europa.eu/eurostat/documents/7330775/7339482/The+Bucharest+Memorandum+on+Trusted+Smart+Statistics+FINAL.pdf/59a1a348-a97c-4803-be45-6140af08e4d7>

Review of Strategic Priorities for Official Statistics 2015-2020



Introduction NSB's Vision for the Irish Statistical System

The National Statistics Board's five-year strategy document entitled *A World Class Statistical System for Ireland - Strategic Priorities for Official Statistics 2015-2020*⁸ sets out a vision for the Irish Statistical System to become an example of best international practice in the production and dissemination of official statistics. The central tenet of the strategy is that a modern and effective statistical system must maximise the quality and usage of data held across all relevant data sources including public organisations.

In recent years, leading international systems have become less reliant on surveys and more reliant on administrative data sources to produce official statistics. Significant progress in this regard has also been made in Ireland, but deepening these practices requires that the existing strategy of shifting from exclusively primary data sources (i.e. surveys) to the compilation of outputs from secondary data⁹ sources (i.e. administrative and Big Data holdings) remains a clear focus of the statistical system. The NSB recognises that this requires, in some cases, substantial changes in the structure, management and quality of administrative data holdings across the public sector and, in particular, leadership from the highest level. It will also challenge many public bodies to embrace transformation in the management of their data holdings.

Realising the NSB vision necessitates the creation of a National Data Infrastructure (NDI). This involves the consistent use of permanent unique identifiers on public data sources so as to allow linkage of data sets and the creation of a system of integrated base registers¹⁰ for statistical purposes. An effective NDI requires that the PPSN be used for interactions between the individual and the public sector; that a unique business identifier (UBI) be mandatory in interactions between enterprises and the state; and that the Eircode be used on all public data sources.

As a Member State of the EU, Ireland's statistical production is prescribed by legally binding Regulations and subject to the European Statistics Code of Practice (ES CoP). In 2015 the European Parliament and Council adopted an amendment to the 'European Statistical Law' (Regulation (EU) 2015/759)¹¹ which strengthened a number of important principles including giving the Director General of the CSO legal responsibility for coordinating statistical programming and reporting, quality monitoring, methodology, data transmission and communication of all European statistics produced within Ireland, regardless of what department or agency produces them.

Also in 2015 the CSO, as a member of the European Statistical System (ESS), was the subject of a Peer Review to assess its compliance with the ES CoP. This rigorous review made 26 recommendations which also have significant implications for the CSO. Both developments have impacted on the work of the CSO and the wider Irish Statistical System.

In summary, the purpose of this report is to review the progress made in the realisation of the NSB vision in the period since the launch of its Strategy in 2015. The report contains an account of the actions identified by the Board in its Strategy and the progress made in achieving each of them. The Board sets out some actions required to help achieve its vision for the Irish Statistical System.

⁸ Launched September 2015.

⁹ Secondary data is information that has been collected for a purpose other than the generation of official statistics, an example being administrative data.

¹⁰ A base register is a large database that lists the details of every possible unit of interest such as all the individuals in the state, or all the businesses in the state, or all the address points in the state.

¹¹ Regulation (EU) 2015/759 amending Regulation (EC) 223/2009. Official Journal of European Union, 19.5.2015. Regulation (EC) 223/2009 is the framework legislation for the European Statistical System (ESS), which is made up of Eurostat and producers of official statistics in Member States. The Regulation defines the objectives, governance and statistical principles of the ESS.



Official statistics in a changing world

In its 2015 Strategy, the Board stressed the importance of official statistics as the foundation of democracy and basis on which policy decisions, public accountability and transparency are built. The need to produce independent, objective, trustworthy high quality statistical information to facilitate effective planning and policy-making is now stronger than ever.

The quality of Irish official statistics is subject to increasing scrutiny and monitoring. Preserving quality and high standards is critical to maintaining Ireland's reputation; any shortcomings can adversely affect how the country is perceived internationally.

As well as being fundamental to informing national policy, Ireland's official statistics are also collected and combined with the official statistics of other countries by Eurostat¹² as part of the European Statistical System (ESS). As such, Ireland's statistical programme is mostly prescribed by EU Regulation which also sets in law stringent requirements for quality and requires that the CSO coordinate the production of all European statistics in Ireland.

In the three years since publication of the strategy document, new challenges for official statistics have emerged.

Official statistics and alternative perceptions of reality

Historically, society has turned to facts or official statistics to settle debate. However, facts seem to be losing their power to support consensus and there is no longer a perceived single source of reality measurement. In this so-called 'post truth' era, social media platforms are playing a major role by providing wider and faster connectivity across a larger, and often previously untapped, audience cohort. A very different style of communicating content has emerged, one which empowers the individual, demands a shorter attention span and where images and sound bites are preferred. Furthermore, the convergence of social media and the data revolution has given rise to an environment where countless 'facts' can coexist unchecked. The challenge facing statistical authorities is to find ways to promote the value, quality and authenticity of official statistics as the basis for evidence-based decision making.

Changing economies and societies

Societies and economies are undergoing transformational changes and this creates demand for new statistical insights. Traditionally, official statistics focused predominantly on the population and goods-producing activities of societies and businesses. However technological development has changed the way people and businesses are operating across borders, increasing the international mobility of intangible assets and services. Citizens are now demanding more comprehensive and inclusive measures of the social and economic performance of their governments. Official statistics need to respond to these new realities which can be challenging, as the measurement of the variables involved can be difficult (e.g. globalisation, wellbeing) and they can impact on existing established statistical indicators, such as GDP and GNP.

¹² The statistical agency of the European Union.

Use of multiple data sources – access to privately-held data

As the use of administrative data increases, privately held data sources (often referred to as 'Big Data') have also become potential sources for official statistics. Access to privately-held data can offer, among other things, an opportunity to reduce the response burden of survey questionnaires and to improve the coverage and timeliness of statistics at a lower cost. Access to these data sources can allow statistical offices to produce innovative statistical products and services and increase their capacity to provide new insights for evidence-based policy making. Notwithstanding their potential, it is important to remember that these data sources were not originally developed for statistical purposes and therefore do not adhere to agreed standards. One of the main challenges for official statistics in moving away from traditional data sources, is maintaining the credibility and trustworthiness of statistical outputs and ensuring they are conceptually sound and methodologically accurate. Moreover, it is vital for statistical authorities, when accessing privately-held data suitable for statistical purposes, to ensure privacy and confidentiality are protected at all stages of data processing.

Data Protection and the General Data Protection Regulation

Research has shown that there is a discrepancy between people's concern about online privacy and actions in relation to the privacy of their data which can fall short of adequately protecting their privacy¹³. This has been termed the 'Privacy Paradox'. The challenge for official statistics is to strike a balance between privacy and the 'public good'¹⁴. The enactment of the General Data Protection Regulation (GDPR) in 2018 changes the way in which personal data is processed and has created a changed environment for official statistics. Data collection activities, as well as having a legal basis, now need to be proportionate, necessary and comply with the principle of data minimisation. The challenge for producers of official statistics is to ensure and demonstrate that the processing of personal data is performed in accordance with the Regulation by implementing the appropriate technical and organisational security measures, while continuing to engage with data producers to retain their confidence and willingness to provide essential data.

Skills gaps

The on-going 'data revolution' and the utilisation of new data sources creates opportunities for official statistics, but statistical authorities often face difficulties in attracting the special skills and capabilities which are increasingly required to understand and interrogate such data. Data analytics and other technical skills are in short supply, with both the public and private sector competing for such specialists.

In the following section, the NSB considers the progress made on the Actions set out in 2015 to achieve its vision for the Irish Statistical System.

13 Carnegie UK Trust (2018). Online Data Privacy from Attitudes to Action: an evidence review.

14 Research by the Open Data Institute in 2018 found that nearly half of respondents (47%) would share medical data about themselves, if it helped develop new medicines and treatments. Open Data Institute (2018) 'ODI survey reveals British consumer attitudes to sharing personal data'.

Achieving the Vision We're making progress

Public sector leadership

NSB 6.1 Action Points in 2015 Strategy

- > The NSB believes the Department of Public Expenditure and Reform should provide the public sector leadership required to achieve its vision of a world class system for official statistics. This Department has already spearheaded important changes across the wider public service and the NSB believes that it is ideally placed to provide leadership and ensure delivery of effective public sector data governance. This will involve commitment to overseeing the introduction and delivery of the Data Sharing and Governance legislation, implementing the Public Service ICT Strategy, facilitating the establishment of an IGSS, as well as promoting the development of a NDI.
- > DPER's Office of the Government Chief Information Officer (OGCIO) with responsibility for implementing the data element of the Public Service ICT Strategy could bring significant system-wide improvements and consistency to the management and use of public sector data.
- > Issues like organisational reticence and lack of data harmonisation are likely to remain persistent barriers to data sharing. The Board believes that responsibility for the implementation of a NDI should be assigned to the Office of the Government's Chief Information Officer (CIO) along with sufficient resources to encourage and support public bodies to adjust their data management practices. The CIO should have the authority to require compliance with common data standards and protocols so as to achieve better administrative efficiency and improved public services.
- > The Board regards the proposed Data Sharing and Governance legislation as crucial to the delivery of an effective ISS. The legislative framework should ensure that security and confidentiality are central to all data sharing activities, and more broadly that strong data governance procedures are implemented by all public bodies. The public sector through the proposed Data Sharing and Governance legislation, needs to establish a clear legal and ethical framework that clarifies the use of unique identifiers and sharing of administrative data for all public bodies, while ensuring that citizens' personal privacy considerations are respected.

Progress to date NSB Actions to promote the Strategy

- > The CSO and NSB held a joint high-level workshop for members of the Civil Service Management Board entitled 'CSO Engagement with the Broader System' in January 2016. The key elements of a world class statistical system and its benefits for official statistics as well as for policy and administration were outlined. The concept of a National Data Infrastructure (NDI) and the importance of permanent unique identifiers to the successful integration of public data sources were discussed, along with the challenges posed by data privacy, security and protection. 'Leadership and Resources' were identified as the key actions needed to achieve success.

- The Chairperson of the NSB presented the NDI concept to the Department of Public Expenditure and Reform Management Board in February 2016. The presentation illustrated how the creation of such an infrastructure, based on unique identifiers and applying common standards and data privacy and protection controls, could be central to the delivery of public sector reform.
- The NSB high-level workshop on 'Data as a Public Policy Issue' was held in September 2016 as a precursor to the following month's NSB seminar. Senior decision-makers from key data holding Departments¹⁵ participated, as well as the Central Bank of Ireland and the ESRI. Besides the focus on official statistics, the NSB highlighted the possibilities of the NDI for policy, administration and research, and stressed the need for Departments to come on board as champions of the NDI.
- The NSB seminar entitled 'Data as a Public Policy Issue' took place in October 2016. The event brought together key people¹⁶ from the Irish Statistical System to discuss the idea of data as a public good and the value of a NDI in providing more effective and targeted services to citizens and useful information to policymakers and administrators. The discussion highlighted: the benefits of joined-up data; the challenges for Departments in harnessing the potential of data, given the fragmented structure of some data holdings; the importance of unique identifiers; the value of registers; and the need for leadership at Government and Department level in order to make data a priority.

Progress to date **Civil Service Management Board leadership and actions**

- In February 2017 the Civil Service Management Board (CSMB) agreed a proposal on the planned way forward under Action 24 of the Civil Service Renewal Plan: *Improving how data is collected, managed and shared*. The Director General of the CSO, along with five CSMB co-sponsors¹⁷, took leadership of Action 24 and as a consequence, the establishment of a NDI became an explicit part of the Civil Service Renewal Plan. Progress is monitored by the action sponsors and presented at meetings of the CSMB.
- The CSMB produced a position paper on the NDI which broadened the concept to include a wide programme of actions: new legislation; an agreed governance model; the development of systems of technology and processes; and more robust use of identifiers.
- A cross-departmental Champions Group comprising nominees of the CSMB members was established in 2017. Progress on achievement, or maturity, of the 'core NDI' is measured in terms of coverage of the three identifiers across public sector data holdings. A CSMB sponsored survey has now identified (i) key data holdings in Departments and (ii) coverage of identifiers across systems and processes. A 'dashboard' on coverage of the identifiers has been developed for the CSMB as a tool to monitor the measurement of progress towards NDI maturity. In 2017, PPSN coverage across data holdings was over 88% whereas Eircode coverage was approx. 33% of active records (see Table 1).

¹⁵ Revenue Commissioners; Department of Education and Skills; Department of Employment Affairs and Social Protection; Department of Health; Department of Public Expenditure and Reform (Office of the Government Chief Information Officer).

¹⁶ Panel speakers at the NSB Seminar 2016 the Chairman of the Revenue Commissioners; the Deputy Secretary of the Department of Employment Affairs and Social Protection; the Head of Statistics at the Central Bank of Ireland; the Government Chief Information Officer; the Assistant Secretary at the Department of Health; the Director of the ESRI; the Assistant Secretary at the Department of Education and Skills. Presentations were made by Assistant Directors at the CSO and the Strategic Project Manager at the Health Research Board.

¹⁷ Secretaries General of the Department of Public Expenditure & Reform, Revenue, Department of Employment Affairs & Social Protection, Department of Business, Enterprise & Innovation, Department of Communications, Climate Action & Environment.

Table 1: Data Holdings and Coverage of Identifiers in PSBs

	2016	2017 (provisional)
Number of data holdings	38	39
Number of records	30.4 million	33.6 million
PPSN coverage on new records	81.4%	88.7%
PPSN coverage on active records	86.1%	88.5%
Eircode coverage on new records	32.8%	28.8%
Eircode coverage on active records	35.5%	32.7%

Source: Champions Group Dashboard

- > As a support for the collection and storage of Eircodes on Public Sector Bodies databases, OGCIO issued Circular 19/2017 which includes requirements for systems for the processing/use of Eircodes, which is key to the implementation of the NDI. As well as requiring that ICT systems, being developed or upgraded, include an Eircode field, the Circular sets out actions for public bodies to increase the use of Eircodes.
- > Ordnance Survey Ireland (OSi) is developing an Eircode validation application (API) in order to facilitate Eircode capture and use in the public sector.
- > OSi is examining the feasibility of a 'pre-Eircode' to deal with fragmentation of data in the housing sector. This will be a further support for the collection and storage of Eircodes generally in the public service, as it will facilitate linking of housing data from planning through to final use.
- > As part of the Civil Service Renewal (Action 24) and promoted by CSMB, a cross-departmental group was set up to explore the establishment of a Unique Business Identifier (UBI) for the purposes of the NDI, and to consider the potential consolidation of existing multiple identifiers into a single unique business identifier. This group examined mappings, already in place between Revenue's Internal Customer Number and other commonly used business identifiers, and agreed that the Revenue Internal Customer Number is best served as the basis for a UBI.

Benefits of using Eircodes

National Ambulance Service

How the use of Eircodes helps the National Ambulance Service

The National Ambulance Service (NAS) integrated Eircodes into its computer-aided dispatch system in February 2016 which allows the accurate pinpointing of the patients address and location of the nearest available ambulance on a digital map. The use of Eircodes by the NAS assists in the rapid identification of an address, particularly the 35% of non-unique, rural addresses that caused significant operational challenges in the past.

Using the Eircode helps save lives

Estimates suggest that for every minute without CPR and defibrillation, a cardiac arrest victim's chance of survival decreases by 7-10%.¹⁸ In Ireland in 2012, the Out of Hospital Cardiac Arrest Register recorded 1,798 cases, with a survival rate of 5.2% (93 people). Increasing the survival rate to 6.2% could amount to an additional 18 lives saved every year.

Student Universal Support Ireland

How the use of Eircodes helps the Student Universal Support Ireland (SUSI)

Eircodes have been integrated into SUSI's system to help determine which level of grant to award to applicants. Having an Eircode ensures that SUSI captures a validated address as part of the application process which benefits both SUSI and the applicant as it allows for a speedier process of applications. Using Eircodes also reduces the potential for data entry errors and therefore significantly reduces the time required to assess a student's eligibility for grant funding. Use of the Eircode removes any ambiguity about the exact location of an address and allows for the automatic calculation of distance.

Scale of savings from using Eircodes

SUSI estimates that using Eircode saves about two minutes on each application which is equivalent to 1.6 full time equivalent staff or savings of approx. €70,000¹⁹ per annum.

Source: www.dccae.gov.ie

Progress to date **Government Chief Information Officer actions**

- The current Government Chief Information Officer (GCIO) took up position in April 2016 and was briefed by the NSB Chairperson on the actions set out by the NSB in its 2015-2020 Strategy.

¹⁸ Sudden Cardiac Arrest Foundation – <http://www.sca-aware.org/about-sca>

¹⁹ Based on applying Department of Public Expenditure and Reform guidelines to the estimation of staff costs.

- > The GCIO attended the NSB workshop on 'Data as a Public Policy Issue' in September 2016 and spoke as a panellist at the NSB seminar in October 2016 outlining the value of data and the importance of the actions set out in the NSB strategy for better policy making and delivering a more open and modern Government.
- > The *Public Service ICT Strategy*, published by the Department of Public Expenditure and Reform in 2015, is subtitled *Delivering better outcomes and efficiency through innovation and excellence in ICT* and is based on five strategic pillars. The *Data as an Enabler* pillar calls for the improved management of data across the Public Service to support better administration and decision making. An Inter-Departmental Group on *Data as an Enabler* is chaired by the CSO Chief Information Officer.
- > The *Data as an Enabler Group* is developing the *OGCIO Public Service Data Strategy 2018-2022*, which outlines a vision to improve the governance, management and re-use of data across the public service in a secure, efficient and transparent way, for the benefit of citizens, businesses and policy makers. This strategy will build upon data initiatives such as the NDI and Data Sharing and Governance legislation and will include a description of the technical architecture to underpin the NDI, which provides a mechanism for secure data sharing by Departments and therefore maximises the potential use of administrative data.

Progress to date **Data Sharing and Governance legislation**

- > The Data Sharing and Governance Bill which will give a clear legal basis to where data sharing is appropriate, is progressing through the legislative process and takes cognisance of existing legislation, notably the Statistics Act 1993 and the General Data Protection Regulation.
- > The Bill does not refer to the use of unique identifiers on administrative data holdings of public bodies but makes provision for the allocation of a Unique Business Identifier which will provide benefits in terms of data sharing and linking.

CSO leadership

NSB 6.2 Action Points in 2015 Strategy

- > The NSB considers that the CSO should use its strong legislatively based coordination role to actively encourage and support the production and quality of official statistics by other public bodies to broaden the base of the ISS. The Office should engage directly with public bodies on data related issues on the basis of the powers given to it under Section 31 of the Statistics Act.
- > The Board believes that the establishment of an Irish Government Statistical Service (IGSS) would promote and support the ISS and give effect to the coordination role of the CSO. This would strengthen the statistical service being provided to public bodies as well as supporting and enhancing the roles of statisticians currently working in government departments.
- > The CSO should introduce a framework to monitor compliance with the ISS CoP as widely as possible across the public sector and initiate a robust system of peer reviews to ensure observance with the Code. The aim should be to reach a stage where compliance becomes a quality mark for users. CSO should work towards branding official statistics so that statistical outputs branded as *Official Statistics* are recognised as being of the highest quality.
- > The Board believes that the CSO should play an active role in advising DPER and the OGCIO on the implementation of a common data model and in setting standards that apply to data used for the purposes of official statistics across the public sector, as outlined above.

Progress to date **Coordination role of the CSO**

- > A new directorate was established in CSO in 2016 which incorporates a Statistical System Coordination Unit (SSCU). This unit, led by an Assistant Director General, is managing the advancement of the Irish Statistical System by supporting the Irish Government Statistical Service, with seconded statisticians to other government departments now numbering twenty-one. The SSCU is also driving the development of the NDI through the identification and execution of pathfinder projects with government departments. These are collaborative activities which demonstrate the value of administrative data by linking data sources using a common identifier. Such projects can deliver value to policy or services and progress the evolution of the NDI.
- > The first pathfinder project, focussing on third level education outcomes in partnership with the Higher Education Authority (HEA), was published in January 2018²⁰. The New Dwelling Completions pathfinder was carried out by the CSO in conjunction with the Department of Housing, Planning and Local Government (DHPLG) using ESB connections data²¹. Further pathfinder topics are being developed and are expected to include projects in education and health policy as well as population and income.

²⁰ <http://hea.ie/assets/uploads/2018/02/Final-CSO-HEA-Report-Higher-Education-Outcomes.pdf>

²¹ <https://www.cso.ie/en/releasesandpublications/ep/p-ndc/newdwellingcompletionsq12018/>



Progress to date **Establishment of Irish Government Statistical Service (IGSS)**

- > The creation of the SSCU in CSO in 2016 led to the formal establishment of the Irish Government Statistical Service (IGSS) in 2017. This programme of seconding CSO statisticians to government departments continues to build a more coordinated analytical service for Government. The programme was extended to six new Departments in 2017 with seconded CSO statisticians to government departments now numbering twenty-one. The SSCU provides support to the IGSS and will give effect to the coordination role of the CSO established under 'European Statistical Law' (Regulation (EU) 2015/759)²².
- > Seconded staff from the CSO to external departments now operate under a common Memorandum of Understanding (MoU). As well as creating consistency and agreed procedures, this gives IGSS staff a sense of ownership and solidarity as part of the ISS, as well as underlining the importance of the NDI. The MoU also includes a requirement to facilitate statistical audits to enable the CSO to carry out its coordination role as outlined above.
- > The secondment of staff from other organisations to the CSO has also progressed with economists from SOLAS and HEA working with CSO. The secondment of analysts from IGEES²³ will also be progressed subject to availability.

Progress to date **Compliance with the Irish Statistical System Code of Practice**

- > Statistics must be produced in an independent and objective manner to ensure public trust. The Irish Statistical System Code of Practice (ISS CoP) applies to the compilation of official statistics produced within the ISS. Use of the ISS CoP logo indicates that official statistics adhere to the ISS CoP.
- > In 2017, the CSO conducted the first audit of a member of the ISS (Revenue Commission) seeking to formally demonstrate adherence to the ISS CoP. The CSO Management Board approved the use of the ISS CoP logo for the Revenue Commission's statistical outputs, confirming that its official statistics are being produced in a manner that is professional, independent, and of the highest possible quality.
- > Five other Public Sector Bodies²⁴ have completed self-assessment questionnaires which is the first step in the ISS CoP audit process and fourteen have agreed commitment statements and named statistical coordinators. This is a confirmation of commitment to best practice in the production of official statistics as outlined in the ISS CoP.

²² Regulation (EU) 2015/759 amending Regulation (EC) 223/2009. Official Journal of European Union, 19.5.2015. Regulation (EC) 223/2009 is the framework legislation for the European Statistical System (ESS), which is made up of Eurostat and producers of official statistics in Member States. The Regulation defines the objectives, governance and statistical principles of the ESS.

²³ Irish Government Economic and Evaluation Service.

²⁴ The list of organisations currently committed to ISS CoP can be found at <http://www.isscop.ie/news/>

Progress to date **Common data model standards**

- > The aforementioned *Public Service Data Strategy 2018-2022* builds on the NDI and the Data Sharing and Governance Legislation to describe the systems and governance arrangements (including standards development) needed for an effective data network. This strategy, is being developed by the *Data as an Enabler Group*.



CSO resources

NSB 6.3 Action Points in 2015 Strategy

- > The Board believes it is of critical importance that the CSO has adequate resources so that the quality and reputation of Irish official statistics are not compromised in any way.
- > The CSO should ensure that it acquires the additional resources needed to effectively carry out its obligation under Regulation (EU) 2015/759 and to respond to the recommendations of the ES CoP Peer Review. These resource requirements should be included in its annual workforce planning submissions to the Department of Public Expenditure and Reform.
- > The Board considers that the CSO should adopt more effective cost accounting systems by introducing a systematic product-based and process-based accounting approach as recommended by the 2015 Peer Review.

Progress to date CSO resources

- > The CSO has been allocated a significant increase in its budgetary resources in the past three years (see Table 2). This has been the key to enabling progress on the NSB vision as well as allowing the Office to carry out its obligations under Regulation (EU) 2015/759 and to respond to the recommendations of the ES COP Peer Review.
- > These extra resources facilitated the appointment of a Chief Information Officer and a Head of Communication and Dissemination in 2016 as well as a number of specialist staff recruited throughout 2017 and 2018.

Table 2: CSO Human Resources 2015-2018 (including seconded staff)

	January 2015	June 2018	% change
Director/Assistant Director	4	6	50%
Senior Statistician/ Principal Officer	21	34	62%
Statistician/ Assistant Principal	125	172	38%
HEO & EO	250	285	14%
CO	226	198	-12%
Other	93	144	55%
Total	719	839	17%

Source: CSO

Progress to date **Cost accounting systems**

- > Increased efficiency and cost-effective resource planning will be achieved through the delivery of a costed recruitment model in the CSO. Additional resources were assigned, in 2016, to ensure delivery of this accounting approach.



CSO skills base

NSB 6.4 Action Points in 2015 Strategy

- > It is the view of the Board that the CSO must remain proactive in workforce planning and recruitment to ensure that the loss of skills due to retiring and departing staff members does not jeopardise the quality and trusted nature of the statistical output.
- > The CSO should develop a culture of continuous professional development and upskilling to ensure that the Office remains abreast of international advances in statistical production and well-placed to implement new technologies and methodologies when they become available.
- > The CSO should also ensure its own and ONAs staff receive appropriate training in quality management.
- > The Board believes that the CSO should explore strategic alliances with the private and academic sectors to take advantage of technological progress being made in these areas and enhance its production capacity. Similarly, the CSO should remain cognisant of international developments that could have relevance for statistical production here.

Progress to date CSO upskilling

- > A Graduate Placement Programme was introduced in the CSO in 2016 and has been expanded to include projects in areas such as technology, multimedia, graphic design and geographical information systems (GIS).
- > The CSO completed the Statistical Training Framework (STF) exercise in 2017. This identifies the specific skills required by staff in the organisation and matches these skills to the Generic Statistical Business Process Model (GSBPM)²⁵.
- > A Fundamentals in Statistics course was offered to staff in 2018 and, in partnership with University College Cork, the CSO developed and delivered an accredited training module in statistical sampling and estimation.
- > A Continuous Professional and Personal Development (CPPD) Programme is in place in the CSO for Statistician/Assistant Principal grades and above.

²⁵ The Generic Statistical Business Process Model (GSBPM) describes and defines the set of business processes needed to produce official statistics. For further information visit <https://www.cso.ie/en/methods/gsbpm/>

Progress to date **Training in quality management**

- > Quality Management Framework (QMF) and GSBPM training for all staff in CSO was carried out in 2017. The purpose of the QMF is to improve the clarity, consistency and ultimately the quality of statistical processes and outputs. The foundations of the QMF are based on the GSBPM and the ES CoP which sets the standard for developing, producing and disseminating European statistics. The QMF is now widening from a CSO focus to incorporating the ISS, beginning with the Department of Health, and the GSBPM is being utilised as a framework to develop a statistical training model across the ISS.
- > The MoU agreed for ISS seconded staff includes provision for training guidance to be provided by CSO and implemented by the host organisation.

Progress to date **Alliances with private and academic sectors**

- > In 2017, CSO and Ordnance Survey Ireland (OSi) launched a new Open Data website aimed at getting geographical and statistical information into the hands of public sector decision makers and civil society groups. The new website²⁶ makes the Census 2016 Small Area Population Statistics (SAPS) which were released by CSO in July 2017, available as geographical Open Data for the first time.
- > The first pathfinder project on the Sustainable Development Goals was launched at the European Forum on Geography and Statistics in November 2017²⁷. This platform was developed as part of a partnership between OSi, the CSO and Esri Ireland.
- > Dublin City Council launched its new Housing Observatory in July 2018 in collaboration with OSi and the All-Ireland Research Observatory (AIRO) at Maynooth University, drawing on data from the CSO, the Residential Tenancies Board, the Property Price Register (PPR), local authorities and the Revenue Commissioners.

26 <http://census2016.geohive.ie/>

27 <http://irelandsdg.geohive.ie>



CSO and Big Data

NSB 6.5 Action Points in 2015 Strategy

- > The CSO should develop its own Big Data strategy to enable the organisation to exploit the potential of Big Data opportunities for official statistics. It should seek strategic alliances with educational institutes and publicly funded research centres such as Insight²⁸, CeA-DAR²⁹ and the ESRI³⁰ as well as with private enterprise (in Ireland) to leverage skills and expertise in this field.
- > The CSO should build on its work to develop the potential of mobile devices as sources of data, data collection tools and dissemination channels.
- > With a focus now being placed on the usage of Big Data sources and other private sector data sources the CSO should engage with the Data Protection Commissioner to construct a framework that sits comfortably both within the statistical legislative environment and the Data Protection environment that ensures access to these sources at the required level of detail to support efficient compilation of aggregate statistical outputs while at the same time satisfying any perceived data protection concerns.

Progress to date CSO Big Data Strategy

- > The CSO Big Data Strategy, developed in 2018, summarises the CSO's strategic direction with respect to the development of Big Data sources and associated techniques. The Big Data Unit was established in 2017 to grow this capability as CSO identifies and investigates how to capture the value from Big Data. It should be noted however that the publication of official statistics exclusively based on Big Data sources is a challenge, not just for the CSO, but for National Statistical Institutes (NSIs) internationally³¹ and at this point there are few examples of official statistics being compiled exclusively from such sources.
- > The CSO hosted an International Conference on Big Data for Official Statistics in 2016. The conference brought together approximately 300 delegates for discussion and presentations structured around three key themes in the area of Big Data: Access and Partnership; Training, Skills and Capacity Building; Big Data and Sustainable Development Goals.
- > In 2016, the CSO and the Irish Centre for High-End Computing (ICHEC) played a key role in progressing work on Big Data for official statistics through the development of a shared research and development software environment known as the 'Sandbox'. This development provided a secure and flexible platform, to allow international experts to explore methodologies and tools using Big Data and high performance computing.

28 Insight Centre for Data Analytics.

29 Centre for Applied Data Analytics Research at University College Dublin.

30 The Economic Social and Research Institute.

31 <https://ec.europa.eu/eurostat/documents/7330775/7339482/The+Bucharest+Memorandum+on+Trusted+Smart+Statistics+FINAL.pdf/59a1a348-a97c-4803-be45-6140af08e4d7>

Progress to date **Development of data sources**

- > Work is ongoing at the CSO with respect to negotiating access to 'big' data. The CSO is currently finalising a Data Protection Impact Assessment (DPIA) on a new CSO tourism statistics project which will contribute to producing more detailed tourism statistics by using anonymised data from Mobile Network Operators (MNOs) on international roaming communication events. This DPIA covers processing of roaming data, particularly anonymisation of the data by MNOs.
- > A CSO project commenced in 2017 to explore, for statistical purposes, the potential of road traffic loop data from Transport Infrastructure Ireland (TII).

Progress to date **CSO and data protection**

- > Data protection activity, always a key focus for the CSO, intensified in the period 2016-2018, particularly as protocols and procedures were updated and adjusted to ensure compliance with the General Data Protection Regulation (GDPR). A dedicated Data Office oversees data protection policy and compliance with all data protection and privacy legislation.
- > The CSO published *Information for Data Suppliers* on the CSO website in 2016. This sets out the role of official statistics, the CSO's legal mandate, how the CSO upholds the principles of data protection and the safeguards in place to protect data collected by the CSO. It was prepared in consultation with the Attorney General's office and provides guidance on the interplay between statistical and data protection legislation.



CSO and user engagement

NSB 6.6 Action Points in 2015 Strategy

- > The CSO should develop a new communication strategy based on a review of the suitability of its existing provision, exploring new dissemination channels and methodologies. The CSO should also develop integrated horizontal publications that seek to explain the interactions between statistical indicators in more visually attractive forms.
- > The NSB will oversee the conduct of a new user survey and recommend that it be repeated regularly.
- > The CSO should instigate a review and evaluation of its website including the use of its online data and publications with a view to improving content and presentation.
- > The CSO should continue to promote the use of official statistics and the development of statistical literacy through its schools' programmes. It should consider more formal links with third-level institutions offering relevant courses or promoting the use of official statistical data sources.
- > The CSO should seek to facilitate researchers' access to microdata consistent with the requirements of the Statistics Act, including remote access where feasible.

Progress to date **Communications and dissemination at CSO**

- > The CSO launched a redesigned website³² in 2015. The website has been adapted for use on mobile platforms.
- > A Head of Communication and Dissemination at CSO was appointed in 2016 and a comprehensive communications strategy was developed. Further improvements include the establishment of a press office function; a CSO rebrand; and a media relationship programme. All of these measures have brought about considerable advancement in CSO's communication and dissemination activity.
- > The use of visualisation tools and user applications by the CSO has also been significantly increased and a new style of infographic has been developed to support the communication of statistical outputs, as well as the use of animated videos to explain more technical topics. In 2017, CSO launched a visualisation tool on its website – *Brexit Indicators: Ireland and the UK in Numbers* – which provides data on Ireland's relationship with the UK.
- > In 2016, the CSO convened the Economic Statistics Review Group (ESRG) whose purpose was to develop recommendations on how best to meet the statistical needs of users of CSO statistics, in particular national users, and to provide guidance on the development of a broader suite of domestically-focused economic indicators and information to supplement internationally agreed measures of economic activity (GDP, GNP)³³. The CSO is now seen as a leader in the area of globalisation and macroeconomic statistics and facilitates study visits from a broad range of National Statistical Institutes.

³² <https://www.cso.ie>

³³ The report from the ESRG and the CSO response to this report can be found at <https://www.cso.ie/en/csolatestnews/eventsconferencesseminars/resrg/>

- > Ireland achieved first place in the European Commission Open Data Maturity Survey in 2017, assisted hugely by the fact that all CSO data published on StatBank³⁴ and all the information on StatCentral³⁵ is harvested on Ireland's Open Data Portal data.gov.ie and the European Data Portal³⁶. CSO is continuing to innovate in this area and is looking at publishing StatBank data as linked open data in 2018.
- > A public consultation on questionnaire content for Census 2021 was opened in 2017, attracting over 400 submissions. A Census Pilot Survey³⁷, incorporating new questions on childcare, smoking, volunteering and green energy, took place in September 2018 in selected areas around Ireland.

Progress to date **CSO user survey**

- > The CSO, in conjunction with the NSB, conducted a user survey in 2017 in order to profile and understand users including the use of various social media channels when using CSO services; identify specific usage and behaviour when using CSO services; and evaluate attitudes towards current services. A parallel survey of non-users was undertaken to establish awareness and understanding of the CSO and any barriers to engagement with the CSO.
- > In general, the results of the user survey showed a positive attitude towards the CSO with good retention rates. The continuous improvement of the visual appeal of statistical outputs and CSO's presence on various social media channels were highlighted by users.

Progress to date **Development of statistical literacy**

- > The continued success of the John Hooper Medal for Statistics was underpinned by the success of the Irish winners in 2015 who went on to win first place in the world in the senior category of an international poster competition at the International Statistics Institute World Statistics Congress.
- > The CSO is now sponsoring the BT Young Scientist *Best Use of CSO Open Data* award aimed at encouraging young people to use open data. This award is for the most innovative use, or potential use, of CSO data.
- > The Apps4Gaps competition, run annually, encourages teams to develop innovative apps using available open data and to generate new insights into areas such as housing, transport, planning, education, communications and health.
- > The CensusAtSchool³⁸ initiative continues to promote good use of statistics, mathematics and data handling among secondary school students.

34 <https://www.cso.ie/px/pxeirestat/statire/SelectTable/Omrade0.asp>

35 The StatCentral portal provides standard documentation on recurring official statistics and links to where they can be found. <http://www.statcentral.ie/>

36 <https://www.europeandataportal.eu/>

37 The Census Pilot Survey is a small-scale census that tests new questions and new enumerator technology for the next full census which will take place in 2021.

38 <http://www.censusatschool.ie/>



Progress to date **Researchers**

- > The CSO launched a Remote Access to microdata solution for researchers in 2017. All access for researchers to Research Microdata Files (RMFs) is controlled in the CSO by means of a Virtual Desktop Infrastructure (VDI)³⁹.
- > Prior to the GDPR, the CSO relied solely on the Statistics Act, 1993 as the framework for its activities. In accordance with the GDPR, CSO must now ensure that, as well as having a legal basis, the provision of RMFs to researchers is proportionate, necessary and adheres to the principle of data minimisation.

³⁹ With the exception of Growing Up in Ireland, which is covered by the terms of the previous RMF Policy. <https://www.esri.ie/growing-up-in-ireland/>

CSO priorities

NSB 6.7 Action Points in 2015 Strategy

- > The Board considers that the CSO needs to assign significant weight to the areas of environment and energy in its work programme. As currently available, official statistics lag behind what is required for effective policy decision-making and adherence to international regulatory requirements in this sector.
- > The Board's view is that it would be worthwhile for the CSO to develop an annual Well-being publication that would harness available information across areas such as, health, education, job satisfaction, personal finances, and the physical environment, to provide a barometer of Ireland from a Well-being perspective.
- > The Board believes that the CSO should continue to seek additional granularity in its data to address the user demand for more local level data through the exploitation of administrative data sources at local level. Furthermore, local authorities should be supported and encouraged by the OGCI or IGSS, once established, to release more local level data, through the development of local data portals and the agreement of a local data framework for data collection and analysis that would be based on a set of common local data indicators.

Progress to date **Environment and Energy**

- > A new Environment and Energy division was established at CSO in 2015 which brought about a significant expansion of the resources and outputs from the area over the last three years. The Environment and Energy division published four new releases⁴⁰ in 2017 all of which were based on administrative data.
- > The CSO and Met Éireann are collaborating on a new climate data project which involves the capturing of historically recorded data by Met Éireann meteorological officers. There are about 40 variables covering characteristics such as: air and grass temperatures; air pressure; humidity; wind force and direction; cloud formation; rainfall; and sunshine hours.

Progress to date **Well-being**

- > A new Income, Consumption and Wealth Division was established at CSO in 2017 with responsibility for publishing a suite of social indicators to complement macroeconomic indicators which will allow the CSO to provide better and more relevant information on the household sector.
- > *The Wellbeing of the Nation* report was launched by this CSO division in 2018⁴¹ and the *Irish Health Survey* results for 2015 were published in 2016⁴².

40 <https://www.cso.ie/en/statistics/environmentstatistics/domesticmeteredpublicwaterconsumption/>
<https://www.cso.ie/en/statistics/environmentstatistics/networkedgasconsumption/>
<https://www.cso.ie/en/statistics/environmentaccounts/environmentalsubsidiesandsimilartransfers/>
<https://www.cso.ie/en/statistics/environmentstatistics/incomeandexpenditureonwatersupplyandwastewatertreatment/>

41 <https://www.cso.ie/en/statistics/health/thewellbeingofthenation2017/>

42 <https://www.cso.ie/en/statistics/health/irishhealthsurvey/>



Progress to date **Administrative data sources at local level**

- > Progress by the CSO on exploiting administrative data sources at local level has not progressed, with the exception of an ongoing project with Cork City Council.



Further Challenges

It is evident from the foregoing that considerable progress has been made in moving toward the NSB's vision of a world class system for official statistics in the years since the publication of its Strategy document in 2015. More than midway through the five-year period of the Strategy, advances have been made through public service leadership, appointments to senior positions, advancement of legislation for governance, a strategy to maximise the potential of public service data, and through a wide range of actions by the CSO facilitated by the provision of additional budgetary resources. While recognising and applauding what has been achieved, the NSB is conscious that its vision of building a world class statistical system for Ireland is ambitious and will take more time and painstaking effort to come to fruition and that not all of its recommendations have progressed at the same pace. Even when advances are made, inevitably new challenges will arise and require changes in direction or modifications to adjustments already made.

Civil Service Management Board (CSMB) leadership and actions

- The NSB welcomes the very considerable progress made in advancing its Strategic Priorities through CSMB sponsorship. Support and recognition at this level is crucial for advancement of the Irish Statistical System (ISS). The CSO, along with five CSMB co-sponsors, leads Action 24 of the Civil Service Renewal Plan: *Improving how data is collected, managed and shared*. Action 22 of the CSRP: *Strengthen policy-making skills and develop more open approaches to policy-making* can be directly linked to Action 24, as engaging with and understanding evidence from the ISS should ensure more relevant, well-founded and open policy-making. The Board stresses the importance of the cross-departmental Champions Group to ensure continuing focus on the National Data Infrastructure, and on measuring progress on increasing the coverage of permanent unique identifiers in data holdings of Public Sector Bodies (PSB's). This group should also play a strong role in promoting the use of PSB data sources for the benefit of the public service.

Office of the Government Chief Information Officer (OGCIO)

- The NSB looks forward to the publication of the Public Service Data Strategy 2018-2022 by the Department of Public Expenditure and Reform. As stated in the NSB Strategy, it is the Board's firm view that a public service data plan is fundamental to building a world class statistical system. Addressing data issues is also a prerequisite to supporting a shared services approach. Given that provision of services is based on data, the delivery of effective and efficient shared services is dependent on resolving data matters. The actions associated with this Strategy need to be as clear as possible and linked to concrete outcomes so that PSBs can become engaged with them, understand their logic and value, and make the necessary changes to well-established, if now outmoded, practices across a range of data sources. The Board would like to stress the importance of clearly linking the presentation of technology and data architecture with structures and methods for ensuring data protection and citizen privacy, so as to allay any fears in this regard.



Data Sharing and Governance legislation

- > In its Strategy, the NSB recommended the introduction and implementation of this legislation as a priority. This would provide a robust governance structure for data-sharing across the public service so as to support administrative efficiency, improved and streamlined public services and the enhanced policy development and evaluation. The Board welcomes the fact that the Data Sharing and Governance legislation is progressing through the legislature and would urge that the importance of the use of unique identifiers, including the Eircode, be recognised in actions to give effect to this legislation.

Collection of Eircodes

- > Successive NSBs have advocated for the introduction of spatial identifiers and warmly welcomed the introduction of Eircodes as a key pillar of the NDI. However, the slower than anticipated progress in the adoption of Eircodes is a major concern. The Board notes that the collection of Eircodes by PSBs is not mandatory and believes that this is a significant obstacle to their wider adoption.
- > While Circular 19/2017⁴³ represents progress in the right direction by advising PSBs of their obligations with regard to ICT systems and processes currently being developed or upgraded, the Board believes that a greater impetus is needed to promote the collection, capture and use of Eircodes across the public service, including in the provision of frontline services. The Board recommends that the measures to increase Eircode use, as set out in Circular 19/2017, form the basis of an action plan by each PSB for the adoption of Eircodes. Progress on the coverage of Eircodes on public sector data holdings should continue to be monitored by the CSMB and the Board recommends the cross departmental Champions Group compile a report on the obstacles to Eircode capture, with a view to addressing them directly.

CSO Leadership - coordination and quality

- > The resourcing of the CSO's coordination role has allowed it to take the leadership position envisaged in the NSB Strategy and the Board regard this as a major advance in enabling the development of a world class Irish Statistical System. The Board envisages that the CSO will continue to build on its pathfinder projects and support for IGSS over coming years and urges it to expedite its work with other PSB's to ensure that their data holdings and statistical outputs are of the highest quality.

43 Circular 19/2017: Arrangements for the recording and utilisation of Eircodes within the Public Service.

CSO and IGSS resources and skills base

- While the CSO has received additional resources to expand its staff and skills base, and this is greatly welcomed by the Board, the Office is experiencing difficulties with staff recruitment and retention, particularly in areas of skill shortages such as data analytics and technology. The Board urges the CSO and DPER to work together to find a solution(s) that can address the emerging recruitment and retention issues of statisticians within existing parameters.
- The Board commends the introduction of the Graduate Placement Programme and urges that it be continued or expanded as required to meet the developing skill needs of the CSO.
- The Board welcomes efforts by the CSO to expand workforce planning and recruitment beyond statistical expertise, to incorporate specialist staff such as graphic designers, a webmaster and software development manager. It recommends that the CSO remain proactive in this area to broaden the necessary skills base within the organisation.

Compliance with ISS CoP

- The NSB Strategy stated that the ISS CoP should become a quality assurance mark for Irish official statistics published by public bodies. Statistics that are ISS CoP compliant should be distinguished by their quality and trustworthiness in the public mind. The Board welcomes the first issuing of the ISS CoP logo to a public sector body and urges that the CSO ensure that it has the resources to expedite the statistical auditing of public service organisations, so that the quality of their statistics is clearly evident and incontrovertible.

CSO and Big Data

- In its Strategy, the NSB pointed out that Big Data is both a challenge and opportunity for official statistics. The Board welcomes the CSOs continuing efforts to utilise Big Data, notably the potential of data from Mobile Network Operators to enhance or replace more traditional data sources in the compilation of aggregate statistical information.
- The NSB recommends that the Data Protection Impact Assessment (DPIA) for the Mobile Network data project⁴⁴ be completed and used as the basis for a discussion with all relevant stakeholders to facilitate the development of aggregate statistical information requested by policy makers and the industry for a broader and more insightful suite of tourism statistics.
- In view of the potential importance of Big Data for official statistics, and the many issues involved, the Board urges the CSO to expedite the publication of its Big Data Strategy.

User engagement

- The NSB welcomes and commends the huge transformation in the CSO's communications and dissemination activity over the past three years. The development of visualisation tools by the CSO and the further development of horizontal publications that seek to explain the

⁴⁴ CSO tourism statistics project which will contribute to producing more detailed tourism statistics by using anonymised data from Mobile Network Operators (MNOs).

interactions between statistical indicators are valuable resources for users and should be continued and enhanced where possible, as should improvements of the CSO website.

- The Board regards the User Survey as a welcome clarification of user needs and an important source of feedback about what the CSO is doing well and what needs improvement, as well as informing its communications strategy. The Board recommends that this type of survey be repeated regularly.

CSO priorities

- The Board welcomes the significant work by the CSO in the areas of environment and energy and in well-being. Substantial progress has been made on the exploitation of secondary data sources and in particular administrative data holdings of Government Departments/Agencies. Over 50% of all CSO statistical products are now derived from 'integrated' or 'blended' data sources (i.e. survey and administrative and/or administrative combined with other administrative data sources). The CSO is also looking to exploit Mobile Network Operator data (i.e. a Big Data source).
- Progress on exploiting administrative data sources at local level has not progressed, with the exception of an ongoing project with Cork City Council. The Board urges the CSO to deepen its engagement with local authorities to assess the potential and quality of local authority data sources for compiling official statistics.
- The Board welcomes the ongoing work on pathfinder projects and horizontal reports at CSO in conjunction with the ISS and suggests that the CSO implement a formal approach to horizon scanning in order to produce timely outputs on key statistical themes to support evidence-based decision making.

Closing comment

This review of progress since the publication of the NSB Strategy in 2015 has demonstrated the significant and substantial progress made in the years since then. In 2015 the Board emphasised the importance of strong leadership to create an effective Irish Statistical System underpinned by a robust and secure National Data Infrastructure. This has come from the highest levels in the public service, from the CSO, and from Government support, and it has delivered the beginnings of the transformation needed. Implementation will take committed and sustained management from all parts of the public system as well as continued leadership and belief from the top. As always in a process of reform, the big challenges will be maintaining momentum in all the parts, avoiding diversions and inertia, and addressing new challenges. The prize is a world class Irish Statistical System; the NSB believes that this can be achieved and will continue to monitor progress.

Appendix 1

National Statistics Board members⁴⁵

Patricia O'Hara

Chairperson, Adjunct Professor, National Institute for Regional and Spatial Analysis, NUI Maynooth

Gerard Brady

Senior Economist, IBEC

Eimear Cotter

Director of the Environmental Protection Agency (EPA)

John Martin

Consultant, former OECD Director for Employment, Labour & Social Affairs

Gerard O'Neill

Chairman, Amárach Consulting

John Shaw

Assistant Secretary, Department of the Taoiseach

John McCarthy

Chief Economist, Department of Finance

Pádraig Dalton

Director General, Central Statistics Office

Secretary to the Board: Claire Hanley (Statistician, Central Statistics Office)

⁴⁵ <http://www.nsb.ie/membership/currentmembers/>



Appendix 2

Circular 19/2017: Arrangements for the recording and utilisation of Eircodes within the Public Service⁴⁶ (Extract)

Section 3: Arrangements

Increase Eircode Capability

All public bodies should store and integrate Eircodes as part of an address whenever it is relevant to the transactions between the Public Service Body (PSB) and their customers.

The following apply:

- i. All new information technology systems and processes currently being developed should include Eircodes in the address field (where an address field is part of the system or process);
- ii. All existing information technology systems and processes currently being upgraded should include Eircodes in the address field (where an address field is part of the system or process); and
- iii. All information technology systems and processes planned for development should include Eircodes in the address field (where an address field is part of the system or process).

Increase Eircode Use

In conjunction with the aforementioned measures to increase the public service's Eircode ICT infrastructural capability, public bodies are obliged to consider the following actions in relation to Eircode processing.

- i. Encode active databases containing addresses with Eircodes by matching existing addresses to the correct Eircode. Where matching the correct Eircode is not possible, the relevant Eircodes should be captured through other means in order to ensure all addresses in the active databases have a corresponding Eircode;
- ii. The Eircode field, as part of an address in a database, should be searchable in all Information Technology Systems and processes;
- iii. Incoming Eircodes for a corresponding address should in real-time be validated against the latest Eircode address file and/or database;
- iv. Request an Eircode as part of an address from customers (where an address is required); and
- v. All outgoing correspondence shall include Eircode, where available, as part of the customers address.

⁴⁶ <https://circulars.gov.ie/pdf/circular/per/2017/19.pdf>

