The Global Language of Business

24th November 2024

Via email to

GS1 UK Response to: Invest 2035: The UK's Modern Industrial Strategy

GS1 UK is a not-for-profit membership body that enables trusted data through global standards. Annually, our 60,000 members generate over £1tn worth of turnover in the UK. We were founded to enable the transformational barcode, which goes beep at the till more than ten billion times per day across the world.

Our standards form the basis of a global business language that identifies, captures and shares key data on products seamlessly around the world. They enable the rapid exchange of data right across the supply chain, supporting business efficiency and now with the next generation of QR codes informing and protecting consumers.

Our standards have been enabling data transfer and driving productivity gains across retail, construction, healthcare and all complex supply chains around the world for over 50 years.

Our unique position as a global not-for-profit federation ensures that our standards are globally interoperable, facilitating data to be exchanged across multiple and often competing systems, allowing complex data to be shared quickly and easily between non-propriety systems.
Our standards are ubiquitous, but can go unrecognised by Governments when looking to drive efficiencies through regulation . This often results in 'reinvention' by regulators, resulting in increased cost for industry.

We recognise the changing needs of industry and wider society. Our neutral status provides the platform for businesses to come together in a precompetitive environment to solve these complex issues and our standards evolve to support them

We believe there are significant productivity gains to be made via smarter regulation, data capture and data sharing using existing GS1 standards. We have gone into more detail by answering the relevant questions below.

We hope that you find our comments and evidence useful.

Kind regards,

Dan Bellis

Head of Policy

Sectors

4. What are the most important subsectors and technologies that the UK government should focus on and why?

The importance of data as a sector

We welcome the inclusion of advanced manufacturing and digital technologies as important subsectors for UK Government focus. However, we would highlight the importance of rapid data sharing across supply chains in all sectors, as an area for improvement

Regardless of sector type, having full visibility of the value chain and effective transfer of data across it is critical to effective business function. Yet, manufacturing businesses are reliant on outdated analogue methods that do not enable the rapid transfer of data across the value chain – often resulting in lower levels of productivity, and decision-making being made on the back of bad data.

A report from McKinsey in 2022 found that 67% of global manufacturing businesses leaders had implemented digital dashboards for end-to-end supply chain visibility, making them twice as likely to avoid supply chain problems[1].

Many of those businesses who have already implemented robust product data capture in their supply chains have done so using GS1 standards, leveraging their universal interoperable nature. This helps businesses produce large datasets on their supply chains, allowing for more advanced scenario planning and sales modelling, something likely to be further enhanced with the arrival of AI.

Effectively, using interoperable standards across the whole supply chain helps create a digital twin upon which decisions and events can be modelled.

However, the benefits of rapid data transfer, sharing and visibility are not just felt by those individual businesses, but produces gains up and down the value chain, including for government, the public and regulators.

This has recently been most notable in the open data exchange, underpinned by GS1 standards, to enable high in fat, salt and sugar regulations (HFFS).

[1] https://www.mckinsey.com/capabilities/operations/our-insights/taking-the-pulse-of-shifting-supply-chains

HFFS Regulations often require the sharing of food data across the entire supply chain, so that nutritional values are clear and retailors comply with restrictions on their promotions and placement.

GS1 standards allow for consistent identification of products and their movements through the supply chain. This includes uniquely identifying which products are in and out of scope for the HFSS regulations, as the nutritional data has been captured and shared.

This unique identification allows manufactures to attach additional data, such as production date, batch number, and expiry date. This data can be captured, stored, shared, and accessed quickly and accurately.

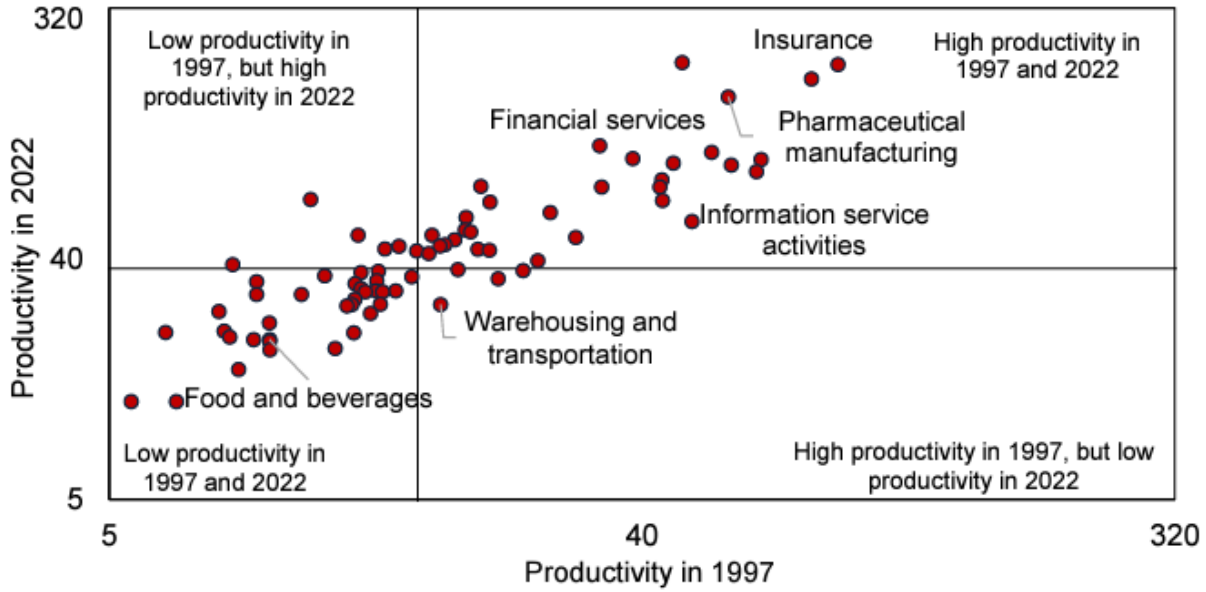
The data exchanged in this process is shared without commercial barriers and at a pre-competitive stage, by agreeing the key data points to record and the implementation of a common method of data exchange across industry – GS1 standards.

This shows the impact that digital transformation can have on sectors where the supply chain is complex and critical to business function, and yet there is a common regulatory hurdle.

We would strongly recommend that the UK government also consider how the development of rapid data transfer between businesses, regulators, government and consumers can help improve productivity across a range of sectors.

Why large but traditional sectors shouldn't be disregarded (such as retail)

Chart 2 (reproduced below) shows output per hour worked between 1997 and 2022 across a number of key UK sectors. Of particular interest and the relative low productivity levels of the food and beverage industry, as well as warehouse and transportation – two industries reliant of efficient supply chains.



Note: Line intersection represents the whole economy position.

Source: Office for National Statistics (2023) Output per Hour Worked, UK.

Yet,

Research from Oxford Economics shows that the UK's logistics sector contributed £140bn in GVA and employed around 2.6 million people in 2023[2]. In addition, the food and beverage sector is the biggest UK manufacturing sector by turnover, valued at £104.4bn[3].

Changes in technology and increased data robustness and efficiency have the potential to dramatically improve productivity across these sectors.

[2] https://logistics.org.uk/CMSPages/GetFile.aspx?guid=43278074-995a-42c6-8209-237f9911a1f4&lang=en-GB

[3] https://www.great.gov.uk/international/investment/sectors/food-and-drink/#:~:text=Combining%20high%2Dquality%20produce%20with,automotive%20and%20aerospace%20industries%20combined.

GS1 UK recently canvassed the views of more than 500 UK-based leaders of retail businesses to inform our continued collaboration with industry and better understand how technology can address the industry's current and future priorities.

We asked about their companies' technology priorities in the years ahead. Much of what they told us relates to customer loyalty and improving CX through better data collection, management and analysis. That includes gathering and leveraging first party consumer data.

The Internet of Things (77 per cent), Blockchain (73 per cent), predictive analytics (73 per cent), Automation (72 per cent) and AI (77 per cent) emerged as the top priority areas as businesses aim to replace legacy technology and move more to the cloud, principally to upgrade data analytics capabilities.

All of these developments are underpinned by having secure trusted data that is easily accessible, which can better inform key decision making – which in time can become more and more automated as manual errors are reduces and trusted data established.

A forward-thinking industrial strategy must consider how technology and data can enhance existing high-value sectors, ensuring these industries remain competitive and resilient, rather than solely prioritising the development of new technologies in emerging, tech-focused fields.

6. What are the key enablers and barriers to growth in these sub sectors and how could the UK government address them?

As highlighted above, we believe there are significant productivity gains to be made by treating data as a core theme of the industrial strategy, enabling its rapid transfer across a range of sectors via interoperable standards.

This opens the door for further digital productivity enhancements from the large-scale supply chain datasets that business will create once having adopted this approach. It. also delivers across the entire value chain, bringing benefits for the public, regulatory bodies and the government.

However, there are also a number of barriers that undermine this principle of rapid standardised data transfer across the value chain.

Non-data driven regulation

A key example of where interoperable data could deliver significant productivity gains, but has so far failed to deliver due to Government regulations, is labelling reform. Many manufacturers (especially high-volume manufacturers) rely on the speed of their production line to maintain margins. However labelling changes can pose a significant challenge to operations, especially where regulatory compliance fragments the process.

For example, in 2022 and 2023 during discussions on Deposit Return Schemes, governments across the UK were each looking to implement their own labelling requirement on applicable products. This could have resulted in manufactures being forced to implement separate production runs for each nation within the UK, or looking to combine a number of logos on pack – creating added confusion for the consumer.

The arrival of QR codes powered by GS1 would have allowed these labels to be printed on 1 production line, but use data (such as location at point of scanning) to present the consumer with the relevant information depending on which nation they were in, or indeed the language they communicated in.

Data such as batch numbers, expiry dates, recall, origin, nutritional values etc can all be collected, shared and communicated via this method – bringing in large productivity gains for industry, consumers and regulators alike.

This is a key example of where government regulation drives inefficiency by presenting data (labels) to the consumer in an analogue non-interoperable format.

Locked and fragmented data sets

There are also strong examples of where robust datasets have provided tangible productivity gains. However, these have largely been limited in their capacity due to a lack of interoperability.

NHS supply chain's policy on data standards for supplier product coding uses GS1 standards, particularly the GS1 Global Trade Item Number (GTIN), as the preferred data coding standard. This data helps improve patient safety, traceability and inventory management across the NHS.

However, not all NHS trusts are using standards to underpin their inventory management. Some even still use paper records. This means that they do not have the high-quality dataset with which to better inform decision making or improve productivity.

This brings in additional challenges when we begin to combine this data from the individual trust level, into a national picture of inventory management. Those trusts that have implemented such measures, must ensure that the data is shareable at a national level, providing central government departments a nationalised view of NHS stock and resource, allowing for critical decision making at the centre.

This is why, as part of the industrial strategy, due consideration must be taken to ensure data remains open, interoperable and not locked down to any one individual provider or gatekeeper.

Business Environment - Data

12. How can the UK government best use data to support the delivery of the Industrial Strategy?

As mentioned previously, data is critically important across all sectors and should be a central pillar of any industrial strategy.

Business and when considering how data can turbocharge the industrial strategy, governments should leverage the principles behind GS1 standards to implement globally recognised methods for data sharing, tracking and managing supply chains.

GS1 standards are central in the collection and sharing of data, especially in the supply chain. By using technology such as RFID, QR powered by GS1 and wider GS1 standards, industry, government, regulators and the public can enhance supply chain visibility and gain real time data insights on the products they buy, sell or consume.

Once these datasets are created, underpinned using interoperable GS1 standards, business and government can utilise this data for a range of collaborative uses beyond the day-to-day functioning of a business.

It is important that when regulating and legislating sectors that UK government pursues an interoperable data first model. This means that UK government does not seek to introduce a new method of capture, sharing, or proprietary reporting that industries would have to implement anew. This encourages data sharing in a precompetitive state, tapping into data models that already exist.

A key example of this is HFSS, which we have gone into more detail about above.

Case study: How UK Government can do more with existing standards

The UK government currently spends around £300bn annually on procurement, with little mandated, or centralised use of GS1 standards in the supply chain – despite many producers already carrying GS1 standards on their products.

Integrating GS1 standards into procurement practices would give central government much greater data insights into its own supply chain and inventory across departments.

For example, by tracking investments and government spending in major infrastructure projects through standardised data, the government can ensure that investments align with long-term industrial goals and deliver value for money.

To some extent, NHS Supply Chain has already started to gain the benefits of using data standards. We have already discussed the broad benefits, however there are also real world examples of where such a data system has saved lives.

How data enables effective recall

During the COVID-19 pandemic, Hull University Teaching Hospitals (HUTH) had to deal with a ventilator product recall. On receiving the recall notice, HUTH was able to very quickly identify 100% of the affected ventilators, using GS1-barcoded asset labels.

With each of the assets scanned to the patient (identified using the GSRN encoded in a GS1 Data Matrix barcode on the patient wristband) and the location (using the GLN), the team was promptly able to ascertain which individual assets were with a

patient, which were unused and sat in a storage, and which were held by clinical engineering.

Patients who were impacted by the ventilator recall were identified, available ventilator assets were quarantined, the product recall flags were added to the system, and all of this happened within two hours of receiving the official recall notice.

Crucially, not a single minute of nursing time was used to physically track down each piece of equipment. Before using GS1 standards, the recall process was expected to have taken more than 70 hours of nursing resource and would have taken several weeks to complete. Despite this effort, it would have remained unclear whether all of the recalled ventilators had been tracked down

This shows that using trusted data to build digital twins of complex systems has real world impacts. None of this would be possible without GS1 standards enabling rapid data transfer across multiple systems.

By incorporating GS1 standards into the implementation of the UK's Industrial Strategy, the government can foster a data-driven approach that enhances efficiency, collaboration, innovation and sustainability. These data standards ensure that relevant information is accessible, consistent and secure

13. What challenges or barriers to sharing or accessing data could the UK government remove to help improve business operations and decision making?

The UK government can remove several challenges or barriers to data sharing and access to improve business operations and decision-making, especially in the context of government regulations that currently do not fully leverage GS1 standards. These barriers can hinder the efficiency, transparency, and effectiveness of business processes and decision-making.

Lack of interoperability.

Regulatory consistency in data capture

One of the major barriers is the lack of standardised data formats across industries, particularly in regulatory requirements for labelling, packaging and product tracking. Without standardised systems like GS1 barcodes and digital labels, data is often inconsistent, fragmented, and incompatible across different systems and platforms – often this very inconsistency is caused by directive government regulation.

As part of the Industrial Strategy, UK governments must work with industry stakeholders to promote the adoption of GS1 standards for labelling and product tracking. This would allow businesses to collect and share data in a uniform format, reducing the complexity of data integration across different sectors and improving cross-industry collaboration.

A core example of an industry and regulators misalignment is the construction industry.

Having data on what materials and products have gone into the construction of a building has become critically important since the Grenfell tragedy of 2017. Since 2017 regulations have come into place requiring that records are kept, however these regulations have not been underpinned by the same principles we have set out previously.

For example, The Building Safety Act 2022 and its proposals are a direct response to the recommendations made by Dame Judith Hackitt in her 2018 review of fire safety and building regulations following the devastating Grenfell fire.

The Act enforces new requirements for keeping vital, up-to-date safety information about how a building has been designed, built, how it is managed and how it performs. To facilitate this 'golden thread of data', it is essential for the construction industry to collaborate and recognise the need for a common product identifier.

This will enable a consistent approach to the sharing of trusted data across the entire supply chain, from manufacturer to retailer and onto the building site.

The golden thread of data starts with the ability for everyone, at any stage in the manufacture or usage of construction materials, to easily identify a product using a 'common product language'. Using GS1 standards and the Global Trade Item Number (GTIN) as the unique product identifier will provide the first critical piece of the thread. This product data can then be used to build data sets that will enable stakeholders to make more informed decisions and meet new regulatory

requirements for traceability, interoperability, accessibility, verifiable and secure data

Using GS1 standards would allow the data collected to create a digital twin of in-scope buildings and allow for the sharing of that data directly to regulators. This would help to create a national picture of what materials are in use and where. This, much like the NHS ventilator case study, would then allow rapid action to be taken from a centralised point should new risks be discovered or recall necessary.

Encouraging pre-competitive data sharing

Many businesses are, understandably, cautious when sharing data openly with both regulators and wider industry. However, creating data flows where information is exchanged in precompetitive formats, and ensuring that only critical data is in this flow, helps build trust and confidence in industry.

Because of GS1 UK's unique position as a neutral not-for-profit, we work with industry in a collaborative manner to ensure the standards meet requirements. This means that when industry is faced with a common challenge, we work across businesses large and small, solution providers, and technical data / standards teams to find common accessible solutions.

Cross industry teams can work together to agree core data attributes, methods of data collection and reporting, that are common among industry and implement changes with minimal impact on productivity levels.

Fostering collaboration at an early stage in government and regulatory decision making can help break down barriers and encourage businesses to share data in a consistent format, without the need for overly prescriptive mandates.

Business Environment – Trade and International Partnerships

24. How can international partnerships (government-to-government or government-to-business) support the Industrial Strategy?

GS1 UK is part of a global network of 118 GS1 organisations across 150 countries. Our standards and methods of data sharing are globally interoperable, which is why they form the backbone of rapid data transfer and value chains globally.

Where business and industry wish to share information on products across borders and the full length of the value chain (internationally or not), they most commonly do so using GS1 standards.

Where Governments and regulators wish to identify products crossing borders, capture product data and share this data, they often create bespoke third party systems or paperwork, not commonly used by industry.

This results in decreased productivity and a reluctance to engage from industry. Most commonly, this presents barriers for smaller businesses who do not have the resources to translate their data systems into the requirements of governments.

For governments to enable effective international partnerships, they must talk the global language of business when capturing and sharing product data – not reinvent a new one.

29. How should the Industrial Strategy align with devolved government economic strategies and support the sectoral strengths of Scotland, Wales, and Northern Ireland?

By underpinning government decision making with the principles of GS1 standards, namely interoperability, governments across the UK can have regulatory divergence without imposing difficulties for business.

We have already stressed the example previously of Deposit Return Schemes, the possibility of manufactures having to incorporate four different DRS logos onto the packaging or run four separate manufacturing lines for each nation of the UK.

These are the types of examples where misalignment among the four nations can cause businesses real economic difficulties. Some business may even refuse to sell into certain UK markets because the regulatory burden becomes too high for the relative market size.

Placing interoperability at the heart of government data and regulations can also help provide better, more comparable datasets for government when studying the effectiveness of policies, even though the regulatory requirements flex nation to nation. In DRS, using digital labels to communicate to consumers would be better for businesses, ensure that the public had the correct information, and allow governments across the UK to compare consistently formatted data models between nations.

We would encourage that all four nations of the UK agree a common set of data standard principles and believe that these should be reflective of the ones set out by GS1UK, placing trusted interoperable data at the heart.

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