



# WILIBOX

Lithuania, [www.ligowave.com](http://www.ligowave.com)

A partnership between a small Lithuanian software company and an American counterpart extended beyond an initial distribution agreement to involve joint development projects and even joint procurement of electronic components

## Executive Summary

This case is about how a small Lithuanian wireless equipment developer commercialized its products overseas. A strategic partnership with Deliberant, a US company similar to Wilibox, was crucial in that venture. Starting from a distribution agreement for Wilibox's software, the collaboration evolved into joint development and manufacturing by the two companies and finally the formation of a joint venture. Wilibox had R&D skills, especially in software, while Deliberant had superior customer understanding and marketing strengths. In retrospect, Wilibox thinks they could have grown faster if they had developed their own manufacturing capacity earlier. The case is interesting because Deliberant, their strategic partner, could be seen as a competitor as they were doing basically the same as Wilibox in Lithuania.

**CASE N°: EE12**

**SECTOR: INFORMATION TECHNOLOGY**

**TECH INTENSITY: HIGH-TECH**

**LIFE CYCLE STAGE: ESTABLISHED**

**INNOVATION VECTORS: PRODUCT, CUSTOMERS & MARKETING**

**OI PARTNERS: PSR, LARGE CORPORATION, OTHER SME, LEAD USERS & CUSTOMERS**

**KEYWORDS: Wireless data transfer, joint development projects, joint procurement, customer knowledge, manufacturing capability**

- BACKGROUND FRAMEWORK
- INNOVATION CHALLENGE & MARKET OPPORTUNITIES
- OI TRAJECTORY
- BUSINESS IMPACT
- LESSONS LEARNED



LigoWave

## BACKGROUND

Wilibox is a company developing and selling wireless networking equipment. Currently Wilibox has three main product lines: LigoWave is a carrier grade wireless networking equipment where you can find point-to-point and mesh products; Deliberant – economical, but at the same time well-performing equipment suitable for smaller WISPs (Wireless Internet Service Providers) and those who search cost-effective solutions; and Wiligear is a product line that carries all the components necessary to build wireless networking equipment and is ideal for those who like to assemble and build equipment themselves.

The origin of Wilibox can be traced back to the 90's. Jonas, a serial entrepreneur and the future founder of the company, saw an opportunity for providing wireless data communication much cheaper than ISDN technology using copper telephone lines. He started producing wireless transmission modules which were slower, but several times cheaper than ISDN. At first the venture had a single owner and the company was incorporated under the name of Wilibox in 2005. Jonas was invited to join a group of software engineers from his other company, the internet service provider Baltmeta (which was then sold to an investor). The engineers at Baltmeta were solving hardware problems using software solutions (like drivers, etc.) and became experienced in firmware.

2005 - Launch of Wilibox

2007 - Joint venture between Wilibox and a US-based wireless equipment manufacturer Deliberant

2008 - LigoWave brand (and company) launched

2008 - Wiligear hardware product line launched

2010 - Wilibox and Deliberant (including LigoWave) sold to a Chinese company

2013 - Wilibox and partners started an open training programme - M2M lab

2014 - R&D infrastructure for electronics products launched

The company's future plans include developing devices for the Internet of Things. Jonas has established yet another company for this diversification.

## INNOVATION CHALLENGE & MARKET OPPORTUNITIES

Wilibox was basically an R&D company. They could build differentiating features into their offerings, but scaling up was difficult. They had to find reliable manufacturing partners, which was not easy. Second, their product had to be traded globally. Taking into account the competition, they had to develop sales channels quickly. Third, end customers, e.g. wireless internet providers, have specific requirements (location of stations, weather conditions, etc.). It meant that distributors or resellers had to be able to address those requirements and provide the necessary skills and training.

The market for wireless communication equipment and solutions was growing very quickly. Offering cheaper connection to the internet was a very attractive offer then. There were also good prospects with the advent of the Internet of Things.

## OPEN INNOVATION TRAJECTORY

### Concept development

The initial concept was developing software for wifi products which maximizes the hardware's performance. The business model was simple – to buy the most popular hardware platforms on the market, to install their software and tune it, package it in a nice box and sell to the customer. However, with this concept they could not reach foreign markets. There they decided to sell software for local solution providers. When they realized that there are issues with developing/ adapting software to hardware platforms being developed in different locations, they centralized their R&D.

### The development process, IPR and competition strategy

From 2005 to 2007 Wilibox developed embedded (e.g. Wili-S and Wili-Mesh) software for the popular hardware platforms manufacturers such as Atheros. This work required getting access to the suppliers' technical data and presumes close

cooperation. One partner, a US-based SME Deliberant, became a preferred partner. Deliberant was founded in 2003 as a wireless ISP in rural Georgia. Early on they decided to build their own wireless equipment instead of buying. They had a good reputation for low prices and good quality and support.

With time, the partnership between Wilibox and Deliberant extended beyond an initial distribution agreement to involve joint development projects and even joint procurement of electronic components (larger orders mean lower prices). Deliberant had better knowledge of the customer and contributed several ideas to Wilibox, e.g. developing a new graphical user interface (GUI) management. This new concept allowed their customers to create individual graphical user interfaces, perfectly fitting their needs and hiding unnecessary functionality and complexity from their end users. OEM customers save time while being able to customize the functional coverage of the web management interface as well as to change the look and feel (colours, images, control element layout, etc.).

For Deliberant, working with Wilibox on the LigoWave gave them the ability to add key features like Wilibox's RCMS (Remote Configuration Management System). It is a server-based solution where the user can monitor and upload firmware to their devices, remotely control and manage the devices. They recognized that there was a big need on the market for people to be able to manage everything remotely.

Working with hardware suppliers had its challenges; often there were arguments between hardware and software developers. Hardware developers blamed software for functional errors, while software developers pointed the finger at the hardware. For this reason Wilibox decided to develop its own hardware. They had little experience in hardware development so they teamed up with a large Lithuanian company, Teltonika, an M2M communication equipment manufacturer and solutions provider.

They thought that the joint development would take half a year, but it ended up taking one-and-a-half years. The companies were culturally very different which was important for resolving difficult situations (they are inevitable in development), and later this cooperation broke down.

However, the result was very successful on the market. Quite by accident, the cold weather made the competitor's equipment stop working and Wilibox received many orders through word of mouth recommendation. The company continued to build up its hardware development skills and

offered beta versions of their product to users to test.

A source license was acquired from Atheros and Deliberant.

The wireless communication market is very competitive, but fragmented; there are many hardware and software producers, as well as many small customers with very specific needs. Both Wilibox and its strategic partner at first focused on smaller customers: hotspots, smaller WISPs and hotel installations. The key selling points to this target group are low prices, good quality, easy set-up and outstanding customer service.

As a small company, Wilibox could not provide customization and customer support services outside Lithuania, so it had to rely on partnerships with value-added distributors (Deliberant being one of them).

## **Commercialization and follow-up**

Scaling up became an issue. Wilibox did not have manufacturing facilities and they could produce equipment in small series only. They looked for subcontractors, but subcontracting had its own difficulties, i.e. long manufacturing cycles. Wilibox could place only relatively small orders, so they had low priority. A usual situation was that the first manufactured pieces did not work properly (high frequency electronics is quite specific). With hindsight, Wilibox thinks that they should have developed their own manufacturing capabilities earlier (it required external funding). Again, Wilibox and Deliberant sometimes put together an order for manufacturing.

The SME started restructuring when they were bought by a Chinese company. This company is a large (but small by Chinese standards) vertically integrated company. Wilibox focuses on R&D while Deliberant undertakes small-scale manufacturing and makes small adjustments according to customers' needs, as well as major marketing work.

Locally Wilibox provides solutions to WISPs, hotels, hotspots (known examples are Zebra and Omnitel wireless access). Overseas marketing is done through value-added distributors. Wilibox signed a distribution agreement with Deliberant (for software) in 2006. Distribution has advantages in that the solution may be customized and there may be a leasing opportunity for end customers. Similarly, the Wiligear product line was sold through distributors (in addition to buying from the website).

Many improvements were made in software and hardware as components become smaller and

smaller. Here they cooperated with specialized companies, such as Linkosas, for developing and manufacturing antennas. By partnering with them the SME acquired new knowledge about antennas which was used later in their new products.

## BUSINESS IMPACT

During the commercialization journey the company acquired hardware design capabilities and learned how to design graphical user interfaces and their configuration tools (inspired by Deliberant).

The most important thing that they learned is the importance of the customer's voice. Now that Wilibox belongs to a group of companies, it will probably have to develop access to customer intelligence. They learned that they should have manufacturing capacity in-house. In his next company Jonas is building a small-scale manufacturing facility. He realized that this is an important feature. The SME also learned marketing and sales tricks from Deliberant.

Through their open innovation collaboration Wilibox reached annual revenues of €5 million.

## LESSONS LEARNED

The case reveals at least two important decisions Wilibox had to make. The first is make or buy. Looking back, they think they should have developed manufacturing capacity themselves. Comparing themselves to some competitors (e.g. Ubiquity Networks, traded on NASDAQ) who took this road, they grew faster. It also required access to external capital. They started at about the same time and were at the same level. Vaidas, the project manager at Wilibox, knew Ubiquity (who at that time did R&D in Lithuania as well). He thinks that their success relied on good customer knowledge (they had good marketing capabilities) and fast development.

Their second decision involved building sales channels for which Wilibox made dozens of partnerships.

### Main lessons learned:

1. Competitors (at first Wilibox saw Deliberant as a competitor) may find areas for cooperation.

2. Make or buy decision is a strategic decision with long-term consequences. It has to be made and revised at the right time.
3. Customer knowledge is essential.
4. Tech companies have weaknesses in marketing & sales and often need and seek partners in this area, but it is essential to build the capacity in-house.
5. A distinct advantage in at least one area is needed to be interesting for partners.