“With a consolidated presence in Navarra and the North area, ONA Industria Gráfica is now engaged in a process of global expansion and is opening its doors to a demanding and complicated market. The constant evolution in the graphic arts market, its extreme competitiveness and our customers demands, call for a permanent, not only technological, but also strategic and positioning innovation.”
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Executive Summary

1.1. The size of the company in revenue and employees
In the middle of the 1980s ONA has been founded and started its work as a typical small printing company. In the 90s, ONA moved to the current location and started production with their first mid size four color printing press. In 1999, ONA management team was formed into its current structure. At this time, company revenues were €4’000 m² and company growth was projected to continue to grow at the same rate. This growth rate was realized and in 2008, ONA had a turn-over of € mio 12 and has a total workforce of 70 employees.

1.2. The nature or type of printing/niche markets served
As a commercial printer, ONA handles all types of quality printing jobs as books, brochures or magazines. ONA produces mainly for the Spanish and French market. All the production of ONA is in offset; so far, there are only a very limited jobs for digital printing and those are outsourced. ONA is committed to high quality products and an excellent service. With these attributes, ONA is proud to serve mixture of small and big customers.

1.3. A description of the equipment and software integrated
Over the years, ONA has developed into a complete printing and finishing house with prepress, press and postpress, all controlled by an Optimus MIS system from Optichrome. In the prepress department, the software and hardware is Agfa Apogee. In the press room, there are 4 multi color presses from MAN Roland and two multi color presses from Komori; these two machines are connected by K-Station with the Optimus. In the post press, there are MBO folders and a Wohlenberg Guiotine cutter as well as Müller Martini equipment including two sewing machines, one perfect binder and two Prima Plus saddle stitchers. These two machines are connected via Connex with the Optimus system for the purpose of routing JDF/JMF files.

1.4. A summary of the situation before and after the integration
ONA has been working with a commercial management system IN2 estimating and a limited production control for already for many years. For invoicing a separate, domestic software called Contaexpress has been used. ONA got more and more into the need to have on-line information about the production parameters and the current status of jobs.

1.5. The main benefits/results of the integration
Very clearly, the main benefit is the much shorter reaction time on customers inquiries about the status of their jobs. In addition, the flow of information is on-line and allows much faster actions.

ONA is located in Pamplona, in the north of Spain.
Section I. Background

In the year 2001, ONA started with the implementation of the commercial management system IN2. This system has been developed in Spain by Gestion 21 and has been in use particularly by Spanish customers of the graphical arts industry. At ONA it has been used for estimating and a limited production control. Also after the implementation of IN2, the work planning has been made very conventional on a daily base by the plant manager and his team. Preparing of the job tickets has been done conventionally on paper and was sent to the production units by an employee. The same way, data collection about jobs in progress has been gathered by an employee who was going to the machines to see details as counters and speed of the machines. At the end of every day, data of jobs done during this day have been sent as batch files to IN2. Also commercial information as e.g. the amount of paper in the stock has been estimated and transmitted to the plant manager by an employee.

Invoicing has been done with a separate, domestic software called Contaexpress.

All these elements of the control of the company were slow and there was always the uncertainty about the quality of the information.

Section II. Objectives

Towards the end of the year 2006 it became obvious, the staff of ONA was getting benefits from only a limited number of modules of their IN2 system. Modules which were in use every day and therefore well known, were used frequently, other modules which might not have been used from begin of the installation on, were never clearly introduced and therefore never ever came consequently into operation. System integration was severely lacking and their was a great deal of redundant data entry. Therefore and since IN2 was not JDF compatible, ONA decided to introduce a new, JDF compatible system. With this system, ONA wanted to enforce their employees to change their way of thinking.

In addition, ONA wanted to get the benefits of a Digital Management Information System in order to exchange commercial and technical data all over the company and also to get real time information. Further objectives were the elimination of human interfaces as a source of misunderstandings as well as having reliable accounting information and production figures.

The selection, purchase and the implementation of the new Management Information System has not been combined with the purchase of any new equipment for the manufacturing process or any change of the localities.

Section III. Methodology

For ONA it was very important to invest in a system covering all fields of their complete production process and of course the system had to be able to communicate in a standard data format with all the systems of the different suppliers of equipment already in use at ONA. In addition, the future MIS had to be available in the Spanish language and it had to be possible to get remote support, of course also in Spanish. ONA also wanted to have a system that was well established.

On the Spanish market, there are some smaller domestic suppliers, which – at least at the time of the decision of ONA – didn’t cover all the fields of a complete printing and finishing company. Also at that time, the support of another supplier of a well known MIS didn’t convince ONA in some aspects.

So out of all these requests, Optichrome was able to convince ONA with their MIS Optimus. In detail, Optimus:

Covers all technical and commercial fields of a printer / finisher
Is JDF compatible and therefore able to communicate with other JDF compatible software
Is available in the Spanish language
Offers the customers remote support in Spanish
Is well established in the market
Section IV. Implementation Story

The project for the new Management Information System has been handled by ONA as an individual project and in a very practical way. The plant manager has been assigned as the responsible person for this project; in addition, an external company handling hardware and system software has been involved.

In general, the project has been split up into two phases:

1. Replacement of the existing system IN2 partially handling the operational tasks as estimating, job booking, production control and stock management by a new MIS and implementing these tasks completely

2. Connecting the JDF compatible machines in the shop floor with the new MIS and exchanging JDF/JMF

The steps of the first phase were

1.1 November 07 Selection of the Management Information System Optimus by Optichrome for the replacement of the former system IN2.

1.2 February 08 Optichrome starts the implementation of the MIS Optimus

1.3 May 08 Optimus ready for the operational tasks as estimating, job booking, production control and stock management

Due to the large amount of work to be done and the good progress made during the first phase, the idea was to implement the additional modules of Optimus for the connection of the JDF compatible production equipment within six months. Soon it turned out, this estimate was far too optimistic. There were no major problems, but small items such as problems with the network connections, bugs in the software of the different suppliers (e.g. communication protocol violations, wrong interpretation of data for cover sheet) slowed down the progress of the project. The steps of phase 2 were:

2.1 March 08 Start of the project ‘Digital workflow in the workshop’

2.2 June 08 MIS Optimus ready to work with the equipment of Agfa in the prepress section

2.3 February 09 MIS Optimus ready to work with the Müller Martini saddle stitchers

2.4 June 09 MIS Optimus ready to work with the Komori presses

Now, more than a year after the start of the second phase of the project, the system is running and in use. But due to the large potential of the MIS and the wide variety of the equipment used, it also became clear, there are still many more benefits possible and the project ‘Digital Workflow’ will not have an end very soon – if ever! Some of the future steps might be:

3.1 open Integration of the MAN Roland presses

3.2 open Integration of MBO folding machines

Regarding digital workflow, the training given by Optimus as well as Müller Martini and Komori has been offered to 3 to 4 employees and in total for about four weeks. Today, there are about 28 employees directly working with modules of software of the digital workflow. There are the following numbers of working stations (some of them multiple):

11 Optimus

7 Apoge

8 K-Station

6 Connex
Section V. Resulting Workflow/Processes

As a naturally grown company, ONA had a very conventional structure before implementing the digital workflow. ONA was a technically up to date printer with remarkable machine park for the prepress, press and postpress departments. ONA also utilized a state of the art software system for the handling of the flow of data; in particularly within the commercial management system IN2 for estimating and a limited level of production control. The workflow diagram on page 11 shows all of the hard- and software used before the implementation of the digital workflow.

The workflow diagram of the actual situation is shown on page 12. Two points are very easy to see:

- There is even more potential for the integration of more machines (see also section IV, points 3.1 and 3.2)
- The implementation of the digital workflow has been made with the existing machinery; Significant is the exchange of the management system IN2 by Optimus and the additional software purchases for prepress, press and postpress.

With this implementation, ONA is once again at state of the art levels regarding the flow of data. Remarkable is the integration of equipment from different suppliers that cover all three phases of the manufacturing processes at the company. ONA is not continuously collecting and analyzing all data of their production. Nevertheless, the advantage of a single source for all data results in e.g. invoicing by pushing a button. Today, ONA is certified according to UNE-EN-ISO 9001:2000 and UNE-EN-ISO 14001:2004. The certification according to PEFC-España is in progress.
ONA Industria Gráfica Workflow status, 06/2009

Customer Asks for Quotation

Job Ticket auto-generated

JDF

Paper job ticket

Shopfloor

Imposition

Proof

Plate

Print

Cut

Fold

Bind

Delivery

Costing

Invoicing

Purchase Department

Estimate generation
Quote letter printed

Estimate Accepted
Book-in Work Order

Plates

Paper, Ink

Outworks
Screenshot of an estimate pane
Screenshot of an estimate pane
Screenshot of a JDF file; Optimus is configured in a way that the JDF file is generated automatically without user intervention
Section VI. Optional Detail

VI.1 ROI

Since the project has been handled in a very practical way, there are no records of the former situation of e.g. set-up time or amount of waste. A comparison of the situation before and now or even a calculation of the ROI is not possible.

The total investment into this project for IT soft- and hardware was about € 300’000.-. In addition, there were ONA-internal efforts for this project. As an estimate, this effort could be considered with a value of about € 36’000.-. It consists of about 720 hours of training of the various suppliers and about 4 hours per week of the plant manager for the monitoring of the project for the duration of about 20 months.

The benefits of the project are listed in section VI.2.

VI.2 Improvement in Quality and Customer Service

The objectives as stated in section II have been reached. In general, today the control of the company is on a state of the art level, the human interfaces in regard of e.g. estimating of stock status and data gathering has been eliminated and the MIS supplies correct, real time information. Thus, customer requests about the status of their orders can be answered with less efforts, at once, detailed and reliable (before this service needed in 50% of all cases to get the information personally in the workshop and to call back later).

Furthermore, commercial data of the production are available in real time and in a high accuracy. This offers a much better base for the cost calculation.

The system is open and standardized and therefore allows a further extension without problems.

VI.3 Innovation

According to our understanding, it is the first time, equipment for prepress, press and postpress supplied by several different manufacturers are integrated completely into a JDF compatible, digital workflow and controlled by one single MIS.

Closure note

It’s the common understanding of ONA, Optimus and Müller Martini as well as the other involved parties to emphasize the excellent communication and cooperation in this project. We all are very proud having been able to set-up such a demanding installation and to bring it well into working. Looking back, there is no doubt, ONA as customer would enter into this project ‘Digital Workflow’ again.