# WMS Market 2007-2008

An international study

What's happening on the WMS market? Is there anything new in Warehouse Management Systems? Many different suppliers exist on the WMS market, each with their individual specifications. The Supply Chain Group, represented in Germany through the IWL AG, therefore annually presents the most important changes on the WMS market in an independent, international study. This report summarises the results for German-speaking Europe.

Werksplanung und Logistik IWL

THE SUPPLY CHAIN GROUP
www.the-scg.com
SCG
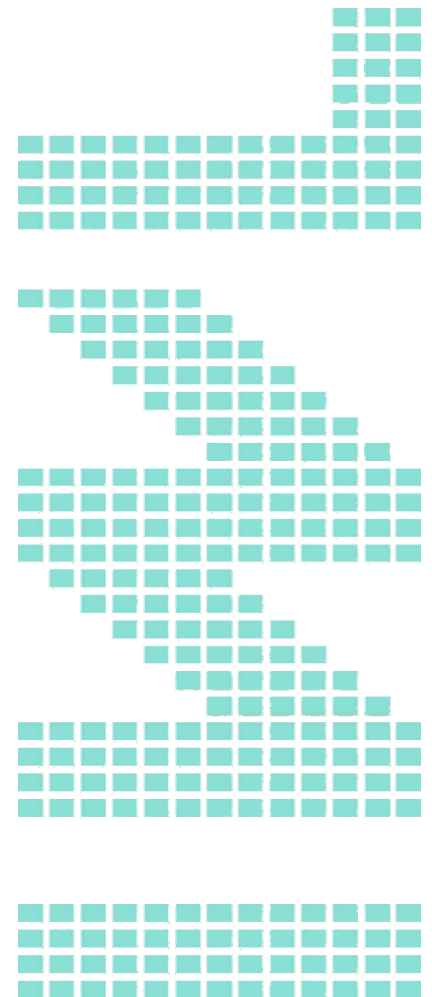
Abbreviations

ERP   - Enterprise Resource Planning
IT   - Information Technology
PbV   - Pick by Voice
RFID   - Radio-frequency Identification
SCM   - Supply Chain Management
SQM   - Software Quality Management
WMS   - Warehouse Management System
WOLF   - Warehouse-Management System Online Finder

Illustrations

The following WMS suppliers participated in our study "WMS Market 2008":
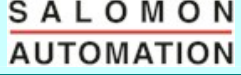
Aldata Retail Solutions GmbH	G.O.L.D. Stock	
CIM GmbH Logistik-Systeme	PROLAG® World	
Coglas GmbH	Coglas	
Dr. Thomas + Partner GmbH & Co. KG	TWS	
GIGATON GmbH EDV- und Netz-werkberatung	LogoS V 2.2 C/S	
Hörmann Logistik GmbH	Hi LIS	
inconso AG	inconsoWMS	
ISA - Innovative System Solution for Automation	ISASTORE	
LogControl GmbH	LogControl-WHM	
Lunzer + Partner GmbH	LOGSTAR	
Manhatten Associates GmbH	MA WMS & iSeries &WMW	
S&P Computersysteme GmbH	SuPCIS-L8	
Salomon Automation GmbH	WAMAS	
SALT Solutions GmbH	[s]-warehouse	
SAP AG	SAP LES WM	
Savoye GmbH	PTS	
STILL GmbH	MMS.i	
Vanderlande Industries Logistics Software GmbH	VISION ™	
viastore systems	viad@t	
XELOG AG	LagerSuite ®	

Table 1: List of participants in the study

Market trends

Globalisation is increasing the pressure of competition in all fields more and more. Business models, technologies and processes are becoming more complex and interconnected.

Important factors for success are innovative products and quicker availability along with high quality and service demands. At the same time, cost pressure is increasing in all areas constantly.

The logistic processes are the focal point, since they represent important parameters for success or failure of business in flow of material and goods between manufacturers and consumers as well as within the company.

The basis for transparent and lean processes is a controlled material flow that can be ensured with the help of a warehouse management system. To satisfy the complex demands, a competent WMS is necessary that guarantees not only continuity but also further development.

The warehouse manufacturing systems currently on the market are modularly built and can be extended based on the project. A technical feasibility seems to be quite possible, but there are two factors which must be considered during an initial project in order to be successful:

- Defining the right processes
- Choosing the "correct" product

But what does that mean?

Warehouse management systems have grown in their complexity and scope of functions with every project carried out in the past few years. They thus offer possibilities, which easily exceed the demand in many companies.

The possibility of implementation often leads to a supposed demand of functions. The conscious reduction of the functional scope and focussing on the really essential processes are an important challenge in all IT projects.

A process analysis with a focus on standardised possibilities of warehouse management systems builds the basis for the right choice. Process creation generally allows a margin for orientation to standards and avoidance of difficult and risky extensions.
On the other hand, it is essential that the scope of function coverage of systems on the market is transparent.
For this purpose, it is necessary to consider the functional properties of the software packets. However, when the number of suppliers is considered, it becomes clear that even this is quite complex.
In order to make a pre-selection that matches project-specific demands, the

Warehouse Management System Online Finder (WOLF)

was developed, which offers a selection of relevant software packets ba-

sed on clear project and company criteria.

This tool is available on the internet for free.

Together with the WMS suppliers, an analysis of market presence, their target markets and future development trends is carried out and summarised in an annual study.

WOLF: The WMS Online Finder
Use the WMS-search tool for free online

In co-operation with the SCG (SCG – The Supply Chain Group AG), the IWL AG conducts an annual analysis of the WMS market. In this report, we would like to present a summary of the analysis results for German-speaking Europe. Detailed information on all participating WMS suppliers can be found online at:

www.wmsfinder.com
www.iwl.de
www.the-scg.com

Our online search tool WOLF (WMS Online Finder) helps you quickly, and for free, carry out a pre-selection of warehouse management systems that best matches your demands. In the SCG WMS search tool, more suppliers from Europe and North America are listed, who rated their market position and target group in a questionnaire as a part of our study.

Supplier	Product	Total no. of clients	Installations	New clients last year	New istallations last year
inconso AG	inconsoWMS	250	290	20	40
ISA - Innovative System Solution for Automation	ISASTORE	135	180	15	15
STILL GmbH	MMS.i	165	250	15	40
LogControl GmbH	LogControl-WHM	50	70	12	12
CIM GmbH Logistik-Systeme	PROLAG® World	85	300	10	12
viastore systems	viad@t	150	300	10	10
Coglas GmbH	Coglas	83	120	8	12
Dr. Thomas + Partner GmbH & Co. KG	TWS	52	70	8	12
SALT Solutions GmbH	[s]-warehouse	52	44	8	10
Hörmann Logistik GmbH	Hi LIS	56	65	7	7
Salomon Automation GmbH	WAMAS	148	268	7	27
XELOG AG	LagerSuite ®	74	120	6	18
Lunzer + Partner GmbH	LOGSTAR	88	110	5	12
S&P Computersysteme GmbH	SuPCIS-L8	73	98	5	5
Aldata Retail Solutions GmbH	G.O.L.D. Stock	15	42	3	3
Manhatten Associates GmbH	MA WMS & iSeries &WMW	17	17	3	3
GIGATON GmbH EDV- und Netzwerkberatung	LogoS V 2.2 C/S	30	75	2	4
Vanderlande Industries Logistics Software GmbH	VISION ™	39	42	2	2
Savoye GmbH	PTS	9	9	1	0
SAP AG	SAP LES WM	>3.000	>5.000	k.A.	k.A.

Table 2: WMS suppliers according to number of new clients

The WMS market 2007

Compared to the American study of the ARC Advisory Group, which predicted an annual turnover increase rate of 7.5% in the WMS market, the WMS market in Germany seems to be growing rather conservatively.
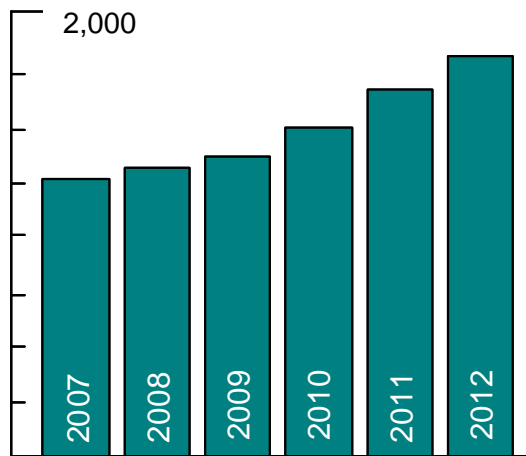
Warehouse Management Systems Business (Mio $)

Source: ARC Advisory Group

There is however unity in the reasons for growth. Like in 2006, many projects were driven by the necessity to relieve aged systems through new technology. Furthermore, functionalities that do not classically work in a company, but rather support processes beyond company limits are increasingly being included.

As a part of this study, the number of new clients and new installations were thereby an important indicator to assess the developments on the WMS market. Table 2 shows the market distribution of suppliers in the last year.

A comparison of the growth in 2007 with the previous year shows that most companies maintained a rela-

tively constant growth, but no over-proportional increase. This poses the following questions:

- Are WMS suppliers acting prudently and thus avoiding overloading of their capacities?
- Can additional personnel capacities be added easily in order to satisfy demand?
- Is demand not translated into turnover because the companies are still acting conservatively?

There are no general valid reasons. Compared to 2006, there were no changes. It can however be assumed that those responsible are largely undecided, since:

- The execution is still works rather satisfactorily, and the maxim exists to, "never touch a running system! "
- The respect for difficulties in IT projects, most of all in key areas like WMS, prevents implementation,
- Decisions are delayed due to uncertainty in the choice of system.

Some aspects shown in this report should increase the transparency of the WMS market.

Success factors in sales

In order to arrive at an estimation of which properties of the system or project development are prioritised by the client, the suppliers were offered a variety of success factors. The following possibilities were offered, repeats were possible:

- Special functionalities
- Integration, modular construction
- Quick and simple implementation
- Latest technology
- Partnership
- Continuity of supplier and system
- Best price

Table 3 shows the distribution of each feature. The special functionalities of each WMS supplier head the table of success factors. This could possibly be due to a special branch speciality.

The quick and simple implementation of the software stands at second place. This may result out of the experience of the suppliers gained in the past years and the functional extensions of the base modules, but mostly out of the already strong focus on standards. The third place is occupied by Continuity. This is a relevant point with reference to security for the companies that the software supplier will also exist in the future, and that eventual changes to the system can be carried out.

The implementation of latest technologies has lower priority. This is probably attributed to the currently low number of new technologies on the market, and the fact that suppliers' existing technologies are already in use or can be covered.

	Success factor	Focus	Coverage
1	Special functionalities	22 %	85 %
2	Quick and simple implementation	17 %	70 %
3	Continuity of supplier and system	18 %	70 %
4	Integration, modular construction	13 %	60 %
5	Partnership	11 %	50 %
6	Latest technology	11 %	50 %
7	Best price	9 %	40 %

Table 3: Sales arguments of the WMS suppliers (repeats possible)

It is however still remarkable that the factor "Best price" is not an important factor. On one hand, this may be due to the relative stability of the market. On the other hand, it also indicates that the suppliers are relatively competitive with their products.

This furthermore also indicates that, for realistic planning and problem-free execution and initial operation, even clients are ready to bring qualitative properties to the fore.
Participating suppliers have, just like last year, their target set on the middle to high price segment. Solutions with a project volume under 20,000 Euros were not of focal interest to the surveyed suppliers, and were a potential market segment for very few.

Doing justice to the demand of smaller companies for economical and quick support could not be implemented by the WMS suppliers.
The reasons for that definitely lie with the extended scope of numerous ERP packets that can sufficiently support simple to average logistic processes.
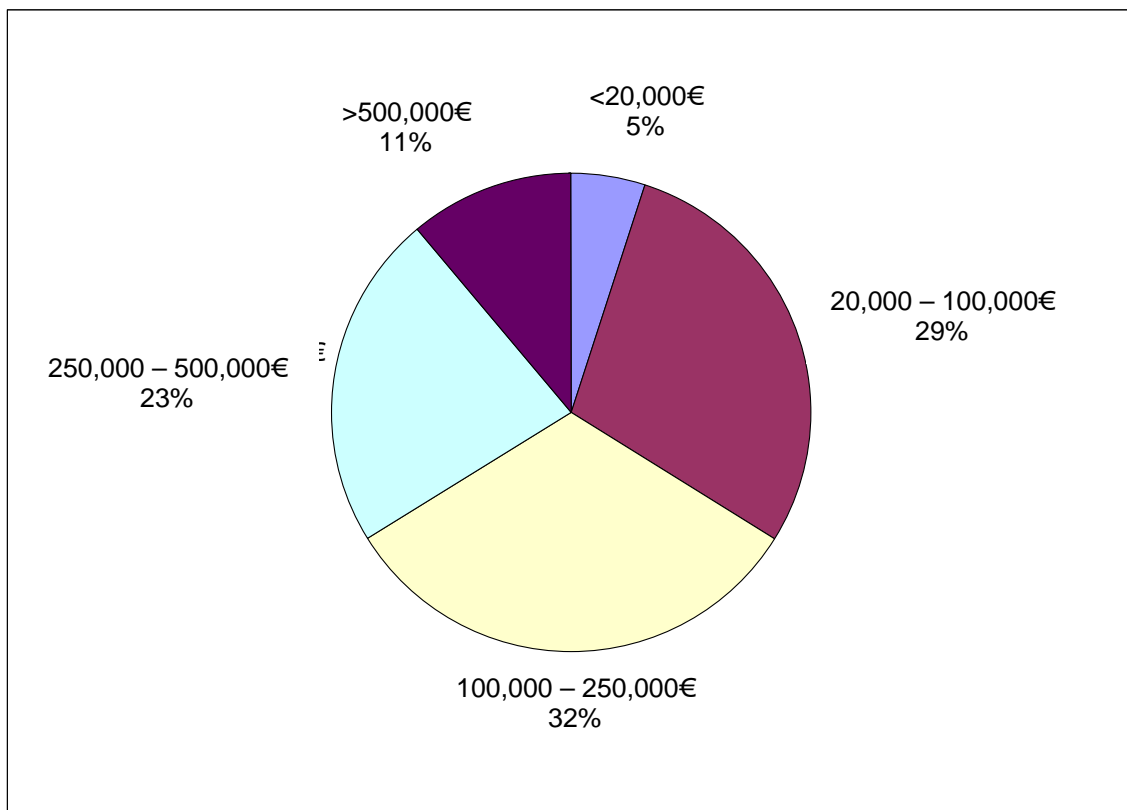
Fig. 1: Target price segments of WMS suppliers

Scope of delivery of WMS suppliers

Did the WMS suppliers focus their attention on one particular area or is there a tendency towards diversification? In order to analyse this aspect, the suppliers were able to define their scope of delivery in the study. The following points could be chosen from; repeats were possible:

- WMS
- Pick sub-systems
- Co-operation with subcontractors
- Warehouse technology

The WMS suppliers partly offer supplementary solutions in order to satisfy the demand of the client to have the lowest possible number of interfaces to other system units, and to reduce the number of contact persons in IT projects.

Three-quarters of all study participants thus already offer pick sub-systems. The buyer thereby has the advantage that the WMS supply already offers existing and tested interfaces to sub-systems.

An alternative is also the possibility that the WMS supply acts as general contractor and thereby undertakes the complete coordination for the introduction of a new WMS including all related components; 55% of those surveyed already have co-operations with subcontractors. 30% of the suppliers also offer warehouse technology in their portfolio. These suppliers in our study include Hörmann Logistik, Savoye, STILL, Vanderlande and viastore systems.

	Scope	Focus	Coverage
1.	WMS	61%	100%
2.	Pick sub-systems	19%	75%
3.	Co-operation with subcontractors	13%	55%
4.	Warehouse technology	7%	30%

Table 4: Scope of delivery of WMS suppliers

Software Quality Management

	Software Quality Management	Focus	Coverage
1.	Standardised processes	48%	90%
2.	ISO 9001 certification	32%	65%
3.	SQM software	12%	45%
4.	Certified testers	8%	30%

Table 5: Features of Software Quality Management

As described in the introduction, there is still often hesitation to replace existing systems. To combat this mindset, SQM measures carry growing importance even at the project initialisation stage.

The goal of Software Quality Management is to ensure that the software meets the demands of the client. This is achieved by a product that is programmed on-schedule and error-free, has no complications, and can be implemented.

What standards are implemented by the WMS suppliers?

The purpose of this question in the study was to analyse how many suppliers already had SQM measures in use. The following approaches were tested:

- Standardised processes
- SQM software
- ISO 9001 certification
- Certified testers

Over 65% of the suppliers have been certified according to ISO 9001. This means that they work in defined steps, and have these regularly checked by means of audits. Mistakes cannot be completely avoided by this course of action, but the rate of errors can be reduced. 90%, i.e. nearly all suppliers are capable of working according to such standardised processes.

Approximately half of those surveyed used SQM software. This includes, for example, supporting software packets for structured coding, documentation, or also for software testing. In order to recognise errors early and take appropriate steps, it is important to correctly pre-test the software. At this stage, there is the option to use certified testers who can professionally test the software. Using certified testers currently has rather low priority. Only 30% of suppliers use this SQM approach.

The testing mechanisms and possibilities of a client remain almost completely ignored. Incorporating the client often fails in practice due to company-internal reduced IT capacities, which prevent intensive co-operation and support during the realisation phase.

Important factors are still:

- An intensive preparation during process analysis and specification phase, in which the demands on the system are given in detail.
- An extensive testing and training phase that must be correspondingly well prepared with regard to test concept and test cases.

Communication in the warehouse

There are various methods of handling processes in a warehouse. Depending on the warehouse, some systems can be better implemented than others. Most suppliers offer nowadays a wide variety of interfaces to different communication systems.

The level of coverage of each communication interface and the focus of the WMS suppliers were analysed in the study.

Table 6 shows the possibilities of communication support that are implemented in the warehouse. An important element is still barcode scanning.
It can clearly be seen that other online technologies such as pick to light, pick by voice and RFID are already offered by all suppliers and supported by their systems. Order picking with paper lists occupies the last place in the table. This leads to the conclusion that the other 20% of the suppliers apparently concentrate on companies that are technologically equipped in their warehouse.

	Communication support of the target group	Focus	Coverage
1	Radio-frequency barcode	37 %	100 %
2	Pick to light	18 %	95 %
3	Pick by voice	18 %	85 %
4	RFID	15 %	90 %
5	Paper lists	14 %	80 %

Table 6: Distribution of communication interfaces

Development trends

What is currently happening with system development on the WMS market? There haven't been any large innovations last year. However, there has been something happening with regard to software.

The suppliers were given an open question in the study to name the developments that they have carried out in the past two years, and those they plan to carry out in the next two years. The answers were clustered into categories and, wherever necessary, divided into sub-points. The tendencies can be seen in Table 7. To indicate the prioritisation within the sub-points, an ABC-classification was used.

Development trends	Future priority	Priority in the past few years	Trend
Additional warehouse functionalities	**1**	**1**	
Additional warehouse functionalities (general)	a	a	
Capacity planning and control	b	a	
Yard and dock management	c	-	
Technology	**1**	**2**	**+**
Technology (general)	a	a	
Internet	a	a	
System integration	a	c	
User interface, handling	b	b	
Connectivity, interfaces	b	c	
Supply-chain functionalities	**3**	**5**	**+**
Order-picking technology	**4**	**3**	**–**
RFID	a	a	
Voice recognition	b	b	
Administrative support	**5**	**4**	**–**
Management information	a	a	
3PL	-	b	
Billing	-	b	

Table 7: Development trends in the recent past and future

As always, additional warehouse functionalities are at the top of the list. It is however apparent that the WMS market is already mature and qualitative with well-developed standard systems that are modularly constructed. The standardisation of interfaces to other systems such as ERP systems and the parameterability of the system have already established themselves well.

This creates the impression that the functional further development of warehouse management systems seems to be stagnating. In reality, relatively less new functions are emerging. Contrary to that, experience has shown that project-specific customisation is an essential work factor for many installations on a functional level. This results on the one hand from individual process justification, the adaptation of new systems on old processes, but also from external influences such as interfaces to foreign systems.

With regard to internal further development, suppliers are currently concentrating on increasing system performance in order to be able to create processes in the warehouse more efficiently. Special attention is given to optimised order picking as well as planning of capacity and resources.

Also far ahead is the development of technologies that lead to an increase in user friendliness. Many suppliers have focussed on Java. A WMS completely programmed in Java offers the user the advantage that the system runs independent of the platform and can be executed on any operating system. The only condition is that Java Runtime has to be installed on the system.

Other points to increase user friendliness are internet connectivity, setup of the user interface as well as handling. Even if every supplier nowadays offers a graphic or web-based interface, work is still being done on optimising presentation.

Another priority for the next few years is that system integration is growing in importance. The last of the technology development trends was listed as connectivity. This can be attributed to the fact that the systems are always being further integrated. It is also possible that there are already many standard interfaces to other systems.

With complete regard to system integration, suppliers are also planning an extension of supply-chain functionalities. It is apparent here that developments in transport planning are present.

Table 6 "Distribution of communication interfaces" shows that most suppliers already offer a connection to the order-picking technologies RFID and Pick by Voice. Suppliers are nevertheless carrying out development in the direction of RFID. The reason for this will be that the technology is constantly developing further. Since using RFID in order picking is still very expensive due to the chips necessary, it has not yet been able to create a niche for itself in order picking. The development of modules for administrative support has been given low priority this year. It

can however be seen that controlling functions in the WMS are in demand in spite of the low priority. Many of the suppliers further setup their systems in this area. 3PL and billing seem to be the most integrated in the systems, since they have been developed for some modules in the past years, but no further developments are planned for the future.

	User interface	Focus	Coverage
1.	Graphic user interface	53%	95%
2.	Web-based user interface	38%	85%
3.	Symbol-based interface	9%	40%

Table 8: Developments of the WMS user interface

System architecture

Old systems were frequently client-individual programmed systems, but WMS suppliers nowadays offer standard systems that can be adapted to client-specific demands. The advantage here is, firstly, that the initial time of a new WMS can be markedly reduced, and secondly, that the system has already largely been tested and implemented in other warehouses. The distribution between "best of breed" and integrated systems is approximately the same. WMS suppliers extend their systems with additional systems. ERP suppliers furthermore, for example, try to enrich their system with warehouse functionalities. The possibilities of implementing such systems thus increase.

	Configuration	Focus	Coverage
1.	Standard system	66 %	100 %
2.	Custom-made	34 %	90 %
	Structure	**Focus**	**Coverage**
1.	Integrated system	46 %	70 %
2.	Best-of-breed	54 %	90 %

Table 9: System architecture

Based on the details given by the suppliers, their systems can be represented in a matrix (Fig. 2). This gives an overview of how the companies are aligned with their software. In the past few years, the trend towards standard software has been observed while client-individual solutions are not so much in the foreground. Slowly, and even quite conservatively, it is being seen that integrated systems are increasing, and the best-of-breed solution, once the supreme discipline, now has a lesser meaning. This is attributed to a large demand for standard systems – a development on the market that will also continue in the future.

	Integrated		Neutral		Best of Breed
Standard	LogControl GmbH				ISA - Innovative System Solution for Automation
	Coglas GmbH	CIM GmbH GIGATON GmbH Lunzer + Partner GmbH SALT Solutions GmbH SAP AG STILL GmbH	Aldata Retail Solutions GmbH Dr. Thomas + Partner GmbH & Co. KG		Hörmann Logistik GmbH Salomon Automation GmbH XELOG AG
Neutral				Savoye GmbH	
		viastore systems	Vanderlande Ind. Logistics Software GmbH	inconso AG S&P Computersysteme GmbH	
Custom-made		Manhatten Associates			

Fig. 2: Integration and standardisation portfolio of WMS suppliers

Summary

- The growth of the German WMS market is more conservative than the growth predicted for the worldwide WMS market.

- Most WMS suppliers show relatively constant growth.

- The WMS market is relatively mature and qualitative.

- All WMS systems currently on the market are modularly constructed. Standardisation of interfaces to other systems along with parameterability has come to the fore.

- The challenge lies with IT processes, the functional scope and reduction of focus to the key processes.

- With the help of warehouse management systems, transparent and lean processes as well as a controlled material flow are possible.

- The number-one success factor of each of the WMS suppliers is their "special functionalities".

- Development of WMS seems to be stagnating; development in the sense of emerging, and new functions cannot be seen at present.

- The suppliers are currently focussing on increasing WMS performance and developing new technologies as well as additional warehouse functionalities.

- The focus of many WMS suppliers is on improving user friendliness and handling of the systems.

Official contact

Werksplanung und Logistik IWL

IWL AG
Michael Muhsal
Muehlsteige 4
D-89075 Ulm
T +49.731.14050.13
F +49.731.14050.50
M michael.muhsal@iwl.de

Ideen werden Lösungen

Since 1985, IWL has been offering industrial and business clients services in planning and consultation in the field of logistics and process optimisation. In Germany, we work from head-quarters in Ulm and Munich.

We are internationally a part of the corporate group "The Supply Chain Group", which has specialised in international logistics projects. This group employs more than 100 logistics consultants.

For more information, please contact:

IWL AG
Michael Muhsal
Mühlsteige 4
D-89075 Ulm
M michael.muhsal@iwl.de
T +49.731.14050.13
F +49.731.14050.50

www.iwl.de
www.the-scg.com
www.wmsfinder.com

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