



# EDI Cost Savings Report

Cutting costs and paper with electronic transactions in the supply chain

A report prepared by GS1 UK in conjunction with Cranfield School of Management

September 2010



# 1 Executive Summary

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**£650m**

*UK grocery sector  
cost savings per year  
using EDI*

**£200m**

*Potential savings per  
year for UK grocery  
sector if EDI despatch  
advices are fully adopted*

**81%**

*Companies still using  
manual, paper-based  
processes*

In today's challenging and competitive economy, many companies struggle to survive and grow using paper-based and manual processes such as phones, faxes, emails and post to do business. These methods affect the efficiency of the business, not to mention the challenges they pose for record keeping and reconciliation. Supply chains also rely on a large number of documents being exchanged when goods are manufactured, ordered, delivered, received and sold. Millions of trading documents such as purchase orders, invoices and despatch advices, also known as Advanced Shipping Notices (ASNs), are exchanged daily between trading partners.

In the UK alone, about 27 million orders are made every year in the grocery retail sector according to GS1 research. As such, it is no wonder that the UK's grocery sector has been at the forefront of automating their processes using Electronic Data Interchange (EDI) technology. More than 30 years ago, the sector started replacing its manual, paper-based processes with standardised electronic business messages to benefit from a more efficient and cost-effective supply chain.

The sector has significantly benefited from adopting EDI – speeding up transactions, delivery, invoicing and payment as well as improving the visibility of goods within the supply chain. It has managed to speed up stock replenishment cycles, enhance data accuracy, improve operational efficiencies, lower costs and reduce paper consumption. This ultimately improves the customer's shopping experience through improved on-shelf availability and lower prices.

Realising the extent to which the UK grocery sector has adopted EDI technology ahead of other sectors such as apparel, utility, public administration (government) and healthcare, GS1 UK set out to quantify the scale of implementation and the cost benefits of using the technology over manual, paper-based methods.

GS1 UK's research of the UK's top 15 grocery retailers covering 90% of the sector has found that the sector saves £650 million per year in costs by using EDI instead of manual, paper-based processes for its orders, invoices and despatch advices.

EDI implementation by UK grocery retailers is high for purchase orders and invoices, reporting at 87% and 84% respectively. This is reflected in GS1 UK's 2009 Annual Survey\* which identified that 69% of the grocery supplier community use EDI to some degree. This is in stark contrast to the far lower adoption rate of 27% outside the grocery sector.

However only 38% of the orders made by UK's grocery retailers use despatch advices. The report identifies an opportunity for the sector to save a further £200 million a year through full EDI implementation.

EDI can help businesses save significant costs by providing a replacement to manual information processes that require a great deal of human interaction and materials such as paper documents, meetings and faxes. By cutting the use of paper, businesses can significantly reduce or eliminate expenditure on forms, postage, reproduction, storage and administrative overhead such as filing and retrieval. Replacing paper-based exchanges with EDI offers cost savings and business value and supports sustainability.

Despite these benefits, 81% of companies still use some form of manual, paper-based process for their orders, invoices and despatch advices according to GS1 UK's 2009 Annual Survey.

There are many opportunities for businesses to improve efficiency and support sustainability initiatives through the adoption of EDI. The report identifies four main areas where these benefits can be gained:

- Full implementation of EDI in the UK grocery sector
- Automating the order-to-cash process
- Cutting paper usage
- Implementing EDI in all sectors.

\* GS1 UK Annual Survey 2009  
available at [www.gs1uk.org](http://www.gs1uk.org)

## 2 Background

Electronic Data Interchange (EDI) can help businesses save costs and improve efficiency by replacing manual and time consuming processes that require human intervention and materials such as paper documents, meetings and faxes. Expenditure on forms, postage, storage and administrative overhead can be reduced or even eliminated by simply cutting the use of paper. This move of replacing paper-based processes with EDI not only offers cost savings and business efficiency but also supports sustainability and corporate social responsibility (CSR) initiatives.

With any human intervention there is an increased risk of error. Any error resulting from illegible handwriting and manual data entry can have a detrimental impact on business – resulting in delays, disputes and inconsistent data – ultimately affecting trading relationships. Legislation and financial regulation make it even more crucial for businesses to ensure that their business documents such as invoices are accurate and recorded effectively.

The UK Retail Grocery sector has been at the forefront of implementing technology such as EDI to maintain a lean supply chain and improve efficiency. More than 30 years ago the sector started replacing its manual, paper-based processes with EDI based documents when trading with suppliers to cut costs, eliminate paper and improve efficiency.

Today the vast majority of UK's leading grocers have rolled out EDI with their suppliers for purchase orders and invoices. A growing number have even extended its use to improve their planning, forecasting and reporting by collaborating with suppliers and sharing data.

There has been increased momentum in the use of despatch advices or Advanced Shipping Notices (ASNs) in the sector over the past few years. Leading UK grocery retailers such as Tesco and Sainsbury's have started implementing ASNs with their suppliers and many others are currently planning their roll out programmes.

The number of suppliers using GS1 Serial Shipping Container Codes (SSCCs), which is usually included in an Advanced Shipping Notice (ASN) to identify pallets being delivered, has increased two fold over the last year (GS1 UK Annual Survey 2009).

The UK grocery sector has improved its supply chain visibility and significantly benefited from faster and more accurate transactions, deliveries and payments by using EDI. The technology has also enabled retailers to replenish their stock quicker and track trading documents more effectively.

Retailers know what is being delivered to warehouse or store in advance when they receive an Advanced Shipping Notice (ASN) message from the supplier. Once delivered, they are able to check-in the stock easily by scanning the bar coded pallets to ensure it matches the information in the ASN message received.

Suppliers are able to invoice their buyers quickly once the buyer sends a receipt advice message and payment is processed faster due to the reduction in the amount of paperwork and reconciliation involved.

Despite the significant benefits experienced by the grocery sector, many businesses in the UK have not taken advantage of EDI and continue to process orders manually. GS1 UK's 2009 Annual Survey found that 81% of companies still use some form of manual, paper-based process.

In a tough economic climate, cash is king. Accurate and punctual payment is a qualifying business process. Businesses today cannot afford to deal with late payments and poor trading relationships in a volatile environment – running the risk of going out of business.

### *Electronic Data Interchange (EDI)*

*is the computer-to-computer exchange of standard electronic business documents*

### *Benefits of EDI*

- 1. It's faster*
- 2. Data is more accurate*
- 3. Improved process efficiencies*
- 4. Cost savings*
- 5. Eliminates paper*

### 3 Results of the Study

GS1 UK surveyed the top 15 UK grocery retailers to find out the extent to which the sector is using EDI for purchase order, despatch advice and invoice documentation and to identify any opportunities and further benefits that can be gained.

We have estimated that in 2009 there were 27 million purchase orders transacted in the sector between retailers and their suppliers. 87% of these purchase orders used an electronic order message, 84% were invoiced electronically while 38% were included in an electronic despatch advice or Advance Shipping Notice (ASN).

In total, GS1 UK's research has found that the UK retail grocery sector saves £650 million per year in costs by using EDI instead of manual, paper-based processes for its orders, invoices and despatch advices.

#### Cost savings 1: Electronic purchase order messages vs. paper-based orders

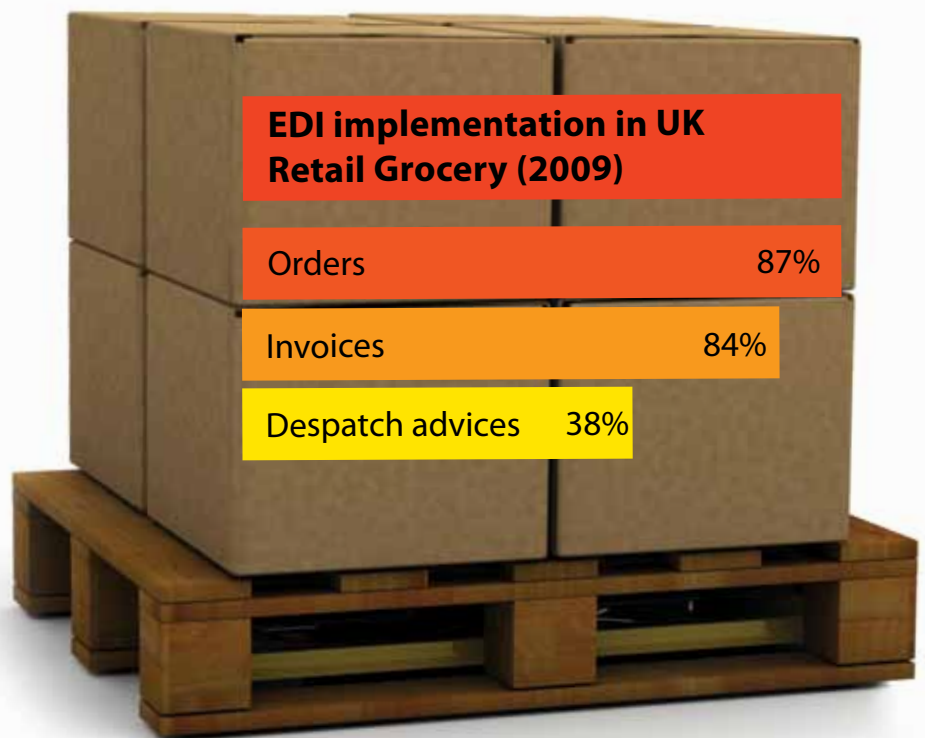
Industry research conducted at GS1 UK identifies a £14 per order cost saving gained when using EDI compared to manual processes including phone, fax, post and email to order stock from suppliers. These cost savings are gained through the reduction in disputes caused by inconsistent data, reduced administration and paper work, faster moving stock and less compliance checks needed.

By using electronic order messages for 87% of its purchase orders, the UK grocery sector has saved £332 million in 2009.

## Top 15 UK grocery retailers\*:

- 1 Tesco (UK)
- 2 J Sainsbury (UK)
- 3 Asda Group Ltd
- 4 Wm Morrison Group
- 5 Co-operative Group
- 6 Marks & Spencer (food)
- 7 Waitrose Ltd
- 8 Spar UK Ltd
- 9 Musgrave UK
- 10 Iceland Foods Ltd
- 11 Lidl (UK)
- 12 Costcutter Supermarkets Group Ltd
- 13 Aldi Stores Ltd (UK)
- 14 Premier
- 15 Netto Foodstores Ltd

\*by sales



## Cost savings 2: Electronic invoice messages vs. paper-based invoices

GS1 industry research also identifies a £8.50 cost saving per invoice when companies use EDI instead of paper-based invoices. Companies can gain these cost savings through the elimination of invoice paperwork, data entry and storage costs and the reduction in the cost of disputes management, administrative work and validation.

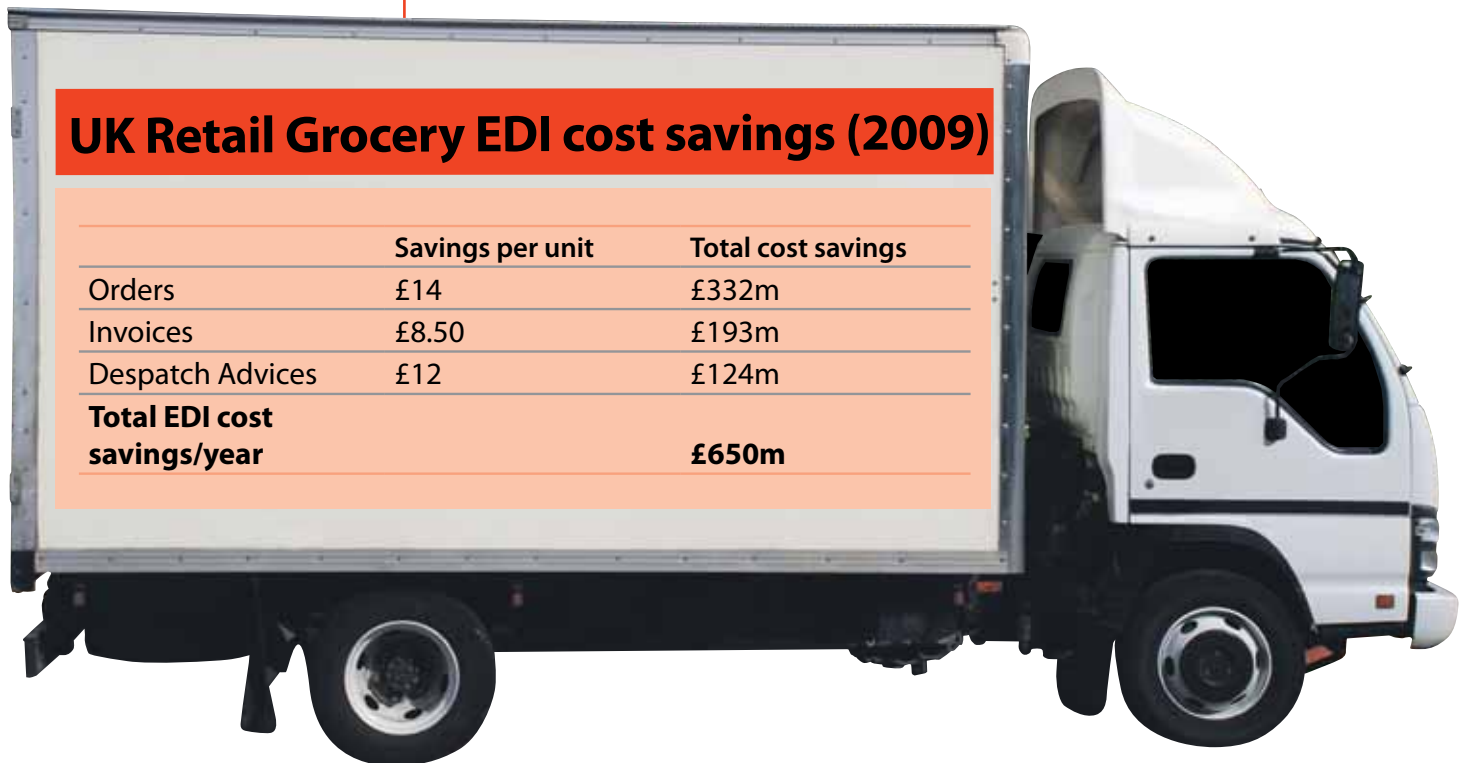
By using electronic invoice messages for 84% of its purchase orders, the UK retail grocery sector has saved £193m in one year.

## Cost savings 3: Adopting EDI despatch advice/ASNs

Many businesses today don't offer the service of sending a despatch advice automatically and only provide delivery notes with the goods. According to our research, only 38% of suppliers send their buyers a despatch advice using EDI.

Industry research identifies that the sector can save £12 per order in cost if an electronic despatch advice is sent to trading partners before the order is delivered. These cost savings can be realised through faster moving stock, truck optimisation, improved logistics, reduction in administrative work, fewer instances of stock going missing, fewer delays and less disputes.

Based on industry implementation levels of despatch advices (38%), a further cost saving of £124m has been achieved by adopting EDI over manual, paper-based methods.



## 4 Opportunities

### Full implementation of EDI in grocery retail sector

Despite the near saturation of electronic ordering and invoicing in this sector, the uptake of electronic despatch advices is comparatively low at 38%. GS1 UK's research has identified further cost savings of £200 million if the sector fully adopted EDI despatch advices for all of its orders.

The UK retail grocery sector has the opportunity to gain a total of £288 million a year in cost savings by fully adopting electronic order, invoice and despatch advice messages.



#### UK Retail Grocery EDI potential savings (2009)

	EDI not implemented	Total potential savings
Orders	13%	£48m
Invoices	16%	£36m
Despatch Advices	62%	£204m
<b>Total cost savings</b>		<b>£288m</b>

### Automating the order-to-cash process

Companies can save costs further by automating the full order-to-cash process through the use of EDI. Order-to-cash refers to the process in which a customer's purchase order is taken through various channels including email, online and direct and is fulfilled, delivered, an invoice generated and the payment collected.

When the process is carried out manually, there is an increased risk of an error occurring. For example, if an order is taken incorrectly and is fulfilled, delivered and invoiced, the customer may decide to cancel or return the order. If the order delivered has more stock than ordered and invoiced, customers may choose not to inform the supplier. This can be very costly for the supplier and the inconsistent data could affect the customer's stock control systems.

As a result, it is not surprising that many businesses have looked to automate the entire process, through the use of EDI.

When implementing EDI a business can choose to automate the entire order-to-cash process, or take it one stage at a time. Many companies start with the order process and then move on to invoicing. As each stage is automated, the overall benefits and return on investment (ROI) increase.

## Cutting paper usage – save costs, improve efficiency and be sustainable

GS1 industry research shows that significant cost savings can be made by eliminating the use of paper documents and replacing them with EDI messages. Businesses that rely on paper-based processes have to cover the cost of printing forms, postage, administrative overhead such as filing and retrieval, data entry and the manual validation of information. There is also the added headache of dealing with purchase order or payment disputes and invoice reconciliation due to errors such as illegible handwriting and manual data entry.

EDI can save businesses at least £14 per order, £8.50 per invoice and £12 per order using a despatch advice. GS1 UK's Annual survey report demonstrates that there are still so many companies that are not taking advantage of these savings. The 2009 report found that 81% of companies still used some form of manual, paper-based process for their orders, despatch advices and invoices.

Sustainability is still at the top of the agenda for many businesses today. The Consumer Goods Forum's Top of Mind survey\* found that despite the urgently pressing economic situation, consumer goods companies retained corporate responsibility as one of its three priorities for the third consecutive year.

Cutting the use of paper through EDI can help companies with their sustainability initiatives and at the same time cut costs and improve efficiency.

## EDI implementation in all sectors

The cost savings realised by the grocery sector can also be achieved by businesses operating in other sectors such as apparel, DIY, healthcare and public administration. GS1 UK's survey demonstrates that there is a significant opportunity for other sectors to move from a manual paper-based process to EDI – reaping the cost and efficiency benefits.

There are many examples of other sectors that have achieved significant benefits from using EDI.

## Case study 1: Public sector

### Denmark's public sector implements electronic invoicing to optimise payment processes\*\*



Since 1 February 2005, all public institutions in Denmark are required to only accept invoices from suppliers in electronic format. All public sector entities have had to convert their systems and administrative processes from physical to digital handling of invoices, credit notes and other transactions. This new EDI-based system involves 15 million invoices a year and applies to the entire public sector from government ministries and nursery schools.

Before February 2005, public institutions would receive a paper invoice by mail and it would then be handled by several staff members for approval, data entry and filing. Only one person at a time had access to the invoice and for future reference it was filed in the archives.

*EDI can save businesses at least £14 per order, £8.50 per invoice and £12 per order using a despatch advice*

\* Top of Mind Survey 2009, Consumer Goods Forum  
[www.theconsumergoodsforum.com](http://www.theconsumergoodsforum.com)

\*\* eInvoicing in Denmark case study, 31 January 2007, European Commission eGovernment unit  
<http://www.epractice.eu/cases/EID>

*10 minutes  
can be saved  
in the  
handling of  
each invoice  
when they  
are received  
electronically  
- resulting in  
total savings  
of 120 million  
Euros per  
year*

Today, the invoice arrives directly in the electronic accounting system and is subsequently approved online by staff – a process that involves no paper and takes only a few seconds. Furthermore, the invoice can later be retrieved in a matter of seconds. This considerably reduces the processing time for Denmark's public institutions.

The electronic invoice is a bill converted into an EDI-based format that can be read by the public sector accounting system. All invoices must include a GS1 Global Location Number (GLN), order or requisition number, personal or other reference and internal accounting number.

It is estimated that each minute saved in invoice handling of the public sectors' 15 million invoices equals 12 million Euros saved a year. A conservative estimate is that 10 minutes can be saved in the handling of each invoice when they are received electronically – resulting in total savings of 120 million Euros per year. This is equivalent to potential savings of more than 2,000 man-years of work per year.

## **Case study 2: Food Service sector**

### **Mitchells & Butlers improves stock visibility and efficiency with electronic despatch advices\***



Mitchells & Butlers is the UK's leading pub and pub restaurant operator with over 2,000 businesses in prime locations around the country. For the operator, visibility of stock across the business and good quality data is vital.

To serve its customers better and improve supply chain efficiency, the company decided to replace its old and disparate systems with a centralised order and receipt system. The new system uses GS1 standards and EDI for its purchase orders and despatch advices or ASNs.

The solution allows pub managers to raise their orders electronically with the company's food and drink suppliers. Within half an hour of the order being made, an acknowledgement note is sent to the ordering system electronically. The supplier will then send Mitchells & Butlers an ASN (Advanced Shipping Notice) with the delivery details including the product codes or GTINs (Global Trade Item Numbers) before the delivery is made.

When the goods arrive at the pub, the manager will compare the ASN with the delivery note and confirm receipt of the goods on the system. The goods are accepted and the stock levels are adjusted on the centralised system automatically.

The new system provides full visibility of all orders and receipts. When an invoice is received, it is linked to the ASN and matched before any payment is processed. If they don't match, the system will produce an alert to check for any errors by linking the user with a scanned copy of the delivery note from the supplier. If the supplier is at fault, they are issued with a request for credit within five days almost immediately.

Mitchells & Butlers' EDI based order and receipt system has produced tremendous value, including improved visibility of stock, better reallocation of stock, reduced stock waste, more accurate forecasting, less administration and a reduction in invoicing and delivery errors. The company has achieved its aim of improving supply chain efficiency and ultimately providing better customer service.

\* Mitchells & Butlers case study 2009, GS1 UK [www.gs1uk.org/news](http://www.gs1uk.org/news)



# 5 Overview of EDI



## Electronic Data Interchange (EDI) – What is it?

Electronic Data Interchange (EDI) is the computer-to-computer exchange of standard electronic business documents, such as purchase orders and invoices, between two organisations. The sending company creates an electronic document and the receiving company processes it – without the need for human intervention.

There are two key elements in basic EDI. First, electronic documents replace paper-based ones. Second, the exchange of documents takes place in a standardised format. Using these two basic concepts, any business can implement EDI and take advantage of its speed, accuracy, efficiency and cost savings.

### EDI standards

Standards are needed so that organisations can refer to the same things in the same way when they do business.

GS1 manages and develops two EDI or eCom standards: GS1 EANCOM and GS1 XML. Both are widely used throughout the world by companies of all sizes in many

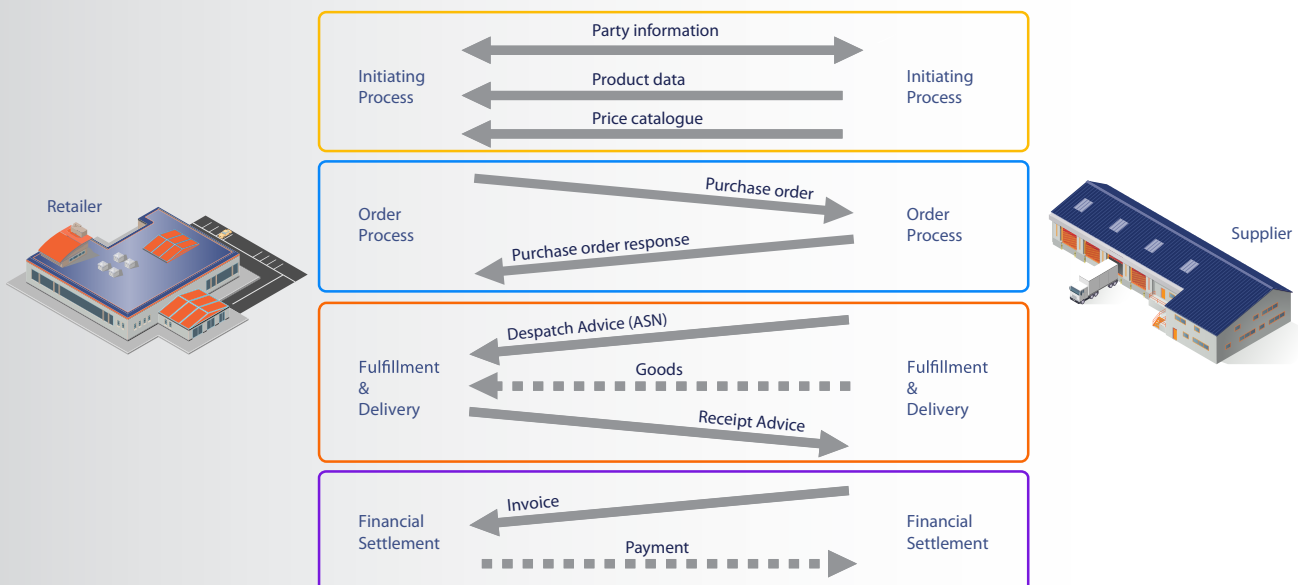
sectors. The standards provide predictable structures for electronic business messages, enabling trading partners to communicate business data rapidly, efficiently, accurately and cost-effectively, irrespective of their internal hardware or software types.

GS1 eCom standards fully incorporate the use of GS1 keys enabling unique identification of traded items, companies, locations, assets, services and customers. The most commonly used GS1 Keys in EDI are:

- GTIN (Global Trade Item Number), which identifies all products and services
- GLN (Global Location Number), which identifies all parties (buyer, seller and any third parties involved in the transaction) and all physical locations
- SSCC (Serial Shipping Container Code), which identifies all logistics units.

The use of GS1 Keys in standard EDI messages enables the physical flow of goods to be related to the information sent by electronic means.

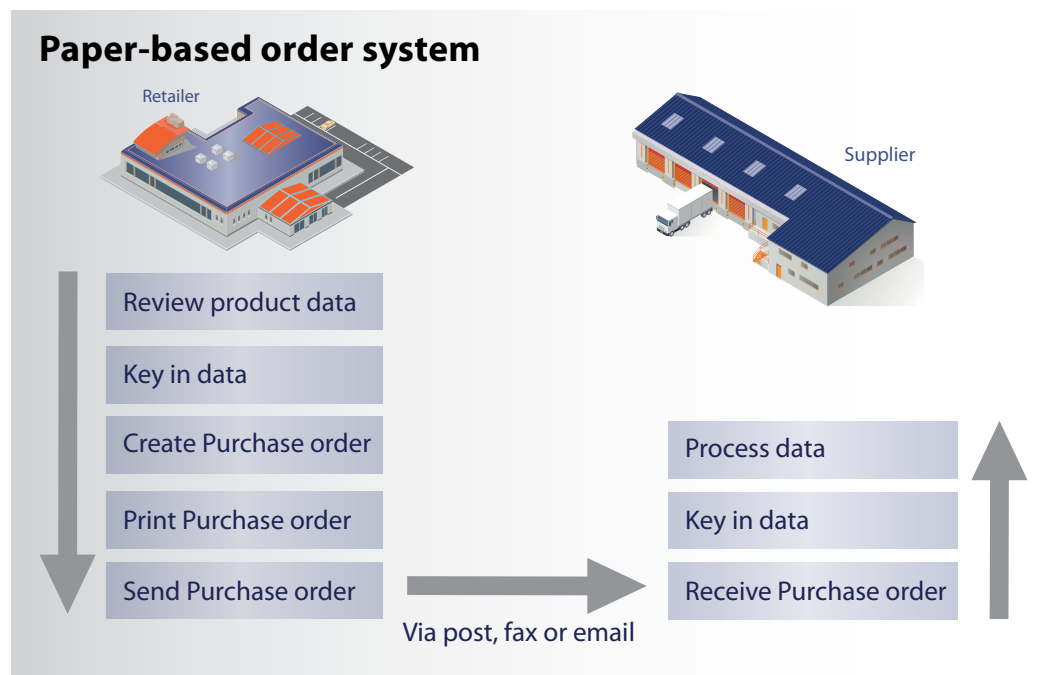
## Common EDI messages in order-to-cash process



## A typical example of EDI vs. a paper-based system

Many companies implement EDI at the first stage of the order-to-cash process - the exchange of a purchase order, or PO. Usually, a buyer follows a fairly standard procedure to create a PO:

- The buyer reviews data from an inventory or procurement system
- Relevant data is keyed into a purchasing system to create a PO
- The buyer prints the PO
- The PO is posted, faxed or emailed to the seller
- The seller receives the PO
- The relevant data is keyed into an order entry system
- The buyer calls the seller periodically to determine if the PO has been received and processed



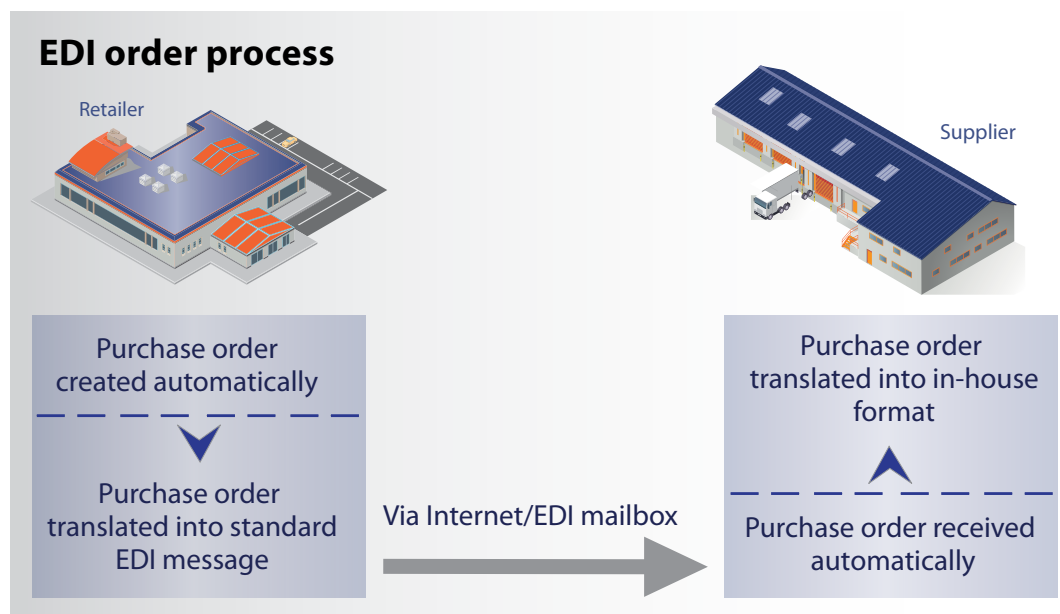
If you add up the time taken by the buyer and seller to follow this procedure and the time taken by the post, it can typically take between 3 to 5 days. This also depends on the buyer and seller handling the PO quickly and without any data entry errors.

*What previously took up to 5 days now takes a few minutes*

This procedure is considerably simpler and faster when a company places its POs electronically using EDI:

- The buyer reviews data from an inventory or procurement system
- EDI software creates an electronic PO and transmits it automatically to the seller in almost real-time
- The seller's order entry system receives the PO and updates the system immediately upon receipt
- An acknowledgement is sent to the buyer automatically

What previously took up to 5 days now takes a few minutes.



## Benefits of EDI

EDI enables companies to exchange trading documents faster with enhanced data accuracy, improved efficiencies and lower costs. Here are the top 5 reasons why businesses adopt EDI:

### 1. It's faster

EDI provides significant increases in the speed that documents are transferred from one company to another, reducing lead times and speeding up payments.

### 2. Data is more accurate

Electronic transfer of trading documents between computers increases data accuracy.

### 3. Improved process efficiencies

EDI positively impacts process efficiencies and relationships with trading partners.

### 4. Cost savings

Costs are reduced – through savings and avoidance – as a result of implementing EDI.

### 5. Eliminates paper

Paper-based trading processes are costly, inefficient and not sustainable.

The benefits above show that it is no accident that the leading UK retailers all rely on EDI for placing orders and receiving invoices – they know the benefits they get and the costs that can be saved.



## 6 Next Steps

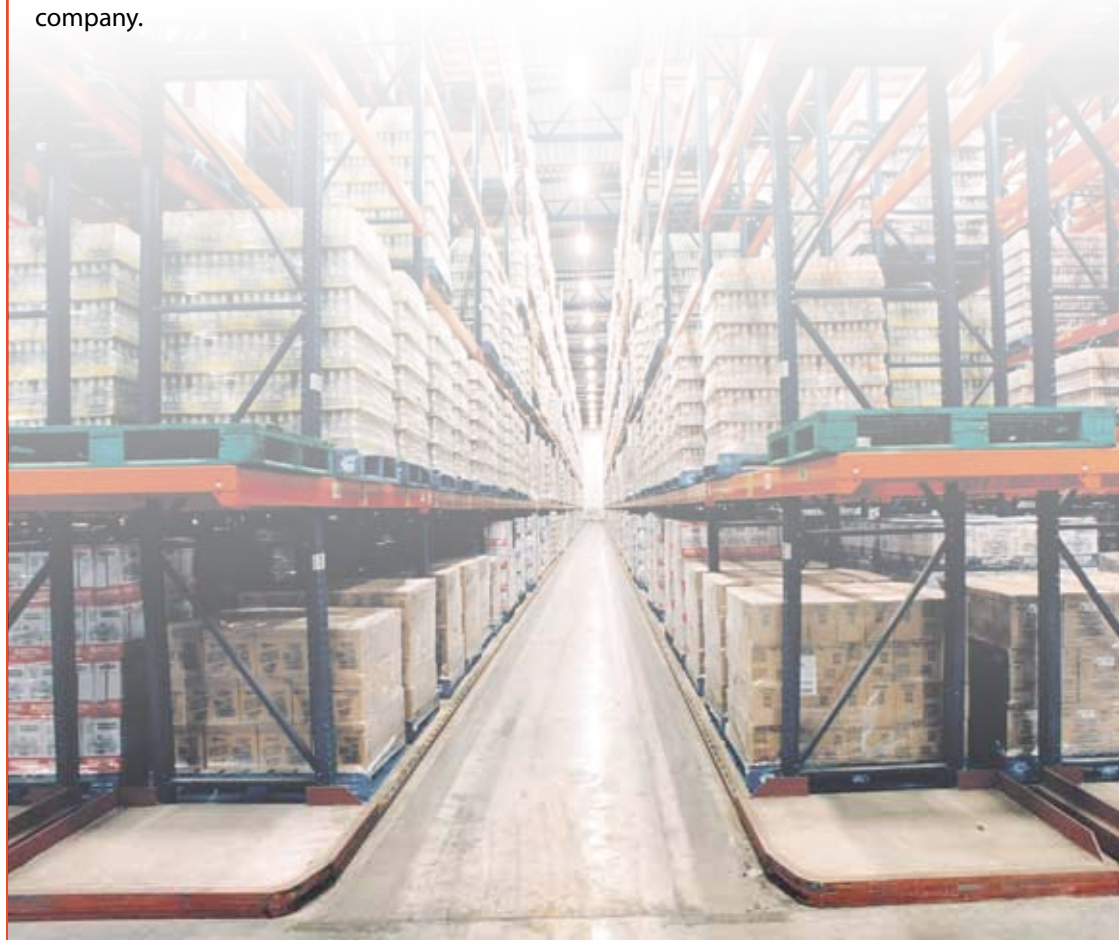
It is important to determine which areas of a supply chain would benefit most from process automation and EDI.

The GS1 UK Professional Services team can help provide expert and impartial business analysis and recommendations by:

- Reviewing existing business processes to determine the areas where an EDI implementation can maximise efficiencies and deliver the highest cost savings
- Recommending specific EDI implementations, for example, automating particular process flows such as ordering or invoicing and receiving or despatching goods
- Working with or alongside service providers to ensure trading partners correctly implement a standardised approach to EDI.

Visit the GS1 UK website [www.gs1uk.org](http://www.gs1uk.org) to find a solution provider specialising in EDI to identify the best solution for your company.

*Maximise efficiencies and deliver the highest cost savings*



## Contact GS1 UK

GS1 UK  
Staple Court  
11 Staple Inn Buildings  
London  
WC1V 7QH

**T** +44 (0)20 7092 3500  
**F** +44 (0)20 7681 2290  
**E** [info@gs1uk.org](mailto:info@gs1uk.org)  
**W** [www.gs1uk.org](http://www.gs1uk.org)

Service Team (Freephone) 0808 178 8799

## About GS1 UK

GS1 UK has driven innovation in the supply chain for over thirty years. It is part of the global GS1 organisation, dedicated to the development and implementation of global data standards and solutions for the supply chain. The GS1 System is the most widely used supply chain standards system in the world. GS1 UK helps industry to implement these data standards through the use of bar codes, Radio Frequency Identification (RFID), Global Data Synchronisation (GDS) and electronic business messaging.



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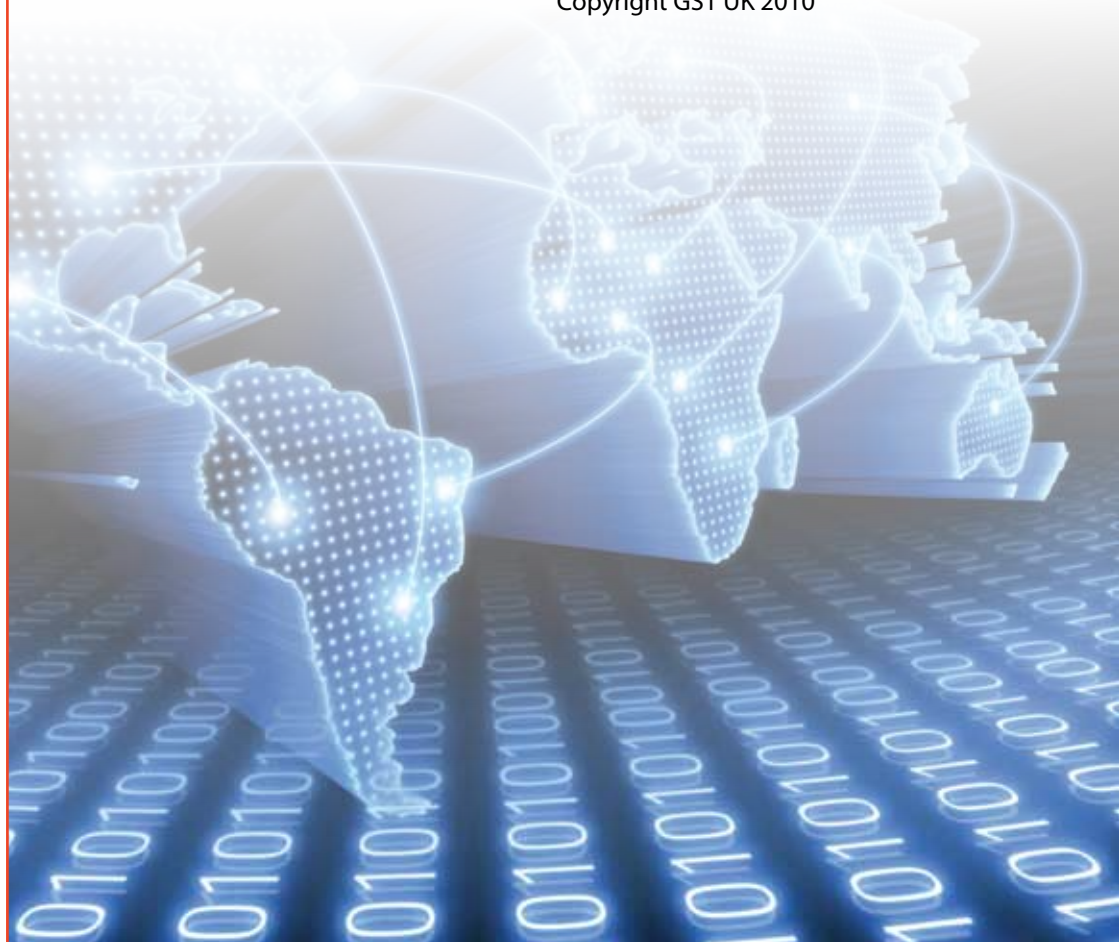
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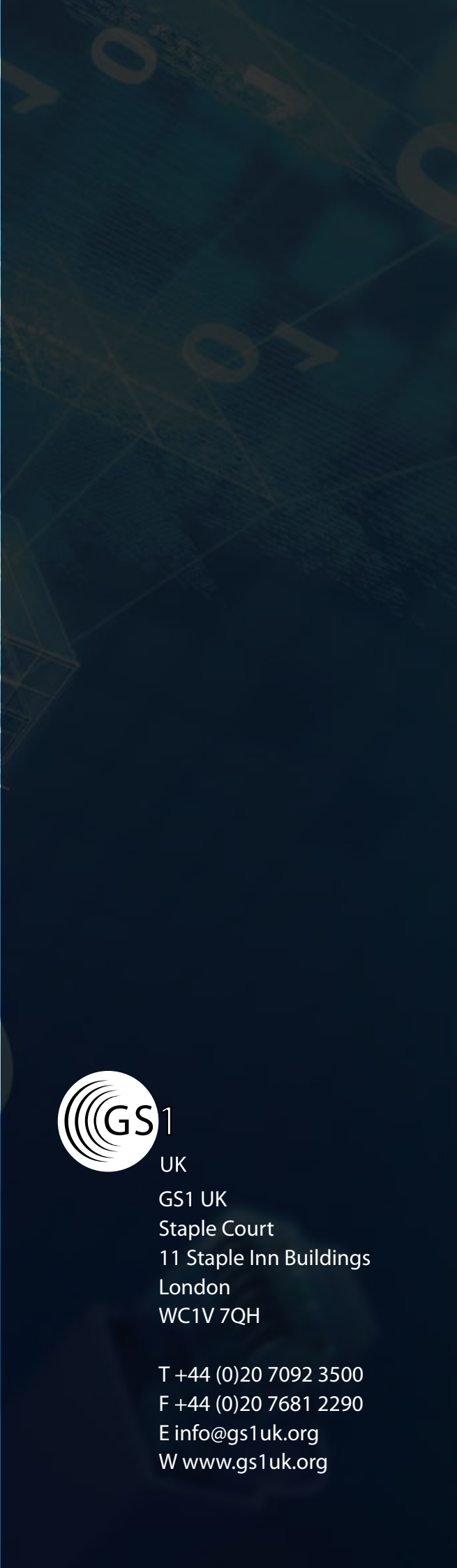
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UK

GS1 UK

Staple Court

11 Staple Inn Buildings

London

WC1V 7QH

T +44 (0)20 7092 3500

F +44 (0)20 7681 2290

E [info@gs1uk.org](mailto:info@gs1uk.org)

W [www.gs1uk.org](http://www.gs1uk.org)

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