

Innovation Cooperation for New Container Loading Technology



Strategic Goal:

The consortium around the Italian technology company metrocargo automazioni srl strives for a market entry in Germany with their innovative loading technology for containers in the intermodal traffic.

With Hamburg Port Authority (HPA) as operator of the port railway vero projects has the most important target customer in the largest sea port of Germany.

The common goal is to position the consortium as a potential solution provider to HPA by means of a successful Proof of Concept.

Project Objective:

- demand analysis at HPA
- creation of a Proof of Concept under predefined performance parameters re volume (up to 1.5m TEU p.a.) and cost (< 20 € / loading unit)

Duration of Assignment:

9 months

Customer Profile:

An international consortium for the further development and commercial exploitation of the technology developed by metrocargo has been founded:

- metrocargo automazioni srl (IT)
- ILOG Iniziative Logistiche srl (IT)
- MOLINARI RAIL AG (CH)
- WITT Industrieelektronik GmbH (DE)

The product comprises:

- loading machinery
- railway technology
- PLC control via radio / WLAN
- control systems
- interfaces / integration with external logistics and planning systems

Initial Situation of the Consortium:

At the time of this project there was a prototype pilot plant existing in Vado Ligure, Italy. A commercial plant in a nearby new port area was in the planning stage. The preparation of additional markets in Europe was a crucial success factor in order to achieve an efficient scale of this business section.

Initial Situation of HPA (spec. Port Railway):

The Hamburg port is already the biggest terminal for railway containers in Europe. The growth forecast assumes a doubling of the railway turnover until 2015, among other reasons because the transition from road to rail traffic is a goal of environmental policy.

One of the main problems of the port railway is the area required for shunting facilities; the possibilities for expansion are limited. The necessity of shunting is due to the currently not existing ability to load and unload containers under overhead wiring.

For this very reason the metrocargo solution is worthwhile for the port railway, because it enables loading sideways under the catenary. Trains do not have to be split up for the 4 sea terminals in shunting operation; instead, the containers are reloaded.

Way of Proceeding by vero projects:

Generally the main objective was – by means of tight stakeholder management – to obtain all information as complete as possible and make it accessible, as well as to integrate all perceivable interests into the model consideration.

- preliminary talks with HPA, in order to understand exactly their goals, motivation, pressure to act, and underlying logistic and financial conditions, as well as to get most concrete basic data
- meetings with all companies of the consortium, on the one hand to examine the capabilities of the new technology, on the other hand to raise their awareness for the particularities of the Hamburg port
- creation of logistic concepts based on the parameters provided by HPA
- performance calculations for various metrocargo configurations
- initial efficiency analysis under 3 different model assumptions in order to prove the ability to comply to the upper cost limits (CAPEX and OPEX)
- integration of concept and analyses into a Proof of Concept
- final joint workshop with HPA and metrocargo

Benefit and Results:

- Due to the successful Proof of Concept vero projects and the consortium could show that they are able to offer a flexible logistic solution to the problems of the port railway which fulfills all requirements within the current HPA planning. In addition the final presentation underlined the modular scalability as crucial factor for the „economy of scale“ as well as for the general future viability of the plant.
- The consortium could be positioned as a prospect vendor in Germany.
- During the collaboration vero projects could give important input to improvement processes of the solution developers, especially to include the conditions of big ports like Hamburg.