ECG Academy

Thesis

Software change for clear processes and opportunities

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Abbreviations

BLG	BLG AUTOMOBILE LOGISTICS
Co.	Company
GmbH	Company with limited liability
KG	Limited partnership
VW	Volkswagen
OEM	Original Equipment Manufacturer
l	Liter
AS400	**A**pplication **S**ystem/400
JCarS	**J**ava **Car S**ystem
C@RCENTER	internal compound software solution
C@RTRANS	internal truck transport software solution
C@RSHIPPING	internal shipping and export software solution
C@RBASE	internal master data software solution

1. Introduction

In the first step, I would like to explain why we have made these steps and why they were necessary in this case.

Figure 1: Truck E.H.Harms [internal source]

[…]BLG maintained its position as the leading automotive logistics company in Europe also in 2008. In the course of further expansion, the BLG LOGISTICS GROUP AG & Co. KG took over 44 percent of the company shares of Marcel Harms held in the E.H. Harms GmbH & Co. KG Automobile-Logistics as of 1 January 2009, and holds now 94 percent of the shares. The remaining 6 percent lie with the community of heirs Egon H. Harms. All companies under the roof of the E.H. Harms GmbH & Co. KG Automobile-Logistics changed company name and operate now under the name BLG LOGISTICS, also as of 1 January 2009. [..][www.blg.de].

With a rapid growth in the automotive division the development of a software has come too short. The companies transport, shipping and compounds currently have all their own software solution which is not flexible enough for daily business. In addition, in the year of 2009 a group of companies was acquired and they also worked with another software.

1.1. New common goals and at the same time a new challenge

In the consequence of the merging of the companies there were different software solutions. This problem was solved over interfaces so that the daily work was guaranteed. But this was not a solution forever.

Through these interfaces, process changes were large and quite inflexible.

There were several issues that are only caused by different interfaces.

1.2. Basic idea

We aim the target to create a new software in which everyone can manage and also depict their daily operations on the same interface.

This solution will make us more flexible in new processes and process changes.

It should represent us more transparent towards the customer.

The scanning of the vehicles should not be only setting a location, it should be also the next step of the specificied process for this vehicle.

1.3. Motivation global

BLG AUTOMOBILE LOGISTICS GmbH & Co. KG, in short BLG, invested in creating a new software to put all this cooperating internel companys in one interface. Here are three key areas which are subdivided in BLG CarShipping, BLG AutoTerminal and BLG Transporte.

This basic idea of globalize the software of these companies was named JCarS. Among this title we have C@RBASE as an big department where we have the whole master data maintance for all three companies. And the next three companies who was named as C@RSHIPPING for our shipping line, C@RCENTER for our compounds and C@RTRANS for our Truck transports as our new global software solution.

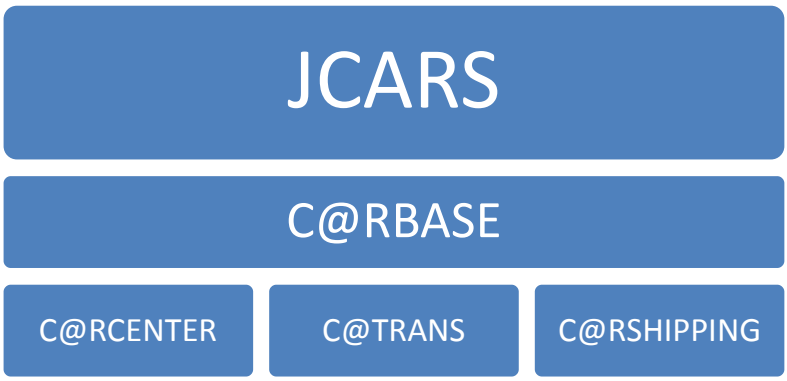

Figure 2: structure of JCARS [own graph]

The first sector C@RBASE was published in 2009 and ensured a uniform master data maintenance for all companies.

In 2010 C@RSHIPPING was implemented as one of the smallest areas of the BLG Automobile Group.

We are currently working on the implementation of C@RCENTER on all our compounds.

In some compounds the technical requirements have to be installed first. The other compounds were already changed or are already in the changeover. We are currently at 7 locations. The compounds of Kelheim, Cuxhaven, Bremerhaven Dodendorf have already been completed. Currently we are working with all departments to support the software change of our compound in Duisburg until the middle of the year 2014. Thereafter only the compound of Neuss in short ATN will be switched in 2015 and Hamburg where we are installing in 2015 the technical requirements (complete Wireless connection on the yard) for the next following steps.

2. Goal of the BLG

The Basic aim of BLG is the implementation of the newly developed software in all companies.

2.1. Objectives of the project

My main focus in this project is the software conversion in Duisburg on C@RCENTER. In this additional way we have also the chance to analyze and optimize the costumer process.

And the employees will be supported in their daily business again.

2.1.1.Global first steps

A team of the three core competences were instructed to interview all compounds. This team set up with one employee from the technical area to bring the technical "know how" of department on the table. One employee from the customer service for any point of view and knowledge from this area. And last but not least, a member from the IT to check all the software requirements here.

All compounds were surveyed and analyzed their current processes.

Current requirements for the new software were collected and processed.

Problems were documented and taken into consideration directly in the development of the new software.

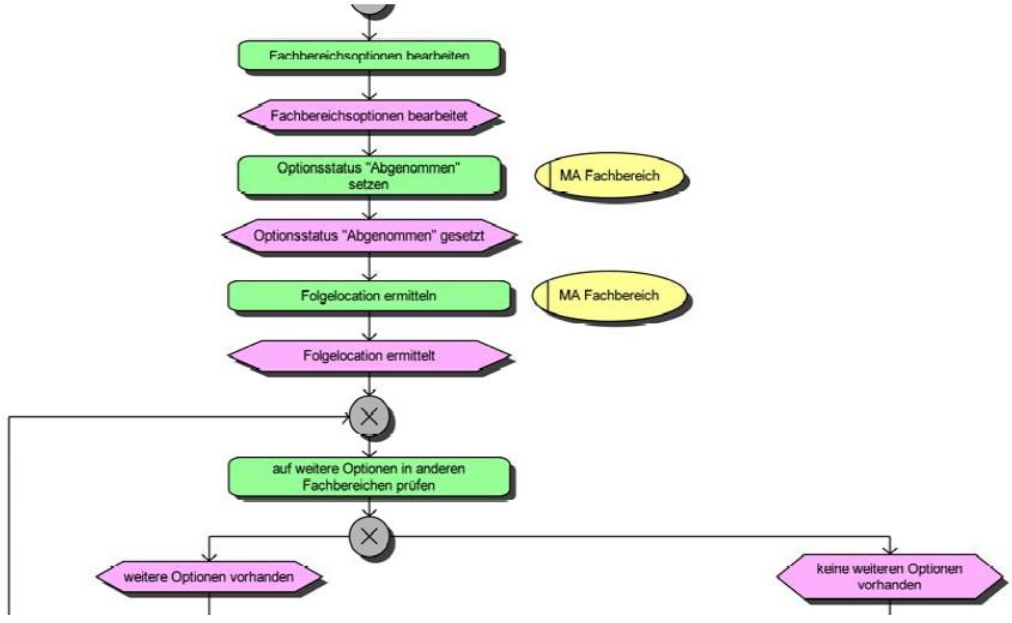

Figure 3: EPC structure of the standard process[internal source]

3. Is analysis

In this analysis we will have a look on the points we have noticed in actual processes and interface problems in Duisburg with the current software wich is a IBM AS400 solution.

3.1. Focus analysis in Duisburg

Although we had a clear process it was necessary to make redundant steps for the success because of an interface problem between the two existing systems.

For example, if we received a train in Duisburg for the OEM VW we first had to scan the vehicles at our compound "GATE IN". Then we had to wait for one hour before the vehicle can be scanned again which was called as "READY FOR TRANSPORT" so the vehicle is visible for our transport department.

In the software solution AS400, we have certain dealers with their own defined processes. There was no way to manage a vehicle to individually process. To handle a vehicle for one of this dealers different, you always need to interrupt the normal process and make it on your own.

Each process in the AS400 of the customer or OEM was implemented by the IT department.

This is not optimal for quick changes or modification in the process, because our IT department does not always had time for such urgent requests.

Another point of view was the process itself. It was possible to interrupt the process without knowing respectively unintentionally. A well-known case for example, is that when we have vehicles with a call off, there is the chance for the employee to store again by mistake. In most cases, it turns out that the vehicle stands only on the wrong place.

There were some processes getting the same mistakes which have now been accepted because of no solution was prepared in the first step. Thus, the employees got used to arrange with these problems

4. Design of the TO-BE state

It is planned for the year 2014 that all customers and customer processes will be converted at the compound Duisburg to the new software C@RCENTER.

In preparation for the change of the software, an overall list of all customers was created, including a project plan with dates when they should be implemented.

By C@RCENTER all sequences oft he customers vehicles are definitely structured and the processes are clearly defined.

By scanning any vehicle movement, we will always have the correct place of our vehicle and in fact of this we will have less „search vehicles“.

The customer requirements can be flexibly edited directly from our internal customer service and the orders and processes can be changed by the compound itself.

Figure 4: new Entrance for all BLG employees[internal source]

C@RCENTER is an portal frontend solution, so all employees have the major advantage that they can access the system via the internet from anywhere.

We assume that the new hardware / software solution is just as reliable as the AS400 software solution, because we had only positive experience.

We expect from the software change to C@RCENTER better ways to getting data and evaluation about vehicles without writing a ticket to the IT department.

In fact of the software change we have the big advantage that all codes, like damage codes or optioncodes, will be in C@RCENTER advertised. Therefore we have a understandable platform for all employees.

By unifying the software it would be theoretically possible to employ employees from a compound to another or getting employees in advance familiarize at another location than her next / future workplace.

Another advantage is the introduction of a materials management in Duisburg. Thus we have a correct overview of all materials in the stock which is now available through our software.

5. Measures

Our focus in this thesis will deal with Duisburg since I am responsible for it. Here in Duisburg, I initiated this project in order to structure the following process steps.

First, we made an inventory of existing hardware and appointment of additional components for realizing the planned software change. Thereafter we began to install and positioning of the necessary hardware.

After all technical requirements were clarified we start to analyse in detail the costumer process. We are checking if we can map the whole process with our currently tools in C@RCENTER without any extentions.

All missing processes were noted on an open points list where we have discussed this with the IT department and provided with a deadline.

As the next step we begun to train the employees.

Figure 5: structure of the new carmanager[own graph]

In the following after the training we have selected one Customer to switch his process in C@RCENTER by all departments. It was structured as in the training, the customer service starts to create the whole master data for the customer process. Thus, a clear vehicle expiration for this customer was ensured. The first vehicles can now be scanned in the new system by our yard staff. After the departments car wash, workshop and paint shop were involved, they crosschecked if all the necessary functions and information were visible. By switching to C@rRCENTER a direct link between the vehicles and materials took place in Duisburg.

Furthermore, the customers were informed about the upcoming changes and sensitized so that possible complications could be solved directly.

After the first customer was switched, all participating departments were brought together and we created a “realistic date list“ for the rest of customers.

Before we switched a customer in C@RCENTER, we informed him in advance.

5.1. Measures current

We are currently still in the implementation. It still lacks three customers, but they still require a specific program extension of the software.

This is pretty a special customer request on the living process.

By each further change, the IT department has been more and more involved and there are regular project meetings and telephone conferences be held on about open issues and are still needed for switching the last customers.

6. Review of the projectpart

Within this review we will look at various aspects. These are split into the differences between the two software solutions. In addition, we consider points such as performance and process-specific aspects.

6.1. Comparison between AS400 and C@RCENTER

6.1.1. Process design

In the AS400, the vehicle was set on localization only by the scan.

In C@RCENTER we have in this case a specified process and when the vehicles have an call off, then we have the information which department is the next where these car has to go on the compound.

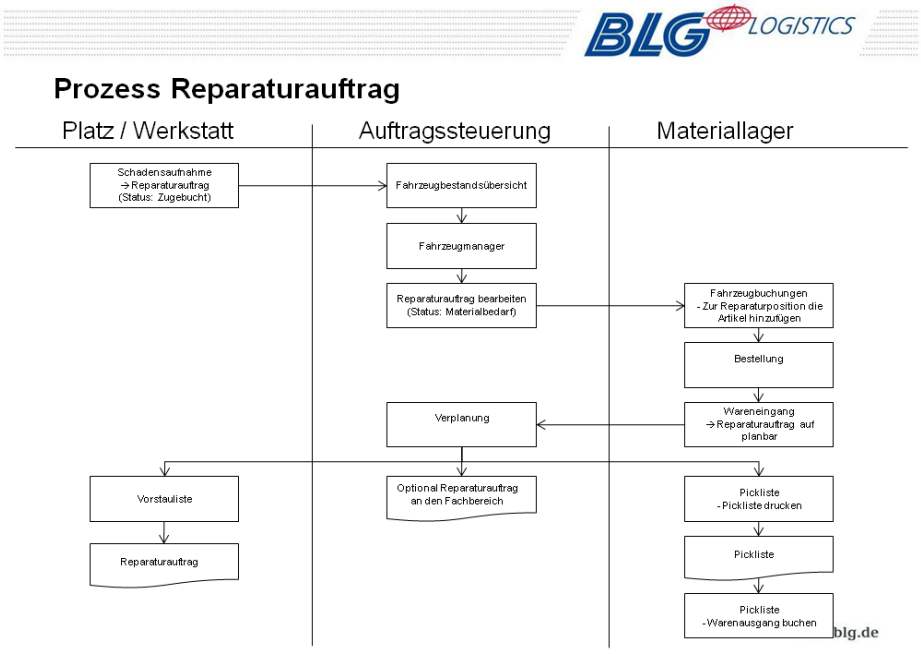

Figure 6 : structured processes to optimize[internal source]

6.1.2.Performance

Performance is currently a big issue, because these web solution has several problems which also could not be completely isolated from our IT department.

This is the largest advantage of the AS400, which was always in stock and ready to use.

6.1.3.Customer process

These had to be filed in the AS400 from the IT and any change will therefore also partially imported with latency.

In C@RCENTER there are various tools to define these processes themselves. Although one must say in fairness, that this should not be controlled by an customer service employee but by an higher level position such as a order management which specifies only those processes and options.

6.2. Review from operational position

The new processes in the converted customers have already shown success.

In our process for the OEM VW we save an entire handling which is reflected in the profit.

At another customer, the process chain has become thinner and therefore we were again more flexible and can provide the vehicles in time for the transport, so we have a benefit of time for our performance.

There were many teething problems with the employees that are well known about all functions in the AS400. These are still quite convinced of the AS400, but they slowly find their advantages in C@RCENTER.

The support of the IT department was not always sufficient because at the same time a larger compound was implemented, which binds almost the entire capacity of them.

In my opinion, the new processes can explain the employee so often and train as you want, in the end, the real questions and the change in the head only comes when the employee started into the daily work with the new software.

7. Conclusion

I would have designed the planning of adaptation of the compound differently. In my opinion, the care of a prototype compound over a period of one year would have been the optimal planning manner, so that all open issues and questions would have been eliminated. Then I would have begun with the next compound. Currently, all of the switched compounds have open issues which have to be handled by one IT department and many points are redundant and would have been already processed by a prototype example.

In my opinion the date of changing the software in Duisburg was not correctly selected, because at the same time many personnel changes were a big issue there.

To support the changeover I would have required employees from another compound which have expierence with C@RCENTER. So I would not have been the only contact person for all departments and all questions have been answered by experts.

7.1. Future development

In the future all customers should have the possibility to log into a specific frontend where they will be able to see how far his vehicle is in the process. It is being considered like the large delivery companies with the package tracking. For the OEM and the end customer should be clear and transparent, at which point of the process the vehicle is that you look for. Perhaps it is still on the way from the factory to the compound. It is already arrived or it is even on the way to the dealer.

As an additional feature, it is planned that the customer can still determine straight up to the date of X (maybe one week before) which options to get their own personal vehicle.

Possible options are for example:

refueling (5l, 10l,…,.full refueling)

special internals (radio, sunroof…)

additionals (floor mats, cigarette lighter,…)

service (removing transport protection, car wash, delivery inspection…)

7.2. Personal statement

In my opinion, this step is a step in the right direction and brings us as BLG again in a Competitive Position. The software optimizes and makes it easier to understand the whole process for all involved person.

8. Literature

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Word of honour statement

I declare that I have written the thesis with the title

Software change for clear processes and opportunities

on my own. Information from other sources or ideas from other persons are marked.

Duisburg, March 10th, 2014

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Serdar Sahin