

THE LOGISTICS OF THE FUTURE

RTI / Real-Time Information

Candidate Reference 2001/29

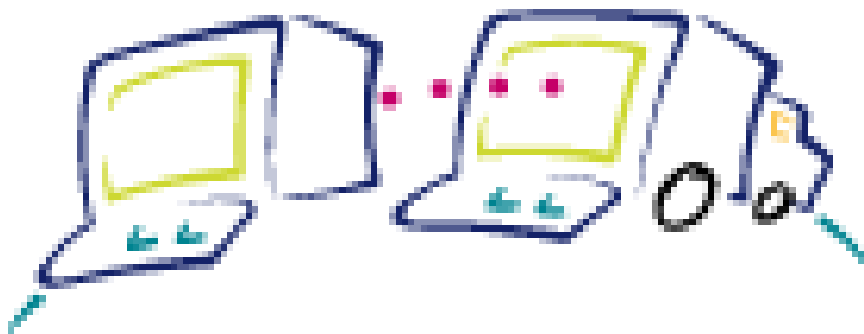




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INTRODUCTION & SUMMARY

With this thesis I intend to show the need to implement REAL-TIME INFORMATION / RTI as an added value to our businesses, by taking advantage of future logistics own techniques and resources.

In order to do this in a more practical manner, I shall have recourse to a case based on a particular segment (i.e. perishable goods) with the advantage that RTI can be applied to other sectors

In the first part of the thesis I shall describe the case with which we are concerned: the import and subsequent distribution of eels all over our country.

Secondly I shall describe what I understand is the basis of our future logistics: **RTI / Real-Time Information**

Thirdly I shall apply RTI to the aforesaid practical situation.

Lastly, in the “conclusions” part of the thesis, the advantages of RTI to any import or export process will be highlighted.



ACKNOWLEDGEMENTS

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- IATA
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- Joaquim Tosas / Chairman of AUTORIDAD PORTUARIA BARCELONA³
- Antonio Pedrós / Manager of AEROPUERTO DE BARCELONA

¹ Name of the Catalan Autonomous Government

² *Agencia Tributaria* is the Spanish equivalent to the *Inland Revenue*

³ Barcelona Port Authority



- Jesús Cuellar / Chairman of FETEIA
- Jordi Mallol / Vice-president of FETEIA and Chairman of ATEIA BCN
- Antonio Manchón / FETEIA's representative in FIATA
- Angels Figuerola / Director of ATEIA Barcelona
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- Joan Ferrándiz / Chairman of BARCELONA AIRPORT CARGO and Director of CENTRE CARREGA AÉREA BARCELONA ⁴
- Avelino Torrado / Director of GESTIÓ i PROMOCIÓ AEROPORTUARIA
- Cristina Sedes / Chief of IB CARGO's Barcelona Freight Terminal
- Mercè Peraferrer / IB CARGO's Catalunya Sales Manager
- María Arañó / BA WORLD CARGO's District Manager Barcelona
- Frank Nozinski / LH CARGO's South Europe Manager
- Joan Marin / Chairman of AIR CARGO CLUB
- Edward Bacon / Chairman of PROPELLER CLUB in BARCELONA
- EDITORIAL TRANSPORTE XXI
- EDITORIAL LOGÍSTICA Y TRANSPORTE
- ICE X
- COPCA
- CÁMARA DE COMERÇ I NAVEGACIÓ DE BARCELONA

And to all the people who have helped me with this thesis with their advice.



THESIS

Introduction

This thesis is focused on the analysis of a practical situation based on the import to our country of a perishable product such as eels. In the whole of the import process, I will make interact all information and communication technologies. These are the key tools for the future of our society and in turn shall improve the logistics process.

I have chosen the perishable goods sector because it is my belief that if we are able to satisfy the requirements of such a complex sector, what is explained in this thesis will be far easier to apply to other sectors.

In order to explain all this I shall have recourse to a particular case based on the carriage of eels, a costly sort of goods which needs personalised attention.

⁴ Air Cargo Centre Barcelona

A practical situation, import of eels

Information



Picture 1: The vital cycle of eels

The vital cycle of the European eel, technically known as “*Anguilla Anguilla*”, is very interesting. The European eel is born in the Sargasso Sea and moves then to the rivers mouths where it will spent the most part of its life amid brackish waters (half fresh, half salty). The European eel dies in the same sea where it was born.



There are more than 20 different kinds of eels, with technical names such as the Japanese Eel (which is found in Asia), the Rostrata Eel (which is found in America) and the European Eel known as Anguilla Anguilla. All these are known by their commercial name, i.e. Eel.

Number of eels (Anguilla Anguilla) per Kilo: 2,500 - 3,500 units

Average price of eels / Kilo: 35,000 ESP – 209.580 EUR

Eels can be carried alive, fresh or frozen and always by plane or by road.

LIVE EELS: They are mainly used for aquacultural purposes.

FRESH EELS: They are intended for use in restaurants and sale points

FROZEN EELS: Their final purpose is use in restaurants.



Picture 2: A dish of cooked eels

Useful Data

UK's forwarder:

FORWARDER UK
Cumberland Building
London Heathrow Airport
UNITED KINGDOM

SPAIN's forwarder:

TRANSITARIO SPAIN
Edificio Servicios Generales
Aeropuerto de Barcelona
SPAIN

Shipper:

EELS EXPORT CO
14th South Flower
Chatham
UNITED KINGDOM

Consignee:

ANGULAS IMPORT
Botella, 128
Barcelona
SPAIN

- The names and addresses above are fictitious -

Packages: 200 boxes



Box size: 44 cm x 35 cm x 9 cm

Gross weight per box: 2 Kilos

Net weight per box: 1 Kg

Step by step without RTI

From purchase of product by importer to its distribution.

18 April

08:00 AM EELS EXPORT CO, eel merchants, receive a telephone call ^{Flow Chart 1} from their Spanish customer ANGULAS IMPORT, who asks the former to prepare a consignment of 200 boxes containing 400 Kilos of eels bound to Barcelona.

09:30 AM Upon checking that, with last night's catch, it has sufficient product available for delivery to ANGULAS IMPORT, EELS EXPORT CO faxes ^{FC1} through to ANGULAS IMPORT an order form, and informs that the goods will be ready at midday.





Picture 3: Eel fishing

09:45 AM ANGULAS IMPORT calls ^{FC1} its forwarder, TRANSITARIO SPAIN, in order for it to arrange the carriage of the goods. However, the person ANGULAS IMPORT wants to speak with is engaged, so it waits for a couple of minutes and then hangs up because it must attend to other matters of the utmost urgency.

10:00 AM ANGULAS IMPORT calls ^{FC1} TRANSITARIO SPAIN once again and, eventually, manages to speak with the person in question. ANGULAS IMPORT informs that the goods will be ready at midday and asks TRANSITARIO SPAIN to take all the necessary steps so that the goods can depart for Barcelona as soon as possible.

10:15 AM TRANSITARIO SPAIN sends a fax^{FC1} to its UK correspondent, FORWARDER UK, asking it to contact EELS EXPORT CO, in order to know the precise time in which the goods will be ready.



10:30 AM FORWARDER UK calls^{FC1} EELS EXPORT CO, and writes down the time in which the goods will be ready. – Today at 01.00 PM. At this time, a van of FORWARDER UK will collect the goods and take them to London Heathrow Airport.

10:45 AM FORWARDER UK calls^{FC1} the airline in order to make the reservation but the line is engaged.

11:00 AM FORWARDER UK calls^{FC1} again and manages to speak with CARGO AIRWAYS, the airline which is going to make the shipment. The reservation is made under AWB number 000-12344321 for flight LHR-BCN XX123 today, 18 April, the ETD being 07.00 PM and the ETA 10.00 PM. Anyway, FORWARDER UK will need to check later with CARGO AIRWAYS that the space reserved is confirmed.

11:30 AM FORWARDER UK calls^{FC1} CARGO AIRWAYS once again and the reservation is confirmed as planned.

11:45 AM FORWARDER UK sends a fax^{FC1} to its correspondent, TRANSITARIO SPAIN, providing it with the details of the flight.

12:00 PM FORWARDER UK sends a fax^{FC1} to its customer, EELS EXPORT CO, informing it of the flights which have been reserved and confirmed.



12:00 PM TRANSITARIO SPAIN sends a fax^{FC1} to ANGULAS IMPORT informing it of the same details.

12:15 PM ANGULAS IMPORT receives a fax^{FC1} from EELS EXPORT CO with information about the consignment.

01:00 PM The goods are ready and placed in boxes.



Pictures 4,5, 6 y 7:

Boxes used for the carriage of eels

04:30 PM A van of FORWARDER UK collects the 200 boxes containing 400 Kilos of eels, and takes them to LHR Airport.



05:30 PM FORWARDER UK unloads the goods, which are delivered to the airline together with the documents.

07:00 PM FORWARDER UK tries to find out whether the goods have been shipped as planned and calls^{FC1} the airline. However, FORWARDER UK fails in its attempt because CARGO AIRWAYS' call centre closes down at 06.00 PM.



Picture 8: CARGO AIRWAYS call centre

10:15 PM Since the goods have not arrived as planned, TRANSITARIO SPAIN calls^{FC1} CARGO AIRWAYS' Customer Care Centre but gets no answer, because the call centre closed down at 06.00 PM. As there is nothing they can do about it, they wait for the goods to arrive.

10:30 PM Meanwhile, TRANSITARIO SPAIN calls^{FC1} its correspondent and asks if they have any news of the consignment. FORWARDER UK explains that they have encountered the same problem with the airline.

11:00 PM The customer, ANGULAS IMPORT, calls^{FC1} TRANSITARIO SPAIN asking about the goods, but they do not know what to say.

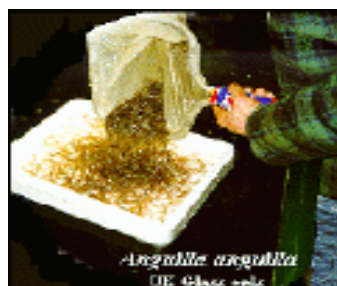


00:00 AM The goods arrive at Barcelona Airport with a two-hour delay. A van of TRANSITARIO SPAIN is waiting for the goods.

19 April

01:30 AM The goods are delivered at ANGULAS IMPORT's warehouse.

02:00 AM The importer analyses the death rate of the consignment. 5% of the eels are dead.



Picture 9: Recount of eels



08:00 AM During the night, ANGULAS IMPORT has packed the dead eels, which will be used in restaurants and put on sale in shops. The rest of the eels will be fattened up in fish farms and commercialised.



Picture 10: Eels

08:30 AM ANGULAS IMPORT calls^{FC1} TRANSITARIO SPAIN advising that they can collect the packaged goods, which must be distributed among different hotels and restaurants, including a number of shops. However, the line is engaged.

09:00 AM ANGULAS IMPORT calls^{FC1} TRANSITARIO SPAIN, who is advised that the packaged goods are waiting to be collected and duly distributed.



Picture 11: Packed eels for retail sale



10:30 AM TRANSITARIO SPAIN arrives at ANGULAS IMPORT's warehouse in order to collect the goods for delivery.

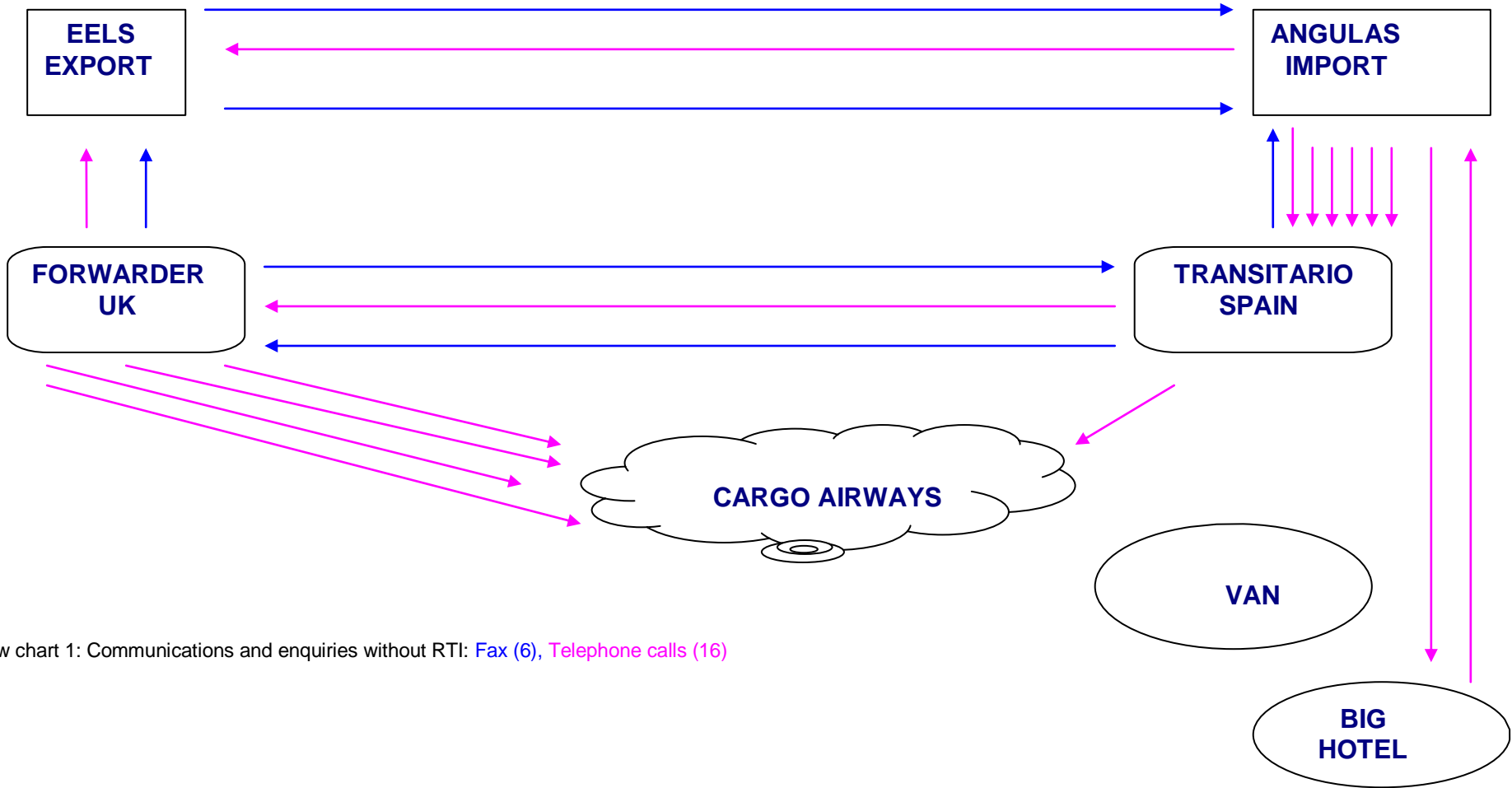
12:00 PM A big hotel calls^{FC1} ANGULAS IMPORT enquiring about the whereabouts of the delivery van. The hotel must prepare a lunch with eels by 01.00 PM and the goods have not arrived yet.

12:15 PM ANGULAS IMPORT calls^{FC1} TRANSITARIO SPAIN, who informs the former that the van should be arriving any minute now, that it must have stuck in a traffic jam. However, no specific and definite answer is provided.

12:30 PM ANGULAS IMPORT must call^{FC1} the big hotel, apologising for the delay and begging the hotel manager to be patient.

12:50 PM The goods are delivered to the hotel, although too late to cook the meal.

TOTAL: 22 communications between calls and faxes



Flow chart 1: Communications and enquiries without RTI: Fax (6), Telephone calls (16)



New technologies

The new logistics

Having seen the case, I will show you the new technology tools which shall take part in the logistics process with which we are concerned in order to make it quicker and more dynamic.

Although the case is fictitious, many of you will have realised that it has many similarities with reality. It is apparent that dissatisfaction is in the air. Impotency and resignation due to a lack of information harm relationships.

RTI provides solutions to mitigate this serious problem; you should start forgetting about use of the telephone and of the fax machine. **This will allow businesses to save time and money.**

Let us take an example: how many times have you heard a colleague of yours (or perhaps a customer) saying:

-I have tried for 20 minutes to speak with Mr. ... and it is the third time I call...



Probably, that colleague forwarder who calls a shipping company or an airline, or the customer who calls us, only want a very specific information. However, a poor image and service are given because the person who must attend the call is busy.

Count how many calls are you receiving or making at the end of the day.

Has the ship departed as planned?

I want to make a reservation of 2 packages of 30 Kilos each and 0.4 M3 for Dubai.

I would like to know the arrival day and time of the goods with AWB 000-12344321?

Where is the truck that carries my goods?

Count the time you waste and note the poor service provided or received when we are not properly served when we make a phone call.

Nothing of this happens with RTI, because information is there when you need it, in real time.

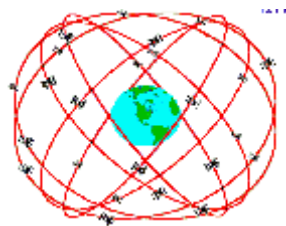


What can RTI offer?

RTI allows an electronic interchange of standardised data between computer systems, thereby reducing manual intervention.

Is it possible for me know where is the van now?

Yes, you will find the answer in **GPS**, GLOBAL POSITIONING SYSTEM. By the time delivery vehicles have available a receiver/ transmitter, these will provide the exact location of a truck or van, which is given by a signal transmitted from the vehicle to the nearest satellite. From there information reaches our central by satellite triangulation.



Picture 12: Position of satellites around the Earth



Do we know where are the goods?

Yes, by means of an interchange of electronic data in a **WEB** page you will be able to track your consignments. All you need is a reference number, and every minute you will be able to know where the goods are. This is called tracking and is available 24 hours a day, 365 days a year.

Some **WEB** tracking

Freight Status Information

AWB-No: -

Picture 13: Airline's WEB tracking

Freight Status Information

B/L-No: -
Container-No: -

Picture 14: Shipping line's WEB tracking



There are some WEB tracking in which you need to enter a customer's password and a consignment number ...

CONSIGNMENTS ENQUIRY

Your consignments

|

From here you can check the status of your consignments.

Please enter the appropriate **consignment number** and your **user's number in order to check your consignments**.

Please enter :

Consignment number:

Identification code:

Picture 15: Forwarder's WEB tracking



Is it possible for me to know where are the goods without being switched on to a computer?

Yes, you can make your enquiries any time with a **WAP** (Wireless Application Protocol) mobile phone.

A mobile phone receives information pages, free from complex graphics or pictures. Use of **WAP tracking** is exactly the same as in WEB tracking.

With WAP tracking you can also make your enquiries 24 hours a day and 365 days a year with the advantage of mobility. We will no longer be tied by a computer. Information about the location of our goods will be available to us in real time, anywhere and anytime.





Picture 16: WAP tracking



Can I make a reservation with an airline without using a telephone ?

Yes, you can do this thanks to a data interchange system called **EDI (Electronic Data Interchange)**. This allows you to make real-time reservations. You only need to choose the airline and enter the relevant details. If there is space available the reservation is confirmed. Otherwise the status of your reservation will be notified to you.

Is it possible to place orders via the Internet ?

Yes, by logging onto the supplier's WEB page, you can place your orders and know immediately whether there is stock available, and the time in which your order will be ready. All in real time.

RTI is the key to success.



Aim of RTI

The chief aim of RTI is to speed up and simplify the tasks involved in whatever processes are related to the reception, storage, transmission, interchange and processing of commercial documents. RTI enables to optimise logistics resources through a co-ordinated trace of goods flow throughout the chain.

RTI services are based in the same network architecture on which the rest of services is based (e-mail, information services, telephone, fax).

RTI ensures a transparent integration of all the communications platforms of a business.



RTI in our practical situation

Step by step with RTI

The same process based on RTI...

18 April

08:00 AM EELS EXPORT CO receives an order via its WEB page^{Flow Chart 2} it was made by its Spanish customer ANGULAS IMPORT. The order is for 200 boxes containing 400 kilos of eels bound to Barcelona.

09:30 AM EELS EXPORT CO's WEB page system sends an e-mail^{FC2} to ANGULAS IMPORT. Order number 1290 is confirmed and ANGULAS IMPORT is advised that the goods will be ready at 01.00 PM.



Picture 17: Eel fishing

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THE LOGISTICS OF THE FUTURE

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09:45 AM ANGULAS IMPORT asks its forwarder TRANSITARIO SPAIN via its WEB page^{FC2} to arrange the carriage of order number 1290. ANGULAS IMPORT advises that the goods will be ready at 01.00PM and asks TRANSITARIO SPAIN to take all the necessary steps so that the goods can depart for Barcelona as soon as possible.

10:00 AM TRANSITARIO SPAIN's WEB page system sends a message via EDI^{FC2} to its UK correspondent, FORWARDER UK, providing it with full details of the consignment, including order number and place and time for collection.

10:45 AM FORWARDER UK makes a space booking with CARGO AIRWAYS via Edi^{FC2}, with AWB number 000-12344321 for flight XX123 LHR-BCN of today 18 April. The ETD is 07:00 PM and the ETA 10:00. PM. The reservation however is unconfirmed.

11:00 PM FORWARDER UK receives confirmation of the booking via EDI^{FC2} from CARGO AIRWAYS.

11:15 PM FORWARDER UK updates the status of the consignment in its WEB page. By doing this, TRANSITARIO SPAIN, EELS EXPORT CO and ANGULAS IMPORT can have the details of the consignment any time they want to.



01:00 PM The goods are ready and placed in boxes.



Picture 18: Detail of the boxes used for the carriage of eels

04:30 PM A van of FORWARDER UK collects the 200 boxes containing 400 kilos of eels and takes them to LHR airport.

05:30 PM FORWARDER UK unloads the goods, which are delivered to the airline together with all relevant documents.

07:00 PM FORWARDER UK checks whether the goods have departed as planned through its WEB tracking^{FC2} connection with CARGO AIRWAYS, and notices that the goods are going to depart with a two-hour delay.



07:15 PM Through its EDI^{FC2} system, FORWARDER UK informs

TRANSITARIO SPAIN, EELS EXPORT CO and ANGULAS IMPORT of the delay.

07:45 PM TRANSITARIO SPAIN sends a short written message, SMS^{FC2} mobile-mobile to the van's driver who must collect the goods and tells him what happened. In order for the driver not to wait unnecessarily, TRANSITARIO SPAIN asks him to monitor via WAP tracking the time in which the flight is supposed to land.

11:15 PM The van's driver checks by WAP tracking^{FC2} that the goods will arrive at 00.00 AM and makes his way to the airport to collect the goods.

00:00 AM As anticipated, the goods arrive at Barcelona airport with a two-hour delay. A van of TRANSITARIO SPAIN is waiting for the goods.

19 April

01:30 AM The goods are delivered at ANGULAS IMPORT's warehouse.

02:00 AM The importer analyses the death rate of the consignment. 5% of the eels are dead.



Picture 19: A packet containing live eels

08:00 AM During the night ANGULAS IMPORT has packed the dead eels, which will be used in restaurants and put on sale in shops. The rest of the eels will be fattened up in fish farms and commercialised.

08:30 AM ANGULAS IMPORT requests TRANSITARIO SPAIN via WEB^{FC2} page a new service. ANGULAS IMPORT tells TRANSITARIO SPAIN that they can collect the packaged goods, which must be distributed among different hotels and restaurants, including a number of shops.

10:00 AM TRANSITARIO SPAIN arrives at ANGULAS IMPORT's warehouse, loads the goods and sets off for delivery.

11:00 AM The van's driver sends a short SMS^{FC2} message to TRANSITARIO SPAIN, informing the latter that there is a heavy traffic and that he is going to be late.



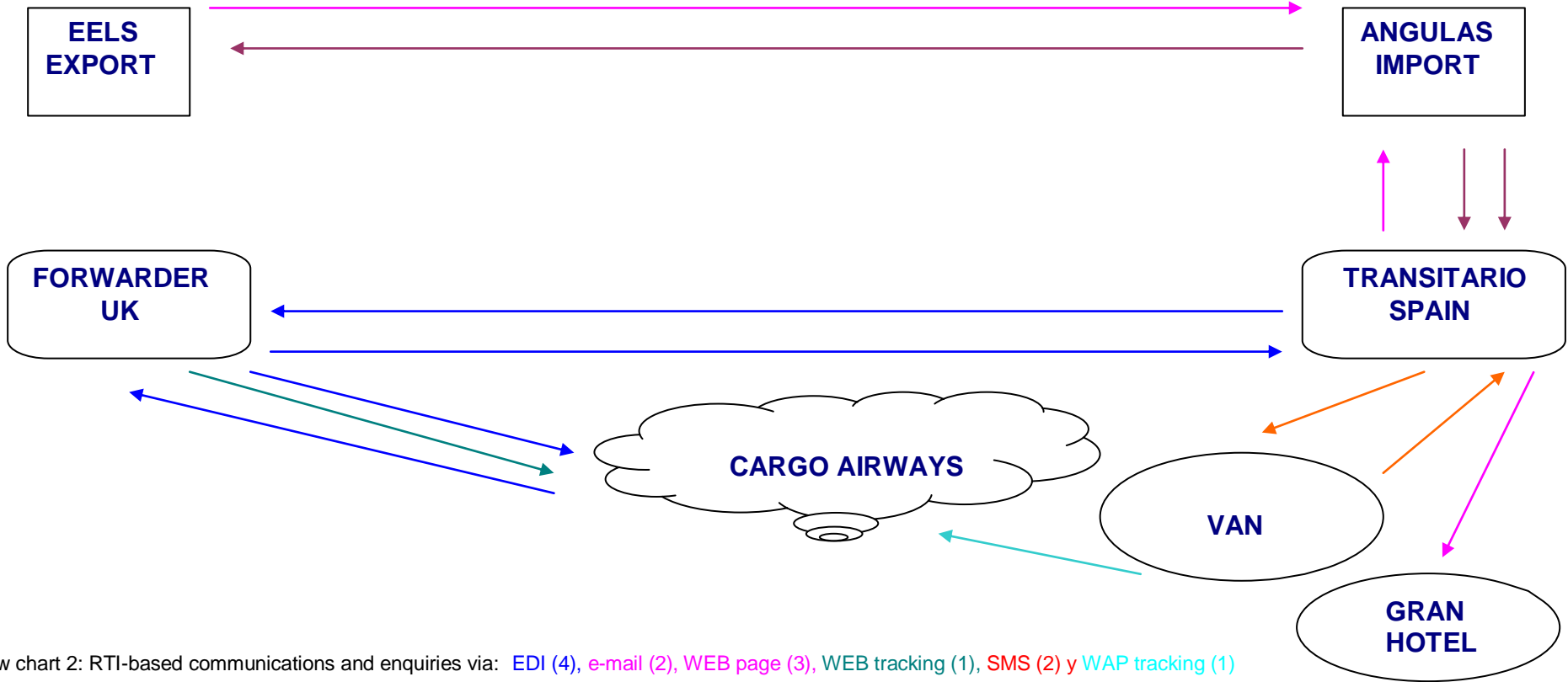
11:15 AM Upon checking its computer, which is connected to the van via GPS, TRANSITARIO SPAIN, is in a position to analyse the delays which are going to take place. TRANSITARIO SPAIN advises ANGULAS IMPORT and the rest of firms which will receive the orders by e-mail^{FC2}

11:30 AM GRAN HOTEL, one of the companies who was waiting for the goods, planned to cook a meal with eels by 01.00 PM. As it has been forewarned of the delay, GRAN HOTEL can change the menu.

12:50 PM The goods arrive at GRAN HOTEL as a normal order (i.e. the pressure caused by the fact that eels were the basic ingredient for the 01.00 PM lunch no longer exists).

TOTAL: 13 communications* between e-mails, connections via EDI, WEB, WEB page information, tracking, SMS, and WAP tracking.

* Among the 13 communications, e-mails have only been used for confirmation of the order and to give notice of incidents occurred.



Flow chart 2: RTI-based communications and enquiries via: EDI (4), e-mail (2), WEB page (3), WEB tracking (1), SMS (2) y WAP tracking (1)



CONCLUSION

Our case is comparable to other situations.

What has been explained above concerns a very specific situation, the import of eels to Spain for its subsequent distribution. Nevertheless, I would like you to consider the above case as a situation applicable to other types of goods, for the operational differences between RTI and non-RTI are significant.

	Nº of written and oral communications	Information to customer
Case not based on RTI	22	Non-existent
RTI-based case	4 (2 e-mails and 2 WAP tracking)	The customer has had information available constantly

Table 1: Comparative of communications



The awareness that customers demand information is a good starting point. Real-Time Information, RTI, shall enable you to offer your exporter or importer customer the possibility to know more about his consignments.

I hope that RTI soon becomes a reality in any business of any corner of the world. Real-time information is gold. Do not forget this and your customers will not forget you.



Picture 20: Time ...

If you are still unconvinced let me outline for you the advantages and benefits of RTI.

ADVANTAGES IN IMPLEMENTING RTI

RTI improves customer's satisfaction

The customer gets the information he wants at the time he wants it.



Your business in the cutting-edge of communications

Your company will no longer ignore new technologies.

Automation of information

If we repeat processes, the system will register them and you will not need to enter all the information, which will be available in the antipodes and in real time.

Improvement of staff's productivity

RTI allows staff engaged in conventional communication procedures to work in other activities with greater added value.

Reduction of operational costs

Information is entered once only, in a format valid for all parties involved. Therefore, it is unnecessary to enter information already existing.

Contribution to the environment

By reducing use of the fax machine, we avoid unnecessary printings of documents. By saving paper, we avoid woodcutting.



Reduction of fax use and cost-saving

As we do not need to print all the information we have, we reduce the use of paper and therefore the costs involved in it.

Confidentiality and safety

Safety for everybody thanks to passwords.

Saving in communications

When we need to send the same information to several addressees, it is possible to send that same information with just one transmission.

24 hours a day / 365 days a year

Information is available on Sundays and bank holidays, at any time.

Reflection

We all know that we must provide service to our customers. Providing them with a price only is harming us all. Because mark-ups get lower, as are benefits, our businesses must work more to earn the same. It is understood that the service we must offer will correspond to that of our job as forwarders but...



I propose you that we give something more to our customers by playing down the importance of price, and by making the added values of our businesses prevail.

Real-time information is going to be one of these added values. EDI will be added to RTI and we shall have the most attractive “product” in the market for our customers.

Having in mind all the above, it can be easily understood that RTI can be an excellent solution to the demand for information.

In conclusion, our customers pay us for the service we provide. Isn't this an essential part to our job?



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Antonio Martínez

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Transporte XXI



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