CLF Process Model 2.0

Functional description

Process Architecture Model for the Ornamental Horticultural Supply Chain
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1. About this document

The Workgroup Standards of Floricode (formerly called Florecom) defined the basic concept of the CLF ('Commercial, Logistic and Financial') process architecture model in 2002. The principle behind this CLF process model is the fact that standardization of the information exchange between supply chain parties takes place on the process level. The realization of commercial transactions form the core of data exchange with standard messages in the supply chain of the ornamental horticultural industry. There is always a commercial (offer, order and order response), a logistic (warehousing, order handling, packing, quality control and transport) and a financial (invoice, payment and bookkeeping) process component involved with a transaction (also see Figure 2).

Since 2002 this CLF process model forms the starting point for the information exchange with standard messages of Floricode.

There is a need to implement this CLF process model on a wider scale in the supply chain of the ornamental horticultural industry. Therefore in this new version of this document the CLF process model is enhanced and described more precise and complete.

1.1 Aim of this document

In this document Floricode presents the basic architecture model of the ornamental horticultural supply chain. It is clarified why and how the core business processes in the supply chain are divided in commercial, logistic and financial processes with the information flows involved. Floricode calls this the CLF process model.

With this document Floricode presents its way of thinking about:
- a generic business operating in a supply chain
- the supply chain of generic businesses in the ornamental horticultural industry
- the core business processes in the supply chain of the ornamental horticultural industry
- the information flows in this supply chain
- the sequence in the information exchange for these core processes.

Using this CLF model for the design of information systems to support business processes of the partners in the supply chain will mean:
- Cost reduction because of the effective and efficient information exchange arising from the standardization of the supply chain processes and the standardization of messages.
- Fast, timely and correct data exchange between supply chain partners executing their daily business.

1.2 Intended for...

This document targets all parties, direct or indirect, involved at the implementation and use of the Floricode message standards. The documentation is applicable for different types of readers, among others, business, information, and software architects of software suppliers, auctions, growers, traders and their service providers like carriers active in the supply chain of the ornamental horticultural industry.

1.3 About this version

After more than 10 years it was necessary to develop the basis of the 2002 CLF process model more precise and more complete. During the last 10 years the development and implementation of the new generation of standard messages of Floricode based on EbXML and the UN/CEFACT Core Components have been quite booming. Information flows based on the older EDIFACT messages are replaced with new information services based on EbXML standards. Also supporting business...
processes like those for the export certification are digitalized. Therefore a special workgroup of the Floricode Workgroup Standards revised the CLF process model. Compared with the former version the most important changes and extensions are:

- Redefinition of the basics of the CLF process model
- Redefinition of the CLF processes and sub processes
- Insertion of the actual existing information flows
- Addition of the supporting processes.
2. Floricode Documentation Methodology

This document is part of the documentation methodology of Floricode (Document Methodology – Manual; see: References), a methodology that is used to describe the standards used in the ornamental horticultural industry. The basic underlying goals of this methodology are to provide:

- documentation to all different types of Floricode users i.e. technical and non-technical
- documentation from different perspectives and in different levels of detail
- unambiguity in terms and modelling techniques
- a clear coherence between all types of documentation
- a logical mapping of the documentation stack
- a sound basis for quality assurance and certification of software suppliers.

The Floricode documentation stack, as presented in the figure below, indicates the coherence of the published documents. The current document is marked in pink.

The process descriptions in this document are solely used to describe ‘high level’ generic collaboration processes between organizations and are not standardized by Floricode. These CLF process descriptions form the basis for defining the generic commercial, logistic and financial scenarios for information exchange in the ornamental horticultural industry.

The generic message conventions, both the EDIFACT message conventions and the XML message conventions support businesses in the ornamental horticultural industry in the execution of their commercial, logistic and financial processes. Especially the XML standards also facilitate new business models.
To support specific business processes in trade communities, Floricode facilitates the development, publication and implementation of community standards. These standards are implementation guidelines of Floricode standard messages based on specific business rules in a community.
3. Introduction

3.1 Supply chain management

Supply chain management is defined as the "design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally".

Floricodes CLF process model originated from the concept of Supply Chain Management (SCM). SCM focuses on the optimization of the flow of goods and services through the supply chain. In the ornamental horticultural industry this flow starts with the activities of breeders and propagators, production of flowers and plants by growers, marketplaces (like auctions) where products are purchased and sold, import and export activities of traders, the delivery of products to the (large scale as well as small scale) retail and finally invoicing and payment of the products and services delivered.

3.1.1 Supply Chain Operations Reference model

The Supply Chain Operations Reference-model (SCOR) is a process reference model for supply chain management. This reference model enables users to address, improve, and communicate supply chain management practices within and between all interested business partners. The Supply Chain Operations Reference-model is a management tool, spanning from the supplier's supplier to the customer's customer.

The supply chain operations reference model was developed in 1996, and endorsed by the Supply Chain Council (SCC), now part of APICS, as the cross industry de facto standard strategy, performance management, and process improvement diagnostic tool for supply chain management.

![Image of the SCOR model]

**Figure 1: The SCOR model**

The SCOR model focuses on five management processes:

- **Plan** – Processes that balance aggregate demand and supply to develop a course of action which best meets sourcing, production, and delivery requirements
- **Source** – Processes that procure goods and services to meet planned or actual demand
- **Make** – Processes that transform products to a finished state to meet planned or actual demand
- **Deliver** – Processes that provide finished goods and services to meet planned or actual demand, typically including order management, transportation management, and distribution management
Return – Processes associated with returning or receiving returned products for any reason. These processes extend into post-delivery customer support.

In the context of the SCOR model the CLF process model for the ornamental horticultural industry primarily imply:

- processes of ‘Make’ and ‘Deliver’ in the case of the supplier
- processes of ‘Source’ in the case of the customer.

N.B. The SCOR model is seen as the SCM model that is used the most in practice. Beside this SCOR model several other SCM models exist.

### 3.2 Basic principles

The CLF process model is developed based on the following principles:

- The Floricode information standards, existing of electronic messages and codes, support businesses optimizing their supply chain processes in cooperation with their business partners
- A business in the supply chain of the ornamental horticultural industry can be defined in a generic way (document ‘Ornamental Horticultural Industry Description’; see: References)
- The business processes can also be defined in a generic way
- Every business in the supply chain of the ornamental horticultural industry knows similar processes
- The essence is that a business has a certain role in a business process. A grower or a trader can have different roles in these business processes depending on the situation. A trader can be the customer while purchasing products at the auction, but he also can be the supplier while selling products to his customers abroad. That’s why we speak about supplier and customer in the CLF process model. Also an agent like the auction can play both roles commissioned by the supplier and the customer
- The core of the CLF process model is the realisation and fulfilment of transactions of batches of floricultural products between suppliers and customers. They are supported by other chain partners like the auctions, grower organisations and carriers
- The CLF model is valid for both national and international trade
- The CLF model is not only valid for batches of flower and plant products, but also for the related products and services which are used in these processes in the business. Some examples:
  - Logistic services from carriers and the auction
  - Ordering and delivering packages and load carriers
  - Financial services from the auction and other actors
- NB. For this reason the general term ‘item’ is used in the technical documentation of the standard messages of Floricode (document: ‘Ornamental Horticultural Industry Glossary’; see: References)
- Data exchange is based on the information needs of the business processes
- The CLF process model does not define how the information is exchanged; the model is independent of EDIFACT, XML or the use of telephone and mail (media independent)
- Defining standard messages for the data exchange is based on standard information components by which the supply chain processes are connected in a generic way
- This approach of generic businesses and generic business processes results in a compact and targeted set of standard messages
- With these message sets different business scenarios can be supported, like auction clock processes and trade via web shops
- The data exchange in the supply chain comprises not only data of product batches, but also delivered services (transport) and logistic means (load carriers)
- The CLF process model is the basis for:
  - standardization and digitalization of information flows;
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o unique naming of these information flows and information components;
o transparent connection of similar business processes between partners in the supply chain;
o the framework for the standardisation work of Floricode

• The CLF process model does not describe the information exchange within a business but considers the information exchange between businesses on CLF process level

• Connecting business processes is based on the Floricode reference conventions; the key point of this is that each business party involved saves all relevant prior references and forwards these to the next business in the supply chain including his own references. (document ‘CLF Reference Technique’; see: References)

• Floricode uses the UN/CEFACT standards as a basis for the standard EbXML messages; in the same way the standard EDIFACT messages are based on the UN/EDIFACT standards.

3.3 What are the advantages ........

Organizations, especially the larger ones, are very often organized in separate departments for commerce (purchase and sales), logistics (order handling, packing, forwarding) and finance (invoicing, bookkeeping). Each department has its own processes and procedures which are supported by the information system(s) of the business. This does not mean that the business has separated information systems; on the contrary, cooperation between these departments is optimized by using data from process phase to process phase.

Sometimes (part of) these processes are outsourced to an external business. This occurs more and more, also in the ornamental horticultural industry, while the internet and modern ICT systems make this more easy to realize. The CLF process model makes it possible to optimize the reuse of data following the complete process flow of a batch of flower and plant products from beginning to the end.

With the CLF process model as a principle a better standardized connection of business processes throughout the supply chain will be the final result. In combination with the reference conventions it secures that information that arises at the beginning of the supply chain will be exchanged to the following chain parties. The implementation of the CLF process model means that every business partner in the supply chain has the advantage that business processes can be arranged in an effective and efficient way and can communicate with the other business parties in the supply chain both vertically and horizontally.

The CLF process model limits the number of different types of information exchange, message types and message implementations.
4. The organisation architecture of the supply chain

4.1 A generic business

The basic architecture of a business in the supply chain of the ornamental horticultural industry exists of:

- The commercial function of the business:
  - Purchasing of products including related services
  - Selling of products and related services

- The logistic function of the business:
  - Logistic and production processes
  - Packaging processes
  - Product quality control
  - Transmitting and receiving products

- The financial function of the business:
  - Invoice
  - Debit and credit control
  - Pay and bookkeeping.

See: Figure 2.

4.2 Supply chain

A supply chain arises by connecting generic businesses through which the product can find its way from producer to consumer. Floricode primarily focusses on the business to business supply chain from the grower to (small scale and large scale) retail. Depending on the situation in practice such a supply chain may exist of only a few actors or of a larger number of actors.

4.2.1 A short supply chain

A short supply chain exists of the grower in the role of supplier, the auction in the middle in the role of agent and the trader in the role of customer.

The commercial processes of these supply chain parties are connected with the support of information exchange between purchasers and sellers of the different parties involved.

The logistic processes are supported with the information exchange between the sending and receiving chain parties and the transport therefore needed including the use of logistic means.

The financial processes are supported by connecting the debit and credit administration of the three chain parties involved.
See:

Figure 3.
Figure 2: The architecture of processes of a generic business
Figure 3: Generic processes connected in a short supply chain

4.2.2 A long supply chain

In the same way also a longer supply chain of generic businesses can be defined, for example with exporters and importers, but also with breeders and propagators as well as with the (large scale or small scale) retail as the final customer. Also businesses in the role of commercial or logistic and financial agent can be defined.

4.3 Actors and roles in the supply chain

The different actors in the ornamental horticultural supply chain are described in the document ‘Ornamental Horticultural Industry Description’ (see: References). Actors can play different roles in the execution of the processes depending on the situation. A trader plays the role of customer while purchasing goods and plays the role of supplier selling goods to his customers. In the Floricode documentation the role of an actor is the starting point of all descriptions and in all schemes.

Each actor knows generic commercial, logistic and financial processes as described. Some examples of these actors and their role:

<table>
<thead>
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<th>Actor</th>
<th>Role</th>
<th>Commercial process</th>
<th>Logistic process</th>
<th>Financial process</th>
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<td>Grower</td>
<td>Supplier</td>
<td>Selling flowers</td>
<td>Transporting products</td>
<td>Receiving payment</td>
</tr>
<tr>
<td>Auction</td>
<td>Agent</td>
<td>Sales through the auction clock</td>
<td>Delivering products sold to the traders</td>
<td>Invoicing traders for products and services bought at the auction</td>
</tr>
<tr>
<td>Carrier</td>
<td>Agent</td>
<td>Receiving transport orders</td>
<td>Executing transport</td>
<td>Invoicing for the logistic services delivered</td>
</tr>
<tr>
<td>Trader</td>
<td>Customer</td>
<td>Purchasing flowers</td>
<td>Receiving products from the supplier and the auction</td>
<td>Paying the invoice to the auction</td>
</tr>
<tr>
<td>Trader</td>
<td>Supplier</td>
<td>Selling pot plants</td>
<td>Sending a consignment</td>
<td>Invoicing the customer</td>
</tr>
</tbody>
</table>
4.4 Supporting processes

Suppliers and customers are the primary actors in the ornamental horticultural supply chain. Different businesses and organizations are active as agents in the supply chain to support these primary actors in doing their business. Some examples of these actors:

- Auctions
- Carriers and logistic agents
- Legal authorities like the inspection and certification organizations
- Banks and accounting firms
- Branch organizations of growers or traders
- Service providers who exploit systems and services to support the primary commercial, logistic and financial processes.

For several of these supporting processes Floricode has developed standard messages which are implemented as well. For this reason these supporting processes are also described and explained as well in this document (see paragraph 0).
5. **Description of the CLF processes**

The core of the CLF process model is the realisation and fulfilment of transactions of batches of floricultural products between suppliers and customers. They are supported by other chain partners like the auctions, grower organisations and carriers.

The CLF process model mainly (but not only) focusses on the execution of these operational processes within the commercial, logistic and financial domains in the supply chain. In this chapter these processes are described. The chapter ends with the description of the processes which support these CLF processes and for which also standard messages are available.

Beside the operational execution of the daily processes in principal a strategic, tactical and operational planning level can be distinguished for each domain. Some tactical planning processes are also put in the process descriptions and schedules because these processes are directly related to the operational processes.

**Notes:**

1. Because of the position of auctions in the international ornamental horticultural supply chain the role of agent very often is present
2. The role of agent can also be represented by an automated system e.g. an E-commerce service from a service provider
3. Therefore all processes are described including the role of agent in the supply chain, although the role is not necessarily existing in all cases
4. Thus the process schemes also can be read without the role of the agent in which case supplier and customer are doing business directly
5. In the figures below the arrows represent information flows; the dark coloured arrows with bold letters represent information flows for which Floricode standard messages exist.
5.1 The processes of the commercial domain

5.1.1 Pre sales

Commercial processes which are executed prior to the real sales and purchase processes are classified as 'pre sales' processes. The following processes are distinguished for the different actors:

**Supplier:**
- Cultivation planning (cultivation plan): commercial process in which the supplier makes a (yearly) plan which products he will produce per period
- Sales (assortment): commercial process in which the assortment of products is offered for sale
- Sales (offer): commercial process in which products are offered for sale
- Sales (image): a commercial process in which images of the offered products are presented to agent(s) and/or customers.

**Commercial agent:**
- Mediation (forecasting): commercial process in which the agent collects cultivation plans of suppliers to be able to make an offer forecast plan per period
- Mediation (assortment): commercial process in which the agent collects offered assortment for sale to be able to present a total assortment to his customers
- Mediation (offer): commercial process in which the agent mediates between supplier and customer mostly with the use of a digital supply bank
- Mediation (image): commercial process in which the agent services suppliers and customers with a digital image center.

**Customer:**
- Purchase planning (purchase plan): commercial process in which the customer makes his (yearly) plan which products he wants to purchase and sell per period
- Purchase (assortment): commercial process in which the assortment of products to be traded is defined
- Purchase (offer): commercial process in which offers or the actual supply of products is demanded
- Purchase (image): commercial process in which digital images of the actual offers or supply are requested and analysed.

5.1.2 Sales

The following sales processes are distinguished for the different actors:

**Supplier:**
- Sales (contract): commercial process in which a contract is agreed for middle or long term deliveries
- Sales (sales demand): commercial process in which is decided to sell a batch
- Sales (negotiate): commercial process in which is negotiated about the details of a batch to be sold
- Sales (sales order): commercial process in which an order is finalized and administrated.

**Commercial agent:**
- Mediation (contract): commercial process in which an agreement is made between a supplier and a customer to deliver products on a middle or long term
- Mediation (purchase/sales order): commercial process in which the agent mediates between supplier and customer about a purchase/sales order
- Mediation (negotiate): commercial process in which the agent facilitates negotiations between supplier and customer
Mediation (purchase/sales order): commercial process in which the agent mediates between supplier and customer to finalize and administrate the purchase/sales order.

**Customer:**
- Purchase (contract): commercial process in which a contract is agreed for middle or long term deliveries
- Purchase (purchase demand): commercial process in which is decided to purchase a batch
- Purchase (negotiate): commercial process which is negotiated about the details of a batch to be purchased
- Purchase (purchase order): commercial process in which an order is finalized and administrated.

The processes in the commercial domain are illustrated in the following figure.

**Figure 4: Processes within the commercial domain**
5.2 The processes of the logistic domain

5.2.1 Logistic planning

For the operational logistic planning the following processes are distinguished for the actors involved:

Supplier:

- Logistic planning (transport plan): logistic process in which a transport agreement with a logistic agent (carrier) is realized to transport the batches of products for a certain period (year)
- Logistic planning (package plan): logistic process in which an agreement with a logistic agent is realized for the package services (purchase, storage, administrative and/or transport of (RTI) packages and load carriers) to be delivered for a certain period (year).

Logistic agent:

- Logistic planning (transport services): logistic process in which a transport agreement is realized with a supplier or customer for the transport of batches of products for a certain period (year)
- Logistic planning (package services): logistic process in which an agreement is realized with a supplier or customer for the package services (purchase, storage, administrative and/or transport of (RTI) packages and load carriers) to be delivered for a certain period (year).

Customer:

- Logistic planning (transport plan): logistic process in which a transport agreement with a logistic agent (carrier) is realized to transport the batches of products for a certain period (year)
- Logistic planning (package plan): logistic process in which an agreement is realized for the package services (purchase, storage, administrative and/or transport of (RTI) packages and load carriers) to be delivered for a certain period (year).

5.2.2 Logistic operation

For the logistic operation the following processes are distinguished for the actors involved:

Supplier:

- Order handling (sales order): logistic process in which the batch sold is handled (order picking, labelling and packing)
- Transport purchasing (transport plan): logistic process in which transport for batches of products is purchased
- Transport purchasing (package plan): logistic process in which (transport for) packages and/or load carriers is purchased
- Transport handling (consignment): logistic process in which the consignment is handled (loading carts, package list, expedition and shipping).

Logistic agent:

- Order handling (order operation): logistic process in which the order for the batch of product is executed (labelling, packing)
- Transport sales (transport plan): logistic process in which orders for the transport of batches of products are received and scheduled
- Transport sales (package plan): logistic process in which orders for (the transport of) packages and/or load carriers are received and scheduled
- Transport handling (transport operation): logistic process in which the order for the shipment is executed (loading, transport, distribution and delivery).
Customer:
- Order handling (purchase order): logistic process in which the batch purchased is handled (split, labelling, packing and loading)
- Transport purchasing (transport plan): logistic process in which transport for batches of products is purchased
- Transport purchasing (package plan): logistic process in which (transport for) packages and/or load carriers is purchased
- Transport handling (consignment): logistic process in which the consignment is handled (goods receipt, product control, distribution).

The processes in the logistic domain are illustrated in the following figure.

Figure 5: Processes within the logistic domain
5.3 The processes of the financial domain

5.3.1 Financial planning

For the operational financial planning the following processes are distinguished for the actors involved:

Supplier:
- Financial planning (financial service plan): financial process in which an agreement with financial agents is realized to deliver financial services (e.g. financial services by a bank, factoring services, bookkeeping services by an accountant) for a certain period.

Financial agent:
- Financial planning (financial services): financial process in which an agreement with a supplier or customer is realized to deliver financial services for a certain period of time.

Customer:
- Financial planning (financial service plan): financial process in which an agreement with financial agents is realized to deliver financial services (e.g. financial services by a bank, factoring services, bookkeeping services by an accountant) for a certain period.

5.3.2 Financial operation

For the financial operation the following processes are distinguished for the actors involved:

Supplier:
- Billing (order invoice): the financial process in which the supplier (invoicer) invoices the customer (invoice) for the products and/or services delivered
- Payment receipt (payment): the financial process in which the supplier (payee) receives payments from his payers on his bank account
- Bookkeeping (bookkeeping): the financial process in which the supplier registers the amount invoiced and paid in his bookkeeping.

Financial agent:
- Billing (order invoice): the financial process in which the agent (for instance the auction) invoices the supplier and/or customer for the products and/or services delivered
- Financial transactions processing (payment): the financial process in which the agent (bank) processes payments between payer and payee
- Accountancy services processing (bookkeeping): the financial process in which the agent delivers bookkeeping services to his customer.

Customer:
- Billing (order invoice): the financial process in which the customer (invoickee) is invoiced by the supplier or agent (invoicer) for the products and/or services delivered
- Payment processing (payment): the financial process in which the customer (payer) pays the supplier or agent (payee) from his bank account or via direct debit
- Bookkeeping (bookkeeping): the financial process in which the customer registers the amount invoiced and paid in his bookkeeping.

The processes in the financial domain are illustrated in the following figure.
Figure 6: Processes in the financial domain
5.4 Supporting processes

The CLF processes are all related to the core of the ornamental horticultural industry, which means the realisation and fulfilment of transactions of batches of floricultural products between suppliers and customers. But there are quite some processes with other actors involved which are of great importance and are necessary to support these CLF processes. Since the information exchange between these actors also is important, these supporting processes are described in general terms in this paragraph.

5.4.1 Export certification

Import and export of floricultural product between countries to and from EU countries is subject to phyto sanitary legislation. The legal authorities in the countries involved are responsible for import and export inspections. These inspections result in the release of export or import phyto sanitary certificates. These certificates are added to the physical shipment, together with for example the packing list and the invoice. This inspection and certification process is supported with standard messages.

The following processes are distinguished for the actors involved:

**Supplier:**
- Export (consignment): the supporting process in which the supplier (exporter) signs up his consignment to the supporting agent
- Export (inspection list): the supporting process in which the supplier applies for an inspection of his consignment
- Export (status report): the supporting process in which the supplier asks if his consignment will get permission to be exported
- Export (export certificate): the supporting process in which the supplier retrieves the export certificate for his consignment.

**Supporting agent (legal authority):**
- Inspection and certification (consignment): the supporting process in which the supporting agent receives the application of a consignment from the supplier
- Inspection and certification (inspection list): the supporting process in which the supporting agent receives the application for an inspection of the consignment
- Inspection and certification (status report): the supporting process in which the supporting agent reports if the consignment will get permission to be exported
- Inspection and certification: the supporting process in which the supporting agent delivers the export certificate for the consignment.

**Customer:**
- Import (export certificate): the supporting process in which the customer receives the consignment with various accompanying documents.

5.4.2 Statistic services

The international trade of flowers and plants is supported with statistic services. Statistic information about the overall turnover is provided to the participating exporters as well as services about the payment behaviour of the customers.

The following processes are distinguished for the actors involved:

**Supplier:**
- Order statistics (order invoices): the supporting process in which the supplier delivers his export invoices to the supporting agent and receives turnover statistics
- Debtors control (order payments): the supporting process in which the supplier delivers order payment information to the supporting agent and receives debtors information.
Supporting agent:
- Statistic servicing (turnover statistics): the supporting process in which the supporting agent delivers turnover statistics to the suppliers
- Payment servicing (payment statistics): the supporting process in which the supporting agent delivers payment statistics to the supplier.

5.4.3 Business and product certification
Sustainable and socially responsible production is more and more of importance in the international trade of flowers and plants. Information about the certification of the involved businesses and/or the products is exchanged to support the CLF processes.

The following processes are distinguished for the actors involved:

Supplier:
- Business and product certification (lab result): the supporting process in which the supplier has the product checked by a laboratory on diseases and/or hazardous residues
- Business and product certification (crop data registration): the supporting process in which the supplier registers data about the treatments of the crop during the production phase
- Business and product certification (business or product certificate): the supporting process in which the supplier and/or his product are checked and certified by an authorized supporting agent.

Supporting agent:
- Business and product certification (lab test): the supporting process in which the supporting agent (laboratory) checks the product on diseases and/or hazardous residues
- Business and product certification (crop data sheet): the supporting process in which the supporting agent registers and controls data about the treatments of the crop during the production phase
- Business and product certification (product certificate): the supporting process in which the authorized supporting agent checks and certifies the supplier and/or his product.

The processes in the supporting domain are illustrated in the following figure.
Figure 7: Processes in the supporting domain
6. Phasing of the marketing of flowers and plants

A batch of flowers or plants runs through the different phases of the CLF processes. A producer starts with the planting and growing of a batch of a crop (e.g. 1000 m² of a certain variety of roses). The crop is harvested, brought into the market, sold, delivered, invoiced and paid.

The definition of a batch is: A quantity of merchandise of which the units have exact similar characteristics, available at one location within a period of time derived from one supplier destined for one or more customers (see also in the Glossary the definition of the word: ‘Item’).

Per process phase the information about the batch becomes more and more specified in terms of:

- Quantity
- Price
- Customer
- Delivery terms
- Location and time

Diagrammatically this can be showed as follows:

Figure 8: The batch through the CLF process phases

Products within one batch (e.g. 100 bunches of a variety of roses) always have equal characteristics: length of the stems, type of covers, delivery location etcetera. As soon as a characteristic of a number of units of a batch changes (e.g. the delivery location), a new batch arises with its own new identification.

In the document ‘Reference Conventions’ (see: References) Floricode describes in detail how the information about the batch needs to be linked from phase to phase.
7. CLF Information flows

Businesses in the supply chain can optimize their commercial, logistic and financial processes by exchanging the data about the batches of products and/or the related services using standard messages. Through the exchange of the actual data using the Floricode standard messages these business processes are linked.

In this chapter a generic scheme is presented which shows these information flows during the different phases of the CLF processes. As already stated before, these information flows are independent of the technical implementation e.g. the media that are used.

**Note:**

- The information flows in Figure 9 have a functional name, thus referring to the process stage of the batch; these names are not similar to the technical names of the standard messages that are used to exchange these data electronically.
- In the document ‘Reference conventions’ a few different scenarios of this scheme are further elaborated.
Figure 9: The information flows in the CLF processes
8. Definition of the most important terms

<table>
<thead>
<tr>
<th>General terms</th>
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<tbody>
<tr>
<td><strong>Batch</strong></td>
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<table>
<thead>
<tr>
<th>Process phase</th>
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<tbody>
<tr>
<td>Within the CLF process model several phases are distinguished where a batch can be assigned to:</td>
</tr>
<tr>
<td>• - Offer</td>
</tr>
<tr>
<td>• - Order</td>
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<tr>
<td>• - Order response</td>
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<tr>
<td>• - Delivery</td>
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<td>• - Invoice</td>
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<table>
<thead>
<tr>
<th>Product</th>
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<tr>
<td>In the ornamental horticultural industry a product can be:</td>
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<tr>
<td>• A good of botanic origin</td>
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<tr>
<td>• Accessories</td>
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<tr>
<td>• A service</td>
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<tr>
<td>• Logistic means</td>
</tr>
</tbody>
</table>
9. References

The following relevant documents can be found on the SDK of the Floricode website:

- Floricode, Handleiding Documentatiemethodiek v1.0, Lza14005, May 2014
- Floricode, Ornamental Horticultural Industry Description v1.2, CI0001v1.2, November 2013
- Floricode, Floricode Glossary v2.1, HZ16058, November 2016
- Floricode, Reference Conventions 2.0, HZ15052v1.0, October 2016
- Floricode, Identification keys Floricode Standards, HZ15033v0.5, November 2016