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)

LetMeShip
simplify shipping

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, Selenoid, 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.
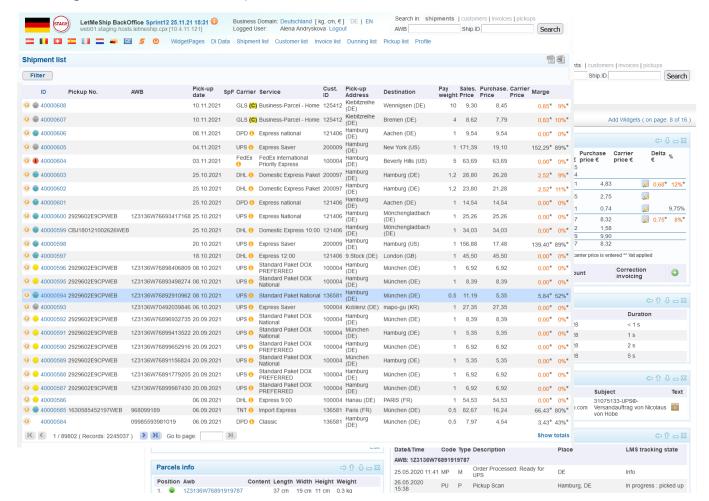
Major issues we had to solve
- easy application scaling
- no downtime at least in open hours (08:00-20:00), later operation 24/7
- localization & internationalization across whole system
- easy customization of the applications for big corporate customers like Daimler, General Electric, Stihl and custom 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)
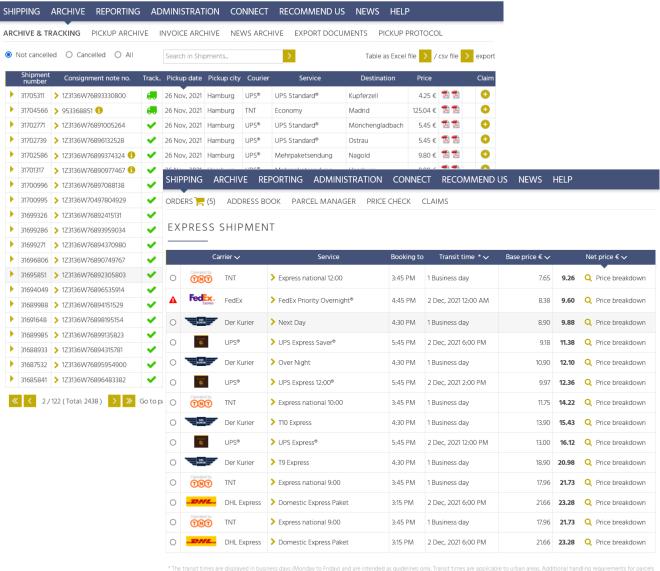- management module (data reports)

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

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.