8. IT at Calberson (France)

8.1. Abstract
This case study focuses on Calberson, a leading French transport company. It introduces the company, the services it offers, and the role that information technology plays in supporting them. Special emphasis is put on the corporate change-over from a paper-based working procedure to the adoption of electronic data interchange. Other IT-based services are also described; these include a videotex system and a PC-based application.

The case study demonstrates how, through a strong commitment to information technology, Calberson has become a leading developer and user of IT (especially EDI) in its business sector. Over the years, the company has gained valuable expertise in applying IT to groupage, haulage, and transport operations, giving it a leading edge over its rivals. Its efforts in using EDI, which were started in 1987, are widely recognised as a pioneering effort in the field.

8.2. Company Overview
The Compagnie Générale Calberson (CGC) is a multi-modal, national and international transport holding company. It is part of the SCFETA group which is owned by SNCF, the national railway company in France (see Figure 1). With a payroll of more than 10,000 staff and a fleet exceeding 5,000 vehicles, Calberson has subsidiaries and representatives world-wide.

FINANCIAL DATA
Calberson reported FF 100 million net profit for 1992 and, according to Charles-Henri Broussau the company’s Chief Executive Officer, is expected to post a profit of FF 160 million in 1993 (International Freightng Weekly, 1991). In 1990 Calberson had a net profit of FF 87 million and approximately broke even in 1991 on a turnover of FF 7.7 billion. Hermann Ludwig, Calberson’s international forwarding arm since its takeover in 1987, recorded losses until it broke even in 1992.

Overall efforts have been successful both nationally and internationally, with a remarkable improvement in results outside of France. An increase in the group profits allowed the company to pay dividends. Nevertheless, there is still a strong dependence on the overall economic and political situation, as demonstrated for example by the negative impact of the labour union strikes which took place in July 1992.
Table 1: Leading Road Transportation Companies in France (1992, in millions of French Francs)

<table>
<thead>
<tr>
<th>Company</th>
<th>Turnover</th>
<th>Financial Result</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groupe Sceta (*)</td>
<td>21,800</td>
<td>157</td>
<td>26,300</td>
</tr>
<tr>
<td>Calberson</td>
<td>8,172</td>
<td>47</td>
<td>8,800</td>
</tr>
<tr>
<td>Boloré</td>
<td>25,800</td>
<td>-597</td>
<td>26,000</td>
</tr>
<tr>
<td>Technologies (including SDV)</td>
<td>16,500</td>
<td>-102</td>
<td>16,000</td>
</tr>
<tr>
<td>Sermam</td>
<td>4,700</td>
<td>-37</td>
<td>6,400</td>
</tr>
<tr>
<td>Mory S.A.</td>
<td>2,900</td>
<td>-205</td>
<td>4,600</td>
</tr>
<tr>
<td>Dubois</td>
<td>4,900 (***)</td>
<td>23</td>
<td>2,700</td>
</tr>
<tr>
<td>Ducros</td>
<td>1,500</td>
<td>-1</td>
<td>3,535</td>
</tr>
</tbody>
</table>

(*) Including Calberson  
(**) Customs included

8.3. Calberson's national services

All over France the Calberson Group offers parcel delivery service, express daily delivery services as well as specialised products. Parcel delivery, the dispatch and distribution of goods to multiple destinations, is the group's most important service. Calberson offers several parcel delivery services depending on the delivery deadline requirements of the customer. These include *Calpack*, a standard parcel delivery service for single packages under 10 kg, and *Pack 30*, a new service launched in September 1992 for 10-30 kg parcels. Through these services the company aims at meeting the demands of parcel delivery customers in sectors as diverse as general electronic equipment and luxury goods, including clothing, fitting, leisure products, and automobile spare parts.

Over the past fifteen years, Calberson has been the market leader for express delivery in France. Delivery deadlines are guaranteed to a wide range of customers looking for reliability and speed. An efficient transportation infrastructure together with major automated distribution centers and highly skilled staff, ensures premium customer service.
Moreover, the Calberson Group has expanded its parcel delivery and express delivery activities by adding a number of specialised services such as *Paris Book Parcel Delivery, Industrial Vehicle Service*, as well as air, road, and volume freight service. All the above mentioned services are supported by a network of integrated branch offices and regional subsidiaries.

8.4. "Calberson Logistique"

"Calberson Logistique" is the group's new division working on a European level with the SCETA group's other subsidiaries and partners in Europe. Calberson has over 900,000 square meters of covered warehousing in France. Calberson Logistique aims at offering a wide range of services on request, including stock inventory management, storage, packaging and distribution. Furthermore, they offer additional services such as component testing and assembly, and product packing and repacking. They also provide computerised order processing and stock management, allowing customers to locate their goods at any stage of the transportation chain.

The automation of Calberson's operational procedures has played a vital role in improving the quality of customer service. Even during the time of economic recession, Calberson put strong efforts into improving productivity and quality of service.

8.5. Calberson's international services

To conduct its international activities Calberson collaborates with companies headquartered in France as well as those operating abroad. By the end of 1992 and subsequent to the SCETA Group's restructuring, these companies became part of SCETA International. Calberson and its French subsidiaries constitute the largest division of the SCETA Group's international network.

Calberson International is the leading company in its sector. It offers customers a wide variety of products such as European land bulk delivery (parcel delivery, express delivery, and transport of small batches), air and sea transport, and *Intrastat*. The latter is a product specially designed for the emerging single European market; it targets customers with import/export operations within the European Community. Calberson International's services outside France are supported by the SCETA international network.

8.6. Motivation for leveraging IT

Back in the mid-1980s, the administrative work involved in groupage services was particularly tedious and involved a large number of operational tasks for both the consignor and the carriers. The paper-based procedure used for overland groupage operations is depicted in Figure 2. First the consignor sends an order to the carrier in which he specifies the type and quantity of goods, when they should be collected, and the consignee. Secondly, the goods are transferred to the carrier along with the contract of carriage or the waybill. (The carrier prepares a consignment list which quite often includes several contracts of carriage.) Thirdly, the carrier takes the goods to the receiving warehouse which is responsible for delivering them to the consignee, along with the original and a copy of the contract of carriage. The original is signed by the consignee, hence discharging the carrier from ownership of the goods. Fourthly, the original contract of carriage is filed by the carrier and a copy of it may be sent to the consignor as proof of delivery. Finally, the carrier sends a carriage invoice to the consignor. If a special case or dispute occurs due for example to problems with the carriage of the goods or the consignee's refusal to receive them, the consignor may request an explanation. A litigation file is then opened, leading possibly to a change in some of the contract clauses.

In the past, the flow of goods was accompanied by a flow of paper documents, each copy of which had to be processed several times. This process was error-prone and time-consuming, leading to a critical slow-down of the forwarding operation and to misdirected parcels. Both of these situations undermine one of the main objectives which is speed. The administrative costs were even more of a burden regarding the consignments of minimum weight, which account for a large proportion of the goods transported. The average weight of a national and international parcel is about 50 kg. Several thousand parcels are carried out in France each day and about 25 million in Europe per year.

8.7. Calberson on Minitel: A Videotex application

Calberson developed a videotex-based service using the Minitel platform which is commercially available nationwide. This service is offered free of charge to all Calberson customers as soon as they sign a contract with the company. Customers pay for the connection time to the public telephone network. After checking the customer's personal ID number, the Minitel application (3615 CALBERSON) allows customers to access the company server; it offers 24 hour-a-day real-time information on the status of the ordered deliveries.
When delays or exceptions occur, the system provides a comprehensive explanation of the underlying reasons for these abnormal situations and informs the customer of the remedial actions Calberson has taken or is planning to take. Moreover, the Minitel application provides customers with information on its range of services, its commercial agencies’ network throughout the country, their offerings, etc.

8.8. CRISTAL: A PC-based IT service

Calberson developed CRISTAL, a PC-based application for supporting customers in their preparation of delivery orders. More specifically, using Calberson’s coding scheme, CRISTAL automatically prepares the bar code labels to be placed on the customer’s parcels. The software capabilities handle four types of services: MESSAGERIE, CALEXPRESS, CALPACK, and PACK30. The system is available in two versions:

1. The first version does not offer connectivity to Calberson’s server. The customer keys in all the order data and hands over a copy of the disk files to the Calberson truck driver when the latter stops by to collect the parcels;
2. The second version allows customers to connect to Calberson’s server, hence supporting the uploading of the order data from the customer station to Calberson’s server.

Regardless of the version the customer selects, CRISTAL can be installed within the customer premises either on a stand-alone PC or on a set of networked stations using a local area network (LAN). In either configuration, CRISTAL can be directly connected to the customer’s internal information system.

From a customer perspective, CRISTAL improves accuracy, as well as reduces time and effort to prepare order information and bar codes. Moreover, customers using the second version of the system can follow, on a real-time basis, the shipment and delivery status of their parcels. From Calberson’s perspective, with CRISTAL there is no need to re-enter data of customer delivery orders, a procedure that is both error-prone and time-consuming. This time saving advantage is very important in the transport sector where on-time delivery is crucial for the business.

Calberson does not have a clear policy on charging customers for the adoption of CRISTAL. According to a Calberson manager, the company seldom sells the system; most often it gives it to customers without charge. There are no explicitly stated criteria whether to charge for it or not; it depends on the type of customer at
hand and on the salesperson's assessment of the importance of that specific business relationship.

8.9. Calberson's EDI application

To take advantage of the new opportunities enabled by information technology several large transport companies met early in 1987 to consider the possible use of EDI in overland groupage operations. Initially, these companies were Calberson, Mofy, and Danzas; they were quickly joined by several others.

With the help of Simpofrance, the technical group of GTF (Group of Terrestrial Freight Forwarders) which is made up of users and information specialists, began by gathering the information used by each party involved in a transport operation. Information flows were then studied in detail and optimised. Moreover, the backflows of information from carriers to consignors and from one carrier to another were added to them. These messages were designed using the EDIFACT format. Calberson's EDI system utilises all of these messages under the acronym INOVERT (INTERNATIONAL OVERLAND TRANSPORT). Figure 3 provides a schematic representation of the exchange of INOVERT messages between all the parties that may be involved in a parcel forwarding operation. These are the consignor, the forwarder, the carrier, the forwarding warehouse, the subcontractors, the receiving warehouse, and the consignee.

A brief explanation of these messages is given in the following paragraphs:

- **DISPOR:** The consignor sends a DISPATCH ORDER message to the carrier giving them information on the goods to be carried.

- **SCONTR:** The SUBCONTRACT message provides a carrier or a receiving warehouse with the information it needs to carry out its task. It may describe consignments from different origins to be sent to the same consignee.

- **QUERY:** The consignor uses this message to query about the completion of the forwarding operation.

- **REPORT:** This message is either used to answer the above query or to report on the status of the forwarding operation and any problems that may arise.

Figure 3: INOVERT messages
- CALTEN: This CALI for TENders message is more often used in freight forwarding than in parcel delivery operations. Through it, the consignor selects or consults various subcontractors (e.g., traction-only haulage subcontractors).

- TENDER: This is the reply information to the above message.

- COLLOR: This COLLECTION ORder message gives the carrier information related to the requested transport operation (date of goods collection, destination, etc.).

- CONFDO: Through the CONFIRMation of Delivery Order, the carrier confirms (to the consignor) that he will carry out the transport operation.

- ARREADV: This message informs the consignee that the goods are available (ARRival ADVice) and asks for delivery instructions.

- INSTRU: This message provides INSTRUctions answering the above query.

- FORINV: The principal carrier or a subcontractor sends a FORwarding INVoice for the transport service provided.

8.10. IT and EDI infrastructure at Calberson

Calberson's IT infrastructure includes an IBM ES 9000 server, 30 AS/400 minicomputers, 400 UNIX- or DOS-based PCs, and bar code readers (some of which are installed in the trucks) to track parcels. The server is used to internally share information. It also functions as a gateway to exchange data with customers and corporate partners. Customers can be electronically connected to Calberson either directly (via a point-to-point communication link) or through a value-added network (VAN) such as France Télécom's ATLAS 400, IBM's Information Network, General Electric's Information System, AXONE, and ALLEGRO. As shown in Figure 4, some consignors and carriers have a workstation which operates as a front-end to their central information system (or "informatique centrale"). Calberson provides the partner company with the technical specifications, the translator, the communications equipment, the workstation management software, and even the hardware.

Moreover, in 1989, a national EDI server was set up at Calberson. Starting in 1990 it was interfaced directly with the VAN server (Figure 5).

8.11. Resulting benefits

In a national survey conducted early in 1991 (L'Officiel des Transports, 1991), Calberson's logistics performance was ranked first by both carriers and customers, ahead of other large transportation companies such as DANZAS, TFE, PROST, and SERNAM.

On the IT level, communication links between Calberson and its customers allow both parties to reduce paper-based procedures and their corresponding costs to a minimum. The benefits of EDI have been reaped in a significant way, mainly by the major
Moreover, EDI has significantly improved delivery times, allowing consignors to accept a greater number of urgent orders. This improvement has positively impacted Calberson's commercial policy and its competitiveness. It has also provided the company with accurate and timely information useful for route planning and truck optimisation. Hence Calberson was able to manage its human resources and its sizeable fleet better.

8.12. Conclusion

This case study illustrated how a road transport company was able to build a sophisticated IT infrastructure, widely perceived as pioneering in its business sector in France. In particular, it focused on videotex- and EDI-based applications and their resulting benefits for all parties involved in the transport chain. Among the cited benefits for Calberson are major time reductions and a significantly improved customer service.

The EDI applications developed at Calberson have enhanced the company's reputation and quality image. Furthermore, they have become a selling argument vis-à-vis potential customers. Moreover, Calberson has acquired valuable experience and expertise in the EDI domain and has realised the strategic, competitive dimension of this technology.

8.13. References


