



The Global Language of Business

EDI guidance: the bigger picture



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Acknowledgements

This document has been created by the GS1 UK ESIG (eCom Special Interest Group) for anyone thinking about expanding their use of EDI.

The mission of ESIG is to promote the correct and consistent use of EDI through the use of GS1 eCom standards throughout the UK supply chain for the benefit of all GS1 UK members.

Introduction

This document is primarily aimed at anyone already using Electronic Data Interchange (EDI) to a limited degree and who wants to know what else they get from it, by providing additional messages to enhance the communication between you and your customers and suppliers.

If you are not yet using EDI, please refer to *'EDI Guidance for New Users'* available on the GS1 UK website.

This guide is designed for anyone in business who needs to understand the scope of EDI beyond basic orders and invoices, and how it can impact upon business. For commercial, accounts and sales people it gives an insight into an alternative channel of doing business, which gives opportunities for improved efficiencies and potential business benefits.

As businesses increasingly trade across multiple channels to provide new services to their customers (e.g. direct delivery to customer by “drop-ship” suppliers), the use of standard communication methods like EDI can ease the set-up of such processes.

Although this is not a technical document, it still has relevance to technical people by providing that all-important understanding of where technical applications sit within the overall business process.

What can you do with your EDI? How to further improve your business processes

EDI can be used for a lot of electronic representations of business processes, for example:

- Sharing party, product and pricing information between trading parties
- Responding to order requests
- Changing previously sent orders
- Notification of transport to be used
- Showing what stock is in transit
- Indicating what stock has been received
- Invoicing against actual deliveries
- Providing accurate, up-to-date forecast information

The order-to-cash process usually has the highest priority when implementing further EDI messages, but, as seen from the above list, there are other processes that can be enhanced through the use of EDI.

Scope

In scope: Messages that a company may not yet have considered that can have a wider application and more immediate impact on business efficiencies, GS1 EDI standards: EANCOM and GS1 XML messages

Out of scope: A basic introduction to EDI, GDSN, non-GS1 EDI standard messages

Relevance to my business

Who in my business needs to know about EDI and what further improvements can be made?

It is assumed that by reading this document the organisation has already embarked upon EDI (whether orders or invoices or both) and is considering adding further electronic transaction functionality to that already in place.

The introduction of any one or more of the transactions highlighted in the next section and in the associated 'additional messages diagram' may be driven by either customer or supplier with the intention of improving the communication link between trading partners

in a more efficient and accurate as well as timely manner. Some messages can also be useful for internal processes, e.g. using the Advanced Shipping Notice (ASN) to notify delivery of goods from your factory to a Distribution Centre (DC) or for internal ordering.

The impact of other transactions may affect different aspects of the business processes within an organisation and may therefore concern people that have not yet been involved in electronic communication.

What it means to my business

Implementing EDI within a business will have different impacts depending on what transactions are being handled and how the arrangements are set up with customers or suppliers. As new messages are introduced, the use of EDI becomes ever more embedded within organisations.

As with orders, other transactions can be sent electronically without intervention, e.g. the use of ASNs to improve the goods receiving process.

Industry experience

Below is an example related to the retail grocery sector:

- The UK retail grocery sector has been at the forefront of implementing supply chain technology for many years and has led the use of EDI for over 30 years
- In order to maintain a lean and more efficient supply chain, both retailers and manufacturers embarked upon replacing manual, paper-based processes with EDI-based documents
- As a result, the sector enjoys one of the most efficient supply chains in the industry, while massively reducing costs and eliminating paper-based and manual processes
- Through the analysis of the implementation costs and the benefits derived, it has identified even more savings that can be made through extending the use of EDI
- This has led to the use of Order Response and Receipt Advice messages as well as the increased use of ASNs

Visit www.gs1uk.org/ordertocash for the order-to-cash toolkit which has information on how to automate your ordering, invoicing and goods delivery and receiving processes, benchmark your company and also calculate the savings you can make by adopting EDI.

Additional messages and their benefits

Apart from the standard Order and Invoice messages, there are several other messages that can help improve business efficiencies, such as reduced waiting times, increased security and accuracy, and reduced risk.

For the demand side

- Once you have implemented the **Order** message you can add associated messages, such as:
 - The **Order Change** message to request changes or cancellations of orders
 - The **Order Response** message, which, to get the greatest benefit, should be implemented by your supplier for you to know exactly what he can deliver
- When implementing the **Invoice** message
 - You should remember that it can also be used for credits and debits
 - The **Tax Control** message should also be created to cover HMRC requirements
 - **Remittance** messages can be used to notify suppliers of your payment
- Asking your suppliers to implement **ASNs** will improve your goods receiving process by receiving information on what exactly is about to be delivered. It also allows you to organise booking slots more effectively
- To complete the cycle, you can then implement an **Electronic Proof of Delivery** message which will tell your supplier exactly what you have received and any issues that may have arisen, e.g. damage to some of the goods, thus ensuring that the invoice you receive matches the goods delivered
- There are even messages that allow you to notify your supplier that you are returning product
- Additionally, there are messages which will convey **Master Data** information detailing party, product and pricing information – which means you don't need to include this information every time you send a message
- There are also messages for:
 - **Forecasting**, which reduce errors and help with resource and capacity planning
 - **Inventory**, which give accurate, automated inventory information
 - **Sales Data** reporting

For the supplier side

- When receiving orders from your customers, you can use the **Order** message internally or to your own suppliers/manufacturers to fulfil your customer orders
- There is also an **Order Response** message which will inform your customer whether you can fulfil their order or whether you need to offer a substitute
- Sending prior notification of deliveries to your customer through **ASNs** means fewer disputes about what was delivered and means you can invoice against that quantity rather than the original order
- If your customer can send you an **Electronic Proof of Delivery** message, you can invoice against final updated and accurate delivery information and also handle any delivery issues more quickly
- Additionally, there are messages which will convey **Master Data** information detailing party, product and pricing information – which means you don't need to include this information every time you send a message
- There are **Warehouse** messages available that allow you to provide Third Party Logistics (3PL) or carrier instructions to despatch goods
- There is a **Forecast** message which your customer can send providing short or long term forecast information. This enables more accurate and regular forecast information and helps with resource and capacity planning
- An **Inventory** message is also available to exchange a held or planned inventory status between you and your customer
- **Sales Data** reporting is also available

For a Logistics Service Provider (LSP)

A Logistics Service Provider sits between a supplier and a retailer and typically merges the stock from multiple suppliers into a delivery to the retailer. They may do this by:

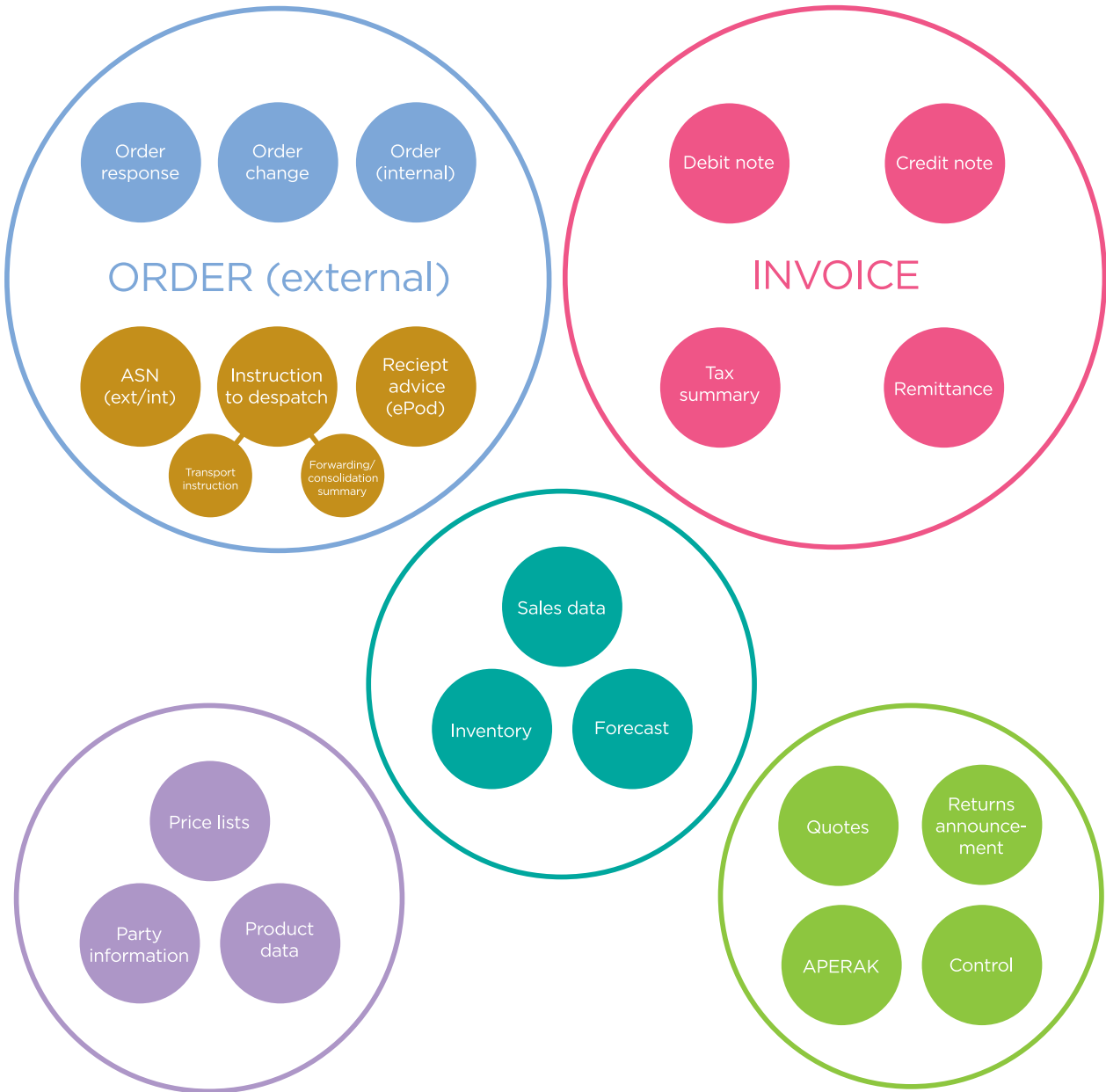
- Sending a lorry around to several supplier pick-up points and then delivering the overall load to a retailer
- Operating a stockless hub where deliveries from multiple suppliers on the “in” side of the hub are cross-docked to vehicles delivering to multiple retailer locations on the “out” side of the hub
- Holding stock belonging to multiple suppliers in a warehouse which can be called off by retailers in full vehicle loads
- Acting as freight forwarders and arranging the international shipping on behalf of multiple suppliers to the retailer, sometimes picking up stock from other LSPs to do this

The implications for electronic communication are that the LSP will need to be able to plan capacity based on volumes they are expected to store and/or transport.

They may also need to receive orders and produce ASNs. Buyers and suppliers should consider how such communications should be made to the LSP and may want to exclude certain information, such as pricing.

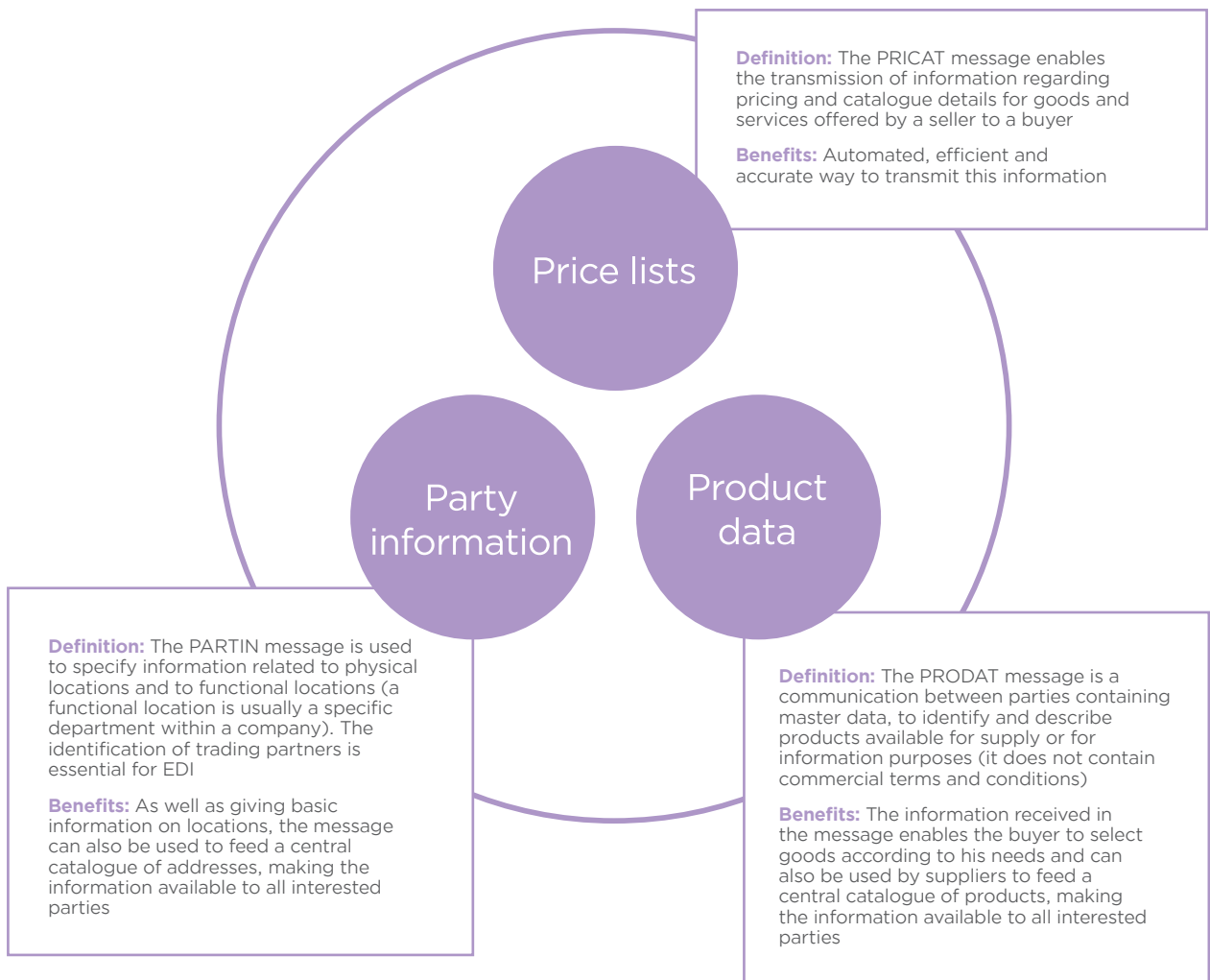
Likewise, the supplier may wish to see copies of ASNs created by the LSP and sent to the retailer for the purpose of invoice creation.

Additional messages diagram



- Order process
- Invoicing process
- Shipping process
- Planning/forecasting/reporting process
- Master data process
- Other messages

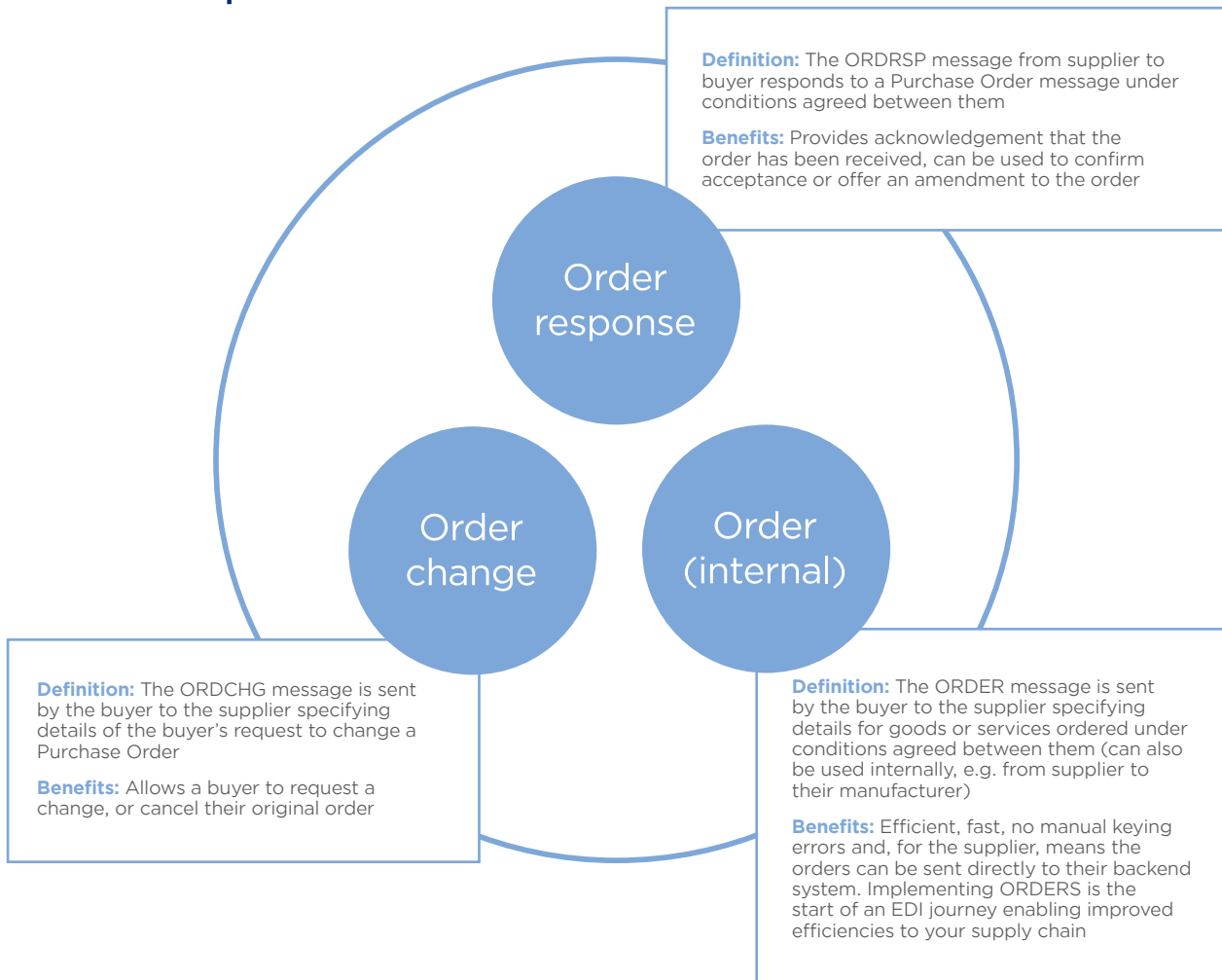
Master data process



Price lists example: Using the PRICAT message, suppliers can send general, descriptive information about products available for all customers, or they can provide details for specific customers including their latest pricing information. This can include applicable VAT rates, payment terms, discount rates and relevant currencies if involved in international trading. Triggers can be set up in the suppliers' system to make sure that any updates are issued automatically, thus reducing the number of invoice queries.

Using the PRICAT message also removes the need for spreadsheets and the problems that manual input of data brings.

Order process



Order response example: The ORDRSP message can be used to update the customer on the capability of the supplier to fulfil his order. It is designed to notify the customer of a variety of situations, acting as:

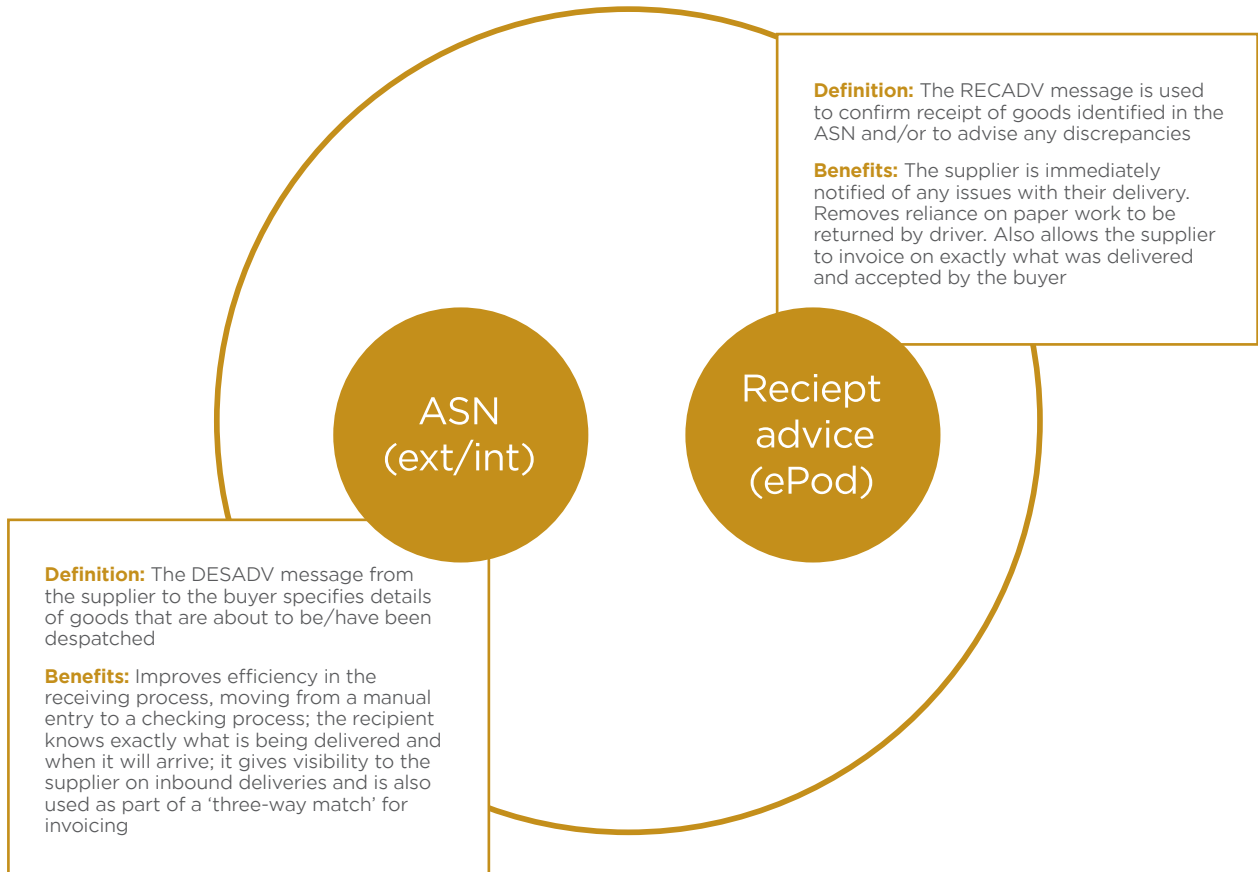
- An acknowledgement that the supplier has received and understood the data content of the Purchase Order
- A confirmation that the supplier accepts the Purchase Order
- A proposal by the supplier to amend something in the Purchase Order, e.g. by offering an agreed substitute product because they don't have the requested product available when required

- A notification of non-acceptance for all or part of the Purchase Order because they can't provide one (or all) of the products requested

If needed, a Purchase Order Response for cross-border transactions may also contain additional information for customs and/or statistical purposes.

It can also contain details for transport and destination as well as delivery patterns.

Goods receiving



ASN example: The DESADV message is sent prior to the delivery of goods and can be used to provide information about when the shipment will be delivered, the contents of that delivery – including the number of cases on the pallet, weight, type of packaging, order information, product description etc, which helps the warehouse plan for receiving the goods and the put-away process.

The use of the SSCC on the pallet labels can be matched to those in the ASN message to provide a cross-check on the actual goods delivered.

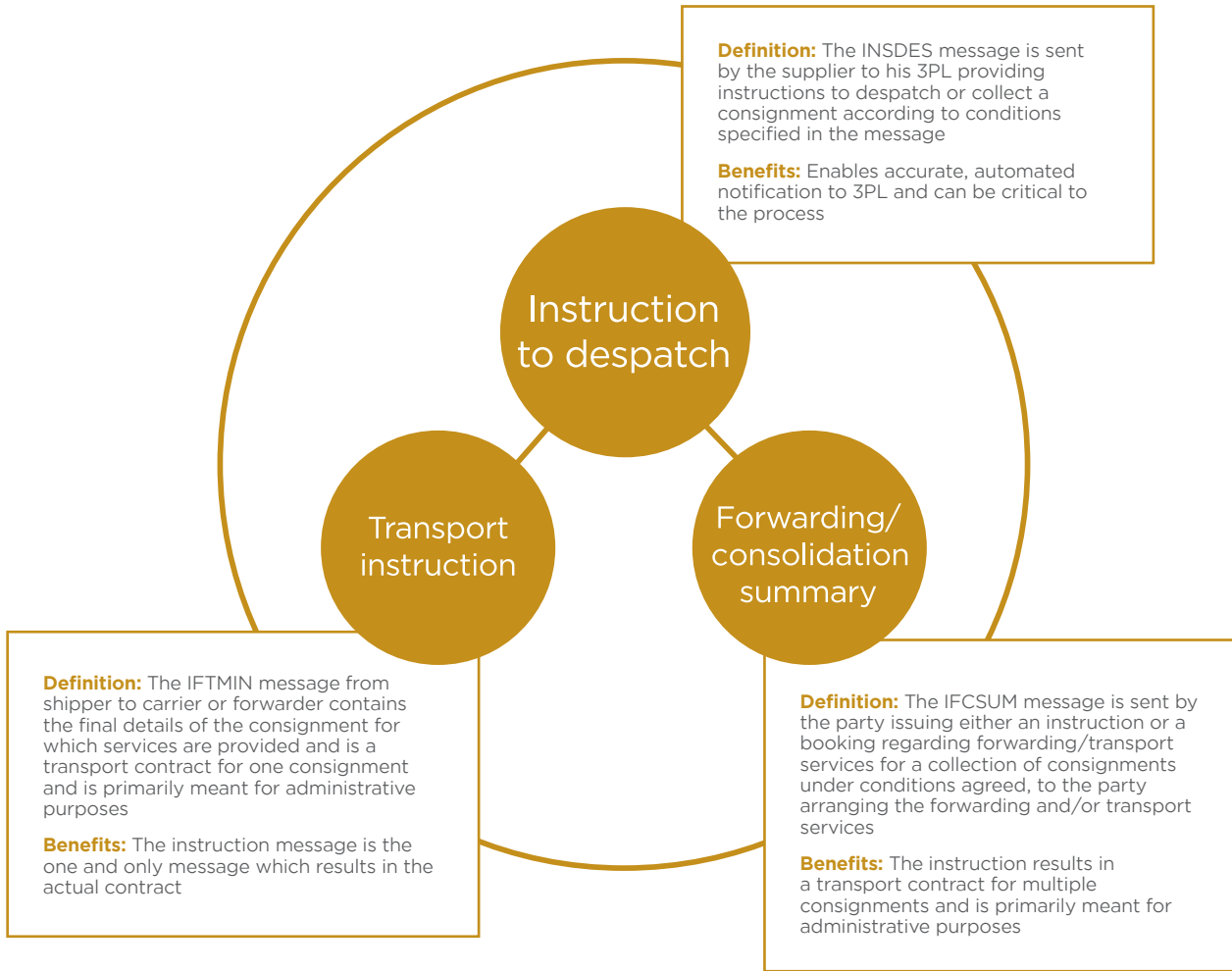
It can also be used as the basis for three-way matching (Order/ASN/Invoice) when invoicing, providing more accurate information which helps with prompt payment.

Receipt advice example: A RECADV message provides detailed information about discrepancies between goods received and goods ordered/planned. It is used in conjunction with the ASN to confirm receipt or to advise discrepancies following the receipt of goods. It can provide:

- A simple acknowledgment that goods have been received
- A detailed verification of actual goods received
- Notification of exceptions between shipment documentation

It provides sufficiently accurate information on receipts to make the payment processes as efficient as possible for both the supplier and the buyer, since the supplier's invoice can be based on the result of the RECADV and can be sent as part of a 'four-way match' (Order/ASN/Receipt Advice/Invoice).

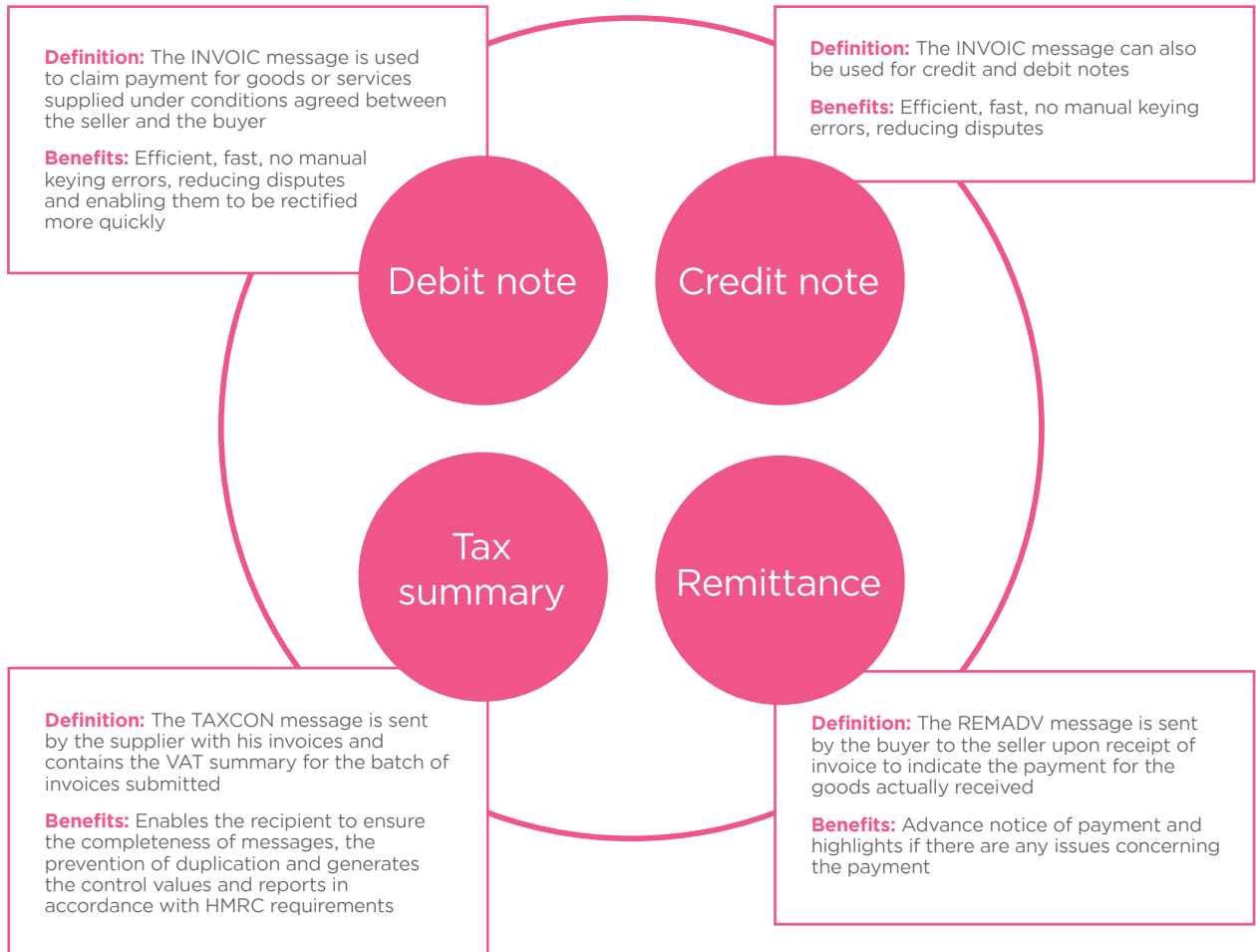
Warehouse to 3PLs



Forwarding/consolidation summary example:

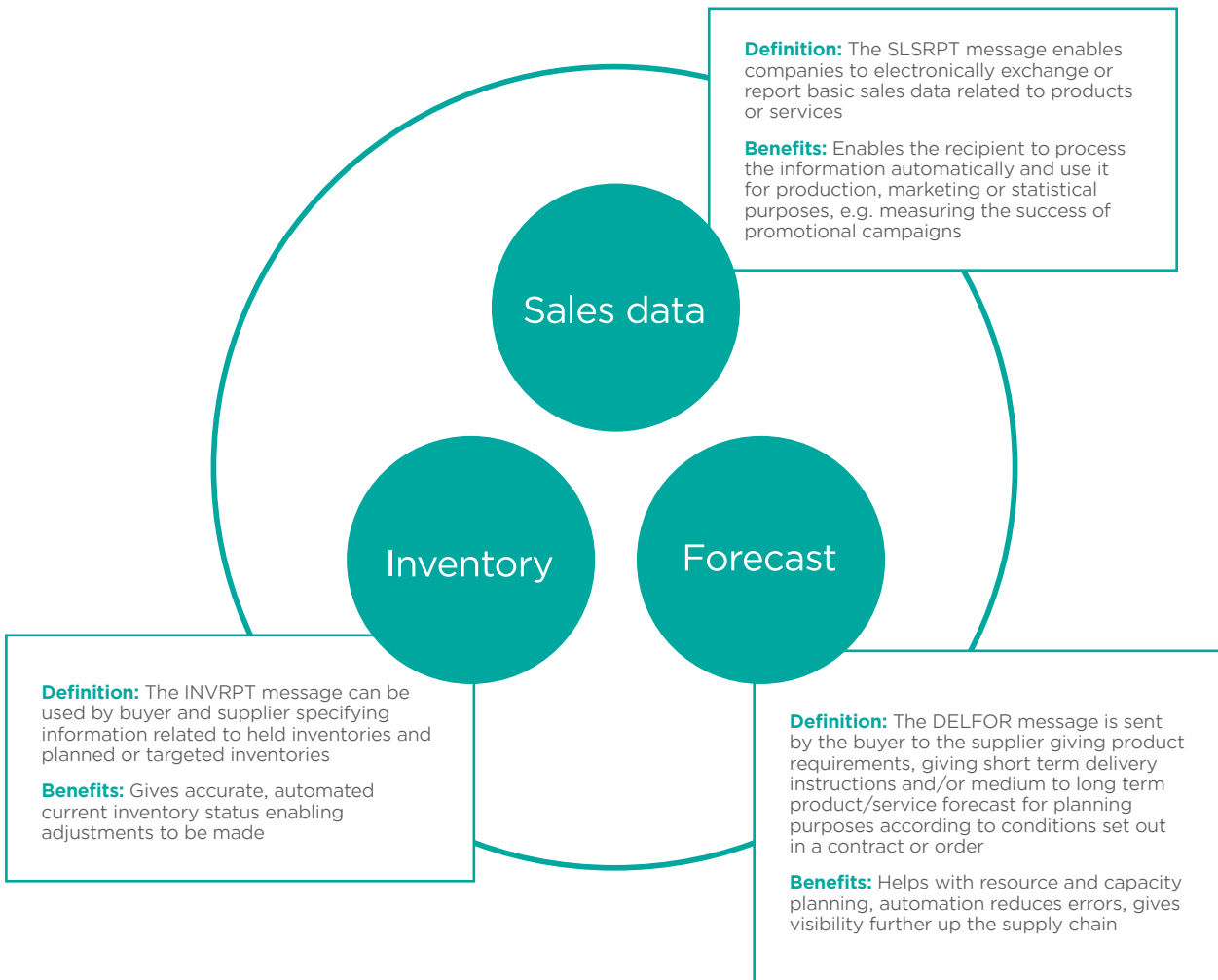
The IFSCUM message is sent by the party issuing either an instruction or booking for forwarding/transport services and provides information concerning the cargo carried, including carrier details, mode of transport, means of transport, equipment and the necessary details of the consignments. It also allows a description of all consignments to be collected together at one location and to be delivered to one or more locations.

Invoicing process



Credit note example: The INVOIC message can be used to send credit notes (amongst other things), which means you don't have to create a separate message from the invoice. It includes credit notes related to financial adjustments (e.g. bonuses or credit notes providing credit information to customers for goods and services) and it can also be sent to a party paying on behalf of a number of buyers.

Planning/forecasting/reporting process



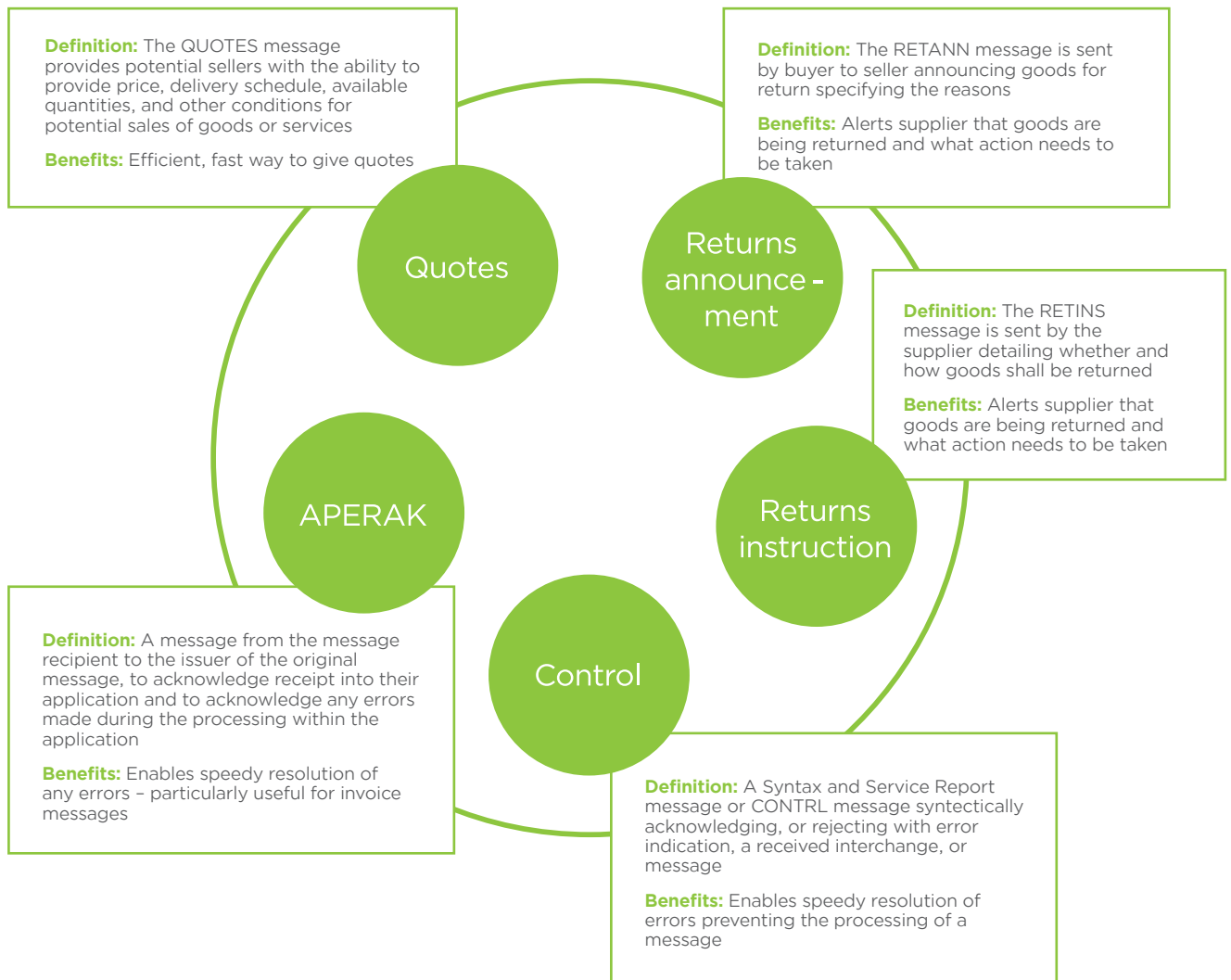
Inventory example: the INVRPT message can be used to provide inventory information between two trading parties. It can indicate opening stock, actual stock, quality control held stocks, damaged stock, and goods movement (receipts or withdrawals) of held inventory, for a given time frame. It can also include batch, age and location.

Sales data example: The SLSRPT message allows companies to report basic sales data on the products they are selling and is already used in the Apparel industry.

The SLSRPT message allows the recipient to know for a specific product the:

- Location of the sale
- Period in which it was sold
- Product identification
- Product selling price, quantity and value of the sales
- Additional identification of the products such as promotional flags, product group or family identification and internal identification numbers
- Periodical Turnover of a specified location
- Global specified product sales, i.e. total sales of a product in all locations

Other messages

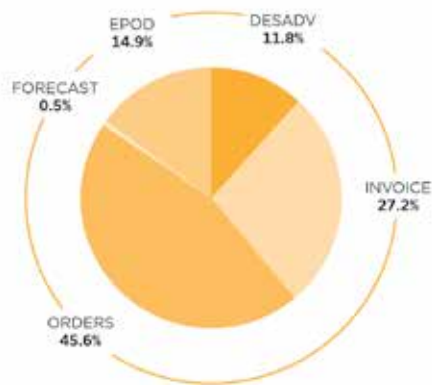


Control example: The CONTRL message is sent in response to a message to inform the sender that the original message has been received. This means that when a message (e.g. an ASN) is sent by the supplier, a check is run to make sure the message has come through in the correct format, that the mandatory segments all appear and that the segment count at the bottom of the message is correct. The CONTRL message will notify the sender that the message has been successfully received or rejected.

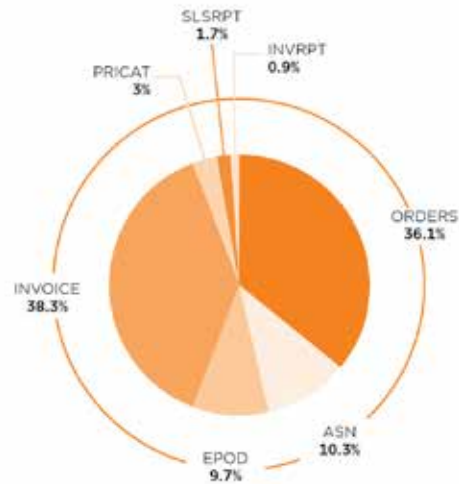
APERAK example: Following the CONTRL message, which is first processed at translator level to detect syntax errors and to acknowledge its receipt, the APERAK message is then transmitted to the receiving application to be processed. Upon reaching this state, the receiving application may issue an acknowledgement simply confirming receipt of the message by the application or may say for example that the message it is acknowledging is 'Invoice number 123456' and that it is a duplicate invoice number. Both parties' applications will need to be able to handle this sort of information.

Examples of message usage in various sectors

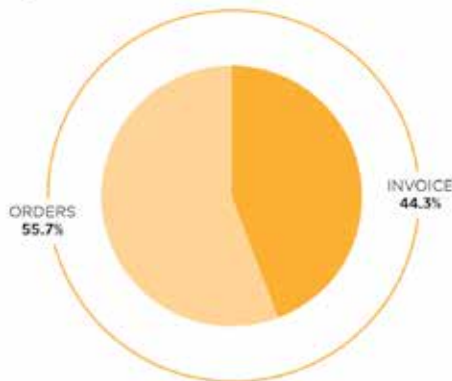
Fresh produce



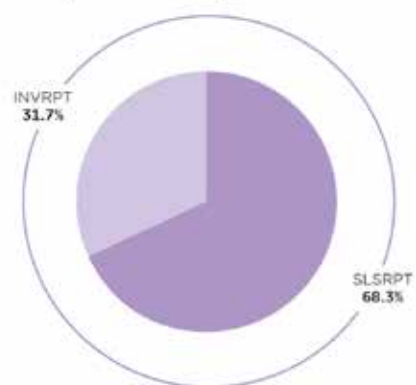
Food (mixed)



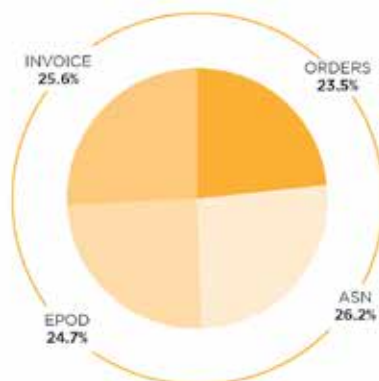
Bakery



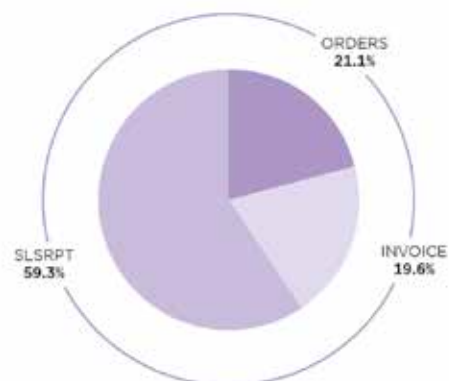
Apparel (franchise)



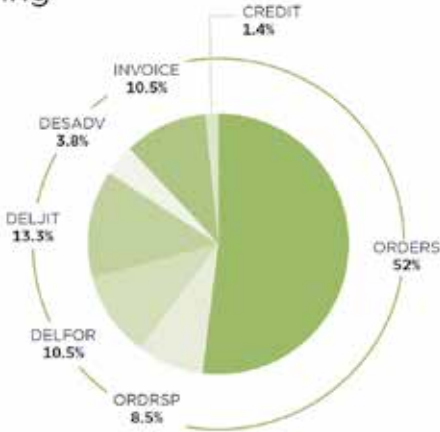
Food single major retailer



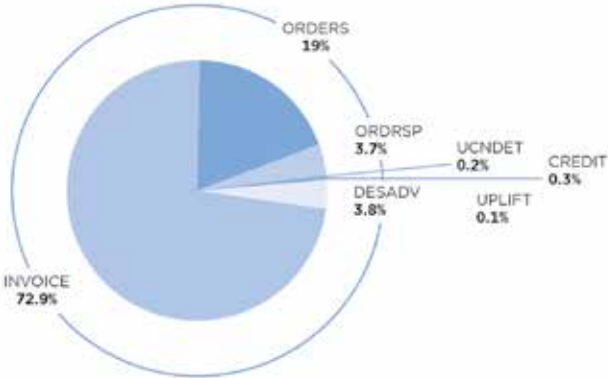
Apparel (direct to consumer)



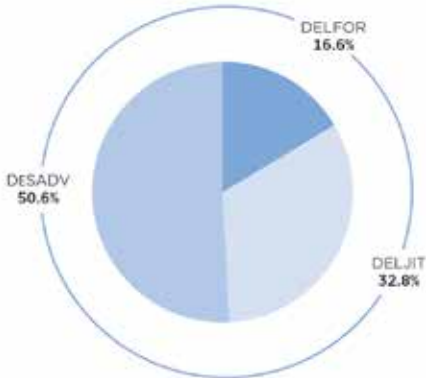
Manufacturing



Auto after market



Auto manufacturing



Things to consider when planning to implement new messages

Internal and external

- Impact to internal systems when implementing new messages
 - Consider what updates to systems may be needed to extract data for outgoing EDI messages or to receive data from incoming EDI messages
- Impact to internal departments not previously using EDI
 - Changing from manual to automated processes
 - Internal training to make sure all the relevant people understand the new processes and the benefits EDI will give
- Notification to and working with trading partners
 - Whoever approaches who (e.g. buyer approaches supplier or supplier approaches buyer) it is important to open a clear and unambiguous dialogue so that both parties know and understand any constraints which may be involved in implementing the arrangement and are kept up to date with progress
 - From a buyer's perspective it is important to know what operational constraints may be in place at the supplier which would impact the buyer's operation. Some examples to consider:
 - Are cut-off times the same in EDI as they are for manual?
 - How does the supplier handle changes to an already sent order?
 - How does buyer notify supplier of a cancellation?
 - How does buyer notify supplier of returns?
 - How does supplier acknowledge or confirm order with buyer?
 - Work needs to be undertaken in ensuring that orders and invoices contain mutually usable codes, units of measure, prices, discounts, etc., preferably using GTIN product identification or mutual code cross-reference when GTIN product identification is not possible
 - When both parties are using different message standards, that the translation undertaken does not leave orphan data which would result in failures further down the line
 - Once all testing of a new message has been completed and the decision to proceed with live operations has been made, it is important to include a "post-live review" some way down the time line where any issues found from operational use can be addressed
 - Once the message is operational, a process should be put in place to manage any issues that may arise and to provide guidance to staff. Therefore, some form of service level agreement needs to be mutually documented so both parties know who to contact in the event that either of the parties' systems is not working and an alternative mechanism can be employed temporarily.
 - Good communications with trading partners is required to make sure that expectations are managed and that data exchanged is kept up to date

Implementation checklist

- Technical considerations
 - Does your trading partner have the ability to use the messages you want to implement?
 - Determine what you have to do to enable your system to generate/process the required message types
 - Plan the work involved (any application changes/timescales/procedural changes with internal processing/test message processing/agreed go live date)
- Commercial considerations
 - Cost of implementing new messages: talk to your solution provider about the software costs, implementation costs and running costs
- Operational considerations
 - Look at your business processes and information flows to see where these messages can improve manual activities
 - Assess volumes of transactions which could be transferred to electronic messages
 - Include staff education in your implementation process
 - Explain the changes and benefits to your staff (before the processing begins) and how this will affect their working practices
 - Align master data internally across departments as necessary and with trading partners
 - Lookup tables need to be set up to manage comparison between internal part numbers and their associated Global Trade Item Numbers (GTINs)
 - Keep the customer informed when making changes, e.g. changes to units of measure when ordering product

Case studies

Dairy Crest and Tesco: www.gs1uk.org/our-industries/case-studies/dairy-crest-and-tesco

Mitchells & Butlers: www.gs1uk.org/our-industries/case-studies/mitchells-and-butlers

Where to go for help

- GS1 UK: www.gs1uk.org
- Cost savings calculator and case studies: www.gs1uk.org/ordertocash
- Your solution provider: www.gs1uk.org/our-partners
- Your trading partners

Glossary

Name	Definition
ASN	An Advanced Shipping Notice is used to specify details for goods despatched or ready for despatch under agreed conditions. Synonym: DESADV
Buyer	The buyer is the party to which goods or services are sold
Customer	The customer is an organisation or individual to which or to whom goods and/or services are supplied
Drop shipping	Drop shipping is a supply chain management technique in which the retailer does not keep goods in stock but instead transfers customer orders and shipment details to either the manufacturer or a wholesaler, who then ships the goods directly to the customer
EANCOM	EANCOM is the GS1 standard for Electronic Data Interchange (EDI) that is a detailed implementation guideline of the UN/EDIFACT standard messages using the GS1 Identification Keys
EDI	Electronic Data Interchange is the interchange of structured data according to agreed message standards, by electronic means
GDSN	The GS1 Global Data Synchronisation Network (GDSN) allows trading partners to access and exchange product master data in real-time. Product master data is entered into a GDSN-certified data pool, i.e. the GS1 UK TrueSource service
GS1	GS1 is a leading global not-for-profit organization dedicated to the design and implementation of global standards and solutions to improve efficiency and visibility in the supply chain
GS1 XML	XML is designed for information exchange over the internet. Within the GS1 set of standards, XML is used for Electronic Data Interchange - GS1 eCom. GS1 XML is designed in such a way that the messaging is transport-agnostic
Invoice	An invoice is a commercial document issued by a seller to a buyer indicating products or services, quantities and agreed prices the seller has provided to the buyer
Logistic Service Provider (LSP)	An LSP is the party providing logistic services such as warehousing, re-packing products, distribution and assembly. Synonym: Third-party logistics provider (3PL)
Order	An order is a document/message by means of which a buyer initiates a transaction with a seller involving the supply of goods or services as specified, according to conditions set out in an offer, or otherwise known to the buyer
Seller	The seller is the party selling goods or services
Solution provider	A solution provider is a vendor or service provider who manages your EDI requirements from hardware and software through to daily support
Supplier	The supplier is the party that produces, provides, or furnishes an item or service

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