

About LetMeShip:

In 2009, company ITA Consulting GmbH from Hamburg, Germany had a very simple startup application LetMeShip for multi-carrier parcel logistics in B2B sector where many things were done manually, especially shipment handling.

We were asked to implement completely new version of the system with extended functionality – public Frontend application, BackOffice web application and public API for 3rd party integration. The new version was successfully launched in September 2011 and it allowed the product to become the biggest in Europe in the field.

Main challenges:

- efficient automatic processing of big carrier data (product prices, pickup and delivery zones and areas, delivery times)
- shipment handling – automatic order process including pickup order, error handling, tracking
- price calculation and corrections across different price models in history
- unification across all carriers

Success in numbers:

Year	2011	2020
Number of parcel shipments per year	< 50.000	~ 700.000 in 7 countries
Number of employees in LetMeShip team	11	>100
Country coverage	2 (DE, CH)	7 (DE, CH, AT, FR, NL, BE, ES)
Supported languages	1	4
Full customizations for big corporations	0	4
Public applications	1 (Website)	3 (Website, BI and API)


Client location:

Hamburg, Germany

Industry:

Parcel Logistics

Development period:

May 2009 – Sep 2021

Valcon team size:

7

Technologies:

Backend:

Spring Core, Spring Boot, Wicket MVC, JPA/Hibernate, REST, SOAP, Pentaho ETL with Kettle, Jasper Reports, Apache Lucene

Frontend:

Wicket Ajax, JavaScript

Database:

MySQL

Testing & QA:

JUnit, JMeter, RobotFramework, Selenium, Cucumber, SoapUI, Selenium, SonarQube

DevOps:

Jenkins, Maven, Git, Docker

Agile:

SCRUM, Kanban, JIRA

THE SUCCESS STORY IN DETAIL

Client's Goals

- improving and unifying the booking process for different shipping providers
- SaaS solution for customers with carriers under own contract
- fully customized solution for big corporate customers with shared platform basis
- expansion to other European countries
- reducing maintenance costs
- performance increase

Our Implementation

The most important was to analyse the parcel handling part that needed to be improved and sped up, as a lot of tasks were still done manually by people from the support team.

Furthermore, we collected requirements and insights from representatives of all departments and based on these requirements we modelled the basic parts of the system.

We divided the whole system into two basic parts, the BackOffice application as the core of the system operated by the customer support team, and the FrontEnd application as the interface for the end customer. Both are fully localizable web applications.

For development we used the open source web framework Apache Wicket, the ORM framework Hibernate and Spring. The data was stored in a MySQL relational database.

For efficient full-text search in large data structures we integrated the Apache Lucene high-performance text search engine into both applications. Due to the large amount of data we used Pentaho Business Intelligence platform for report generation and data analysis.

Public API for 3rd party integration was developed in 2016.

Major issues we had to solve

- easy application scaling
- no downtime at least in open hours (08:00-20:00), later operation 24/7
- localization & internationalization across whole system
- easy customization of the applications for big corporate customers like Daimler, General Electric, Stihl and custom integration with their IT systems
- creation of Business Intelligence for board members and BigData solutions
- huge extension of system functionality – except of parcel shipment handling we implemented completely new modules like invoicing, tracking, CRM, analysis & reports, integration of tens of carriers including special services like pallet, oversize and dangerous goods shipping
- managing multiple business domains within one environment (countries and fully customized solutions)
- solving organizational structures of customers
- data security according to user roles

BackOffice application

First, we offered the client a simple prototype application based on widgets. This flexible solution allows users to configure the application themselves (displaying only the necessary widgets) to get to the information they need as quickly and efficiently as possible.

After the prototype was approved, we started implementing individual modules, which were later extended with additional functionality. The main modules are:

- user rights module (allowing to define user groups and to specify read, write and edit rights for individual widgets)
- shipment handling module (including the implementation of web services of individual carriers, support for solving problems during the booking of shipments, definition of carriers and contractual carriers and their products)
- sales module (sales support, contact monitoring, customer definition, customer group rate definition)
- claim module
- marketing module (support for sending out newsletters, definition of customer cooperations)
- billing module (invoicing individual customers, checking customer payment morality, connection to client's accounting system, dunning management)
- management module (data reports)

The screenshot displays the 'LetMeShip BackOffice' interface. At the top, there's a navigation bar with various menu items like 'Shipment list', 'Customer list', 'Invoice list', etc. The main area shows a 'Shipment list' table with columns for ID, Pickup No., AWB, Pick-up date, spF Carrier, Service, Cust. ID, Pick-up Address, Destination, Pay weight, Sales Price, Purchase Price, Carrier Price, and Marge. Below the table, there are several filters and a 'Show totals' button. On the right side, there are additional widgets for 'Purchase price', 'Carrier price', and 'Delta', along with a 'Duration' table. At the bottom, a 'Parcels info' table provides details for a specific parcel, including its position, AWB, content, length, width, height, weight, date, time, code, type, description, place, and LMS tracking state.

ID	Pickup No.	AWB	Pick-up date	spF Carrier	Service	Cust. ID	Pick-up Address	Destination	Pay weight	Sales Price	Purchase Price	Carrier Price	Marge
40000608			10.11.2021	GLS	Business-Parcel - Home	125412	Kiebitzreihe (DE)	Wenngsen (DE)	10	9,30	8,45	0,85*	9%*
40000607			10.11.2021	GLS	Business-Parcel - Home	125412	Kiebitzreihe (DE)	Bremen (DE)	4	8,62	7,79	0,83*	10%*
40000606			08.11.2021	DPD	Express national	121406	Hamburg (DE)	Aachen (DE)	1	9,54	9,54	0,00*	0%*
40000605			04.11.2021	UPS	Express Saver	200009	Hamburg (DE)	New York (US)	1	171,39	19,10	152,29*	89%*
40000604			03.11.2021	FedEx	FedEx International Priority Express	100004	Hamburg (DE)	Beverly Hills (US)	5	63,69	63,69	0,00*	0%*
40000603			25.10.2021	DHL	Domestic Express Paket	200097	Hamburg (DE)	Hamburg (DE)	1,2	28,80	26,28	2,52*	9%*
40000602			25.10.2021	DHL	Domestic Express Paket	200097	Hamburg (DE)	Hamburg (DE)	1,2	23,80	21,28	2,52*	11%*
40000601			25.10.2021	DPD	Express national	121406	Hamburg (DE)	Aachen (DE)	1	14,54	14,54	0,00*	0%*
40000600	2929602E9CPWEB	123136W76693417168	25.10.2021	UPS	Express National	121406	Hamburg (DE)	Mönchengladbach (DE)	1	25,26	25,26	0,00*	0%*
40000599	CBJ180121002626WEB		25.10.2021	DHL	Domestic Express 10:00	121406	Hamburg (DE)	Mönchengladbach (DE)	1	34,03	34,03	0,00*	0%*
40000598			20.10.2021	UPS	Express Saver	200009	Hamburg (DE)	Hamburg (US)	1	156,88	17,48	139,40*	89%*
40000597			18.10.2021	DHL	Express 12:00	121406	9.Stock (DE)	London (GB)	1	45,50	45,50	0,00*	0%*
40000596	2929602E9CPWEB	123136W76898406809	08.10.2021	UPS	Standard Paket DOX PREFERRED	100004	Hamburg (DE)	München (DE)	1	6,92	6,92	0,00*	0%*
40000595	2929602E9CPWEB	123136W76893498274	08.10.2021	UPS	Standard Paket DOX National	100004	Hamburg (DE)	München (DE)	1	8,39	8,39	0,00*	0%*
40000594	2929602E9CPWEB	123136W76892910962	08.10.2021	UPS	Standard Paket National	136581	Hamburg (DE)	München (DE)	0,5	11,19	5,35	5,84*	52%*
40000593			123136W70492039846	06.10.2021	UPS	Express Saver	100004	Koblenz (DE)	1	27,35	27,35	0,00*	0%*
40000592	2929602E9CPWEB	123136W76896932735	20.09.2021	UPS	Standard Paket DOX National	100004	Hamburg (DE)	München (DE)	1	8,39	8,39	0,00*	0%*
40000591	2929602E9CPWEB	123136W76899413522	20.09.2021	UPS	Standard Paket DOX National	100004	München (DE)	Hamburg (DE)	1	5,35	5,35	0,00*	0%*
40000590	2929602E9CPWEB	123136W76899652916	20.09.2021	UPS	Standard Paket DOX PREFERRED	100004	Hamburg (DE)	München (DE)	1	6,92	6,92	0,00*	0%*
40000589	2929602E9CPWEB	123136W76891156824	20.09.2021	UPS	Standard Paket DOX National	100004	München (DE)	Hamburg (DE)	1	5,35	5,35	0,00*	0%*
40000588	2929602E9CPWEB	123136W76891779205	20.09.2021	UPS	Standard Paket DOX PREFERRED	100004	Hamburg (DE)	München (DE)	1	6,92	6,92	0,00*	0%*
40000587	2929602E9CPWEB	123136W76899987430	20.09.2021	UPS	Standard Paket DOX PREFERRED	100004	Hamburg (DE)	München (DE)	1	6,92	6,92	0,00*	0%*
40000586			06.09.2021	DHL	Express 9:00	100004	Hanau (DE)	PARIS (FR)	1	54,53	54,53	0,00*	0%*
40000585	1630585452197WEB	968099189	06.09.2021	TNT	Import Express	136581	Paris (FR)	München (DE)	0,5	82,67	16,24	66,43*	80%*
40000584			09.09.2021	DPD	Classic	136581	Hamburg (DE)	München (DE)	0,5	7,97	4,54	3,43*	43%*

Position	Awb	Content	Length	Width	Height	Weight
1.	123136W76891919787		37 cm	19 cm	11 cm	0.3 kg

Date&Time	Code	Type	Description	Place	LMS tracking state
25.05.2020 11:41	MP	M	Order Processed: Ready for UPS	DE	Info
26.05.2020 15:38	PU	P	Pickup Scan	Hamburg, DE	In progress : picked up

Frontend application

This application is intended for the end customer. Its main purpose is quick comparison of all carriers' services & costs and automatic order of parcel, pallet or document shipping. For the possibility of changing the content directly by our client's employees, the CMS function is implemented on all pages. It is optimized for internet search engines (SEO). The main parts are:

- quick shipment cost calculator
- shipment booking with using address book and parcel manager
- proactive tracking
- shipping archive with possibility to download all transport documents as pickup order, awb label, proof of delivery and entry certificate documents
- invoice archive
- administration part – account and invoicing data management, employees and suppliers management

SHIPPING ARCHIVE REPORTING ADMINISTRATION CONNECT RECOMMEND US NEWS HELP

ARCHIVE & TRACKING PICKUP ARCHIVE INVOICE ARCHIVE NEWS ARCHIVE EXPORT DOCUMENTS PICKUP PROTOCOL

Not cancelled Cancelled All

Table as Excel file / csv file export

Shipment number	Consignment note no.	Track.	Pickup date	Pickup city	Courier	Service	Destination	Price	Claim
31705311	1Z3136W76893330800		26 Nov, 2021	Hamburg	UPS®	UPS Standard®	Kupferzell	4.25 €	
31704566	953368851		26 Nov, 2021	Hamburg	TNT	Economy	Madrid	125.04 €	
31702771	1Z3136W76891005264		26 Nov, 2021	Hamburg	UPS®	UPS Standard®	Mönchengladbach	5.45 €	
31702739	1Z3136W76896132528		26 Nov, 2021	Hamburg	UPS®	UPS Standard®	Ostrau	5.45 €	
31702586	1Z3136W76899374324		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31701317	1Z3136W76890977467		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31700996	1Z3136W76897088138		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31700995	1Z3136W70497804929		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31699326	1Z3136W76892415131		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31699286	1Z3136W76893959034		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31699271	1Z3136W76894370980		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31696806	1Z3136W76890749767		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31695851	1Z3136W76892305803		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31694049	1Z3136W76896535914		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31689988	1Z3136W76894151529		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31691648	1Z3136W76898195154		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31689985	1Z3136W76899135823		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31688933	1Z3136W76894315781		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31687532	1Z3136W76895954900		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	
31685841	1Z3136W76896483382		26 Nov, 2021	Hamburg	UPS®	Mehrpaketsendung	Nagold	9.80 €	

SHIPPING ARCHIVE REPORTING ADMINISTRATION CONNECT RECOMMEND US NEWS HELP

ORDERS (5) ADDRESS BOOK PARCEL MANAGER PRICE CHECK CLAIMS

EXPRESS SHIPMENT

Carrier	Service	Booking to	Transit time *	Base price €	Net price €	
TNT	Express national 12:00	3:45 PM	1 Business day	7.65	9.26	
FedEx	FedEx Priority Overnight®	4:45 PM	2 Dec, 2021 12:00 AM	8.38	9.60	
Der Kurier	Next Day	4:30 PM	1 Business day	8.90	9.88	
UPS®	UPS Express Saver®	5:45 PM	2 Dec, 2021 6:00 PM	9.18	11.38	
Der Kurier	Over Night	4:30 PM	1 Business day	10.90	12.10	
UPS®	UPS Express 12:00®	5:45 PM	2 Dec, 2021 2:00 PM	9.97	12.36	
TNT	Express national 10:00	3:45 PM	1 Business day	11.75	14.22	
Der Kurier	T10 Express	4:30 PM	1 Business day	13.90	15.43	
UPS®	UPS Express®	5:45 PM	2 Dec, 2021 12:00 PM	13.00	16.12	
Der Kurier	T9 Express	4:30 PM	1 Business day	18.90	20.98	
TNT	Express national 9:00	3:45 PM	1 Business day	17.96	21.73	
DHL Express	Domestic Express Paket	3:15 PM	2 Dec, 2021 6:00 PM	21.66	23.28	
TNT	Express national 9:00	3:45 PM	1 Business day	17.96	21.73	
DHL Express	Domestic Express Paket	3:15 PM	2 Dec, 2021 6:00 PM	21.66	23.28	

* The transit times are displayed in business days (Monday to Friday) and are intended as guidelines only. Transit times are applicable to urban areas. Additional handling requirements for parcels void the carrier guarantee of transit times. You can find out whether your parcel requires additional handling by checking the price breakdown. To find out the exact transit time, click on the price breakdown icon.

BI application

BI application contains reports for all business domains for sales, customer service, controlling departments and management dashboards.

The end customer can analyse data based on carrier, service type, area of origin and area of destination and filter data for any requested period.

