

## **0.1 Business plan**

Vard Electro is one of the major global design and shipbuilders of specialized vessels. In cooperation with engineering students from NTNU, Vard has designed a lighting and control system for Helideck on modern vessels. This business plan describes how Vard is going to invest in this product.

### **0.1.1 Business idea**

The main purpose of helideck lighting is to help the helicopter pilot to operate in all lighting conditions. Usually, it is adequate to install the equipment directly on the deck surface. Therefore, most solutions on the market is based on this.

For luxury vessels, such as cruise and yachts, it is preferable to install the equipment as hidden as possible, to avoid visible remarks on the ship design. Implementing flushmounted solutions for the equipment delivered by common suppliers constitutes large costs.

Vard has therefore designed own solutions for installation of helideck equipment, and associated control system as well. This system is specially designed for luxury vessels, and are competitive in price.

Vard Electro offers in this product, as far as possible, hidden solutions for helideck equipment. The system is modern, reliable and redundant, and designed in compliance with the current rules and regulations. One of the advantages to deliver both the system and installation of the system, is that it is easy and reasonable to deliver customer spesific soulutions.

The system is designed in cooperation between Vard Electro and engineering students from NTNU. The students have a background as ship electricians, and has a passion for design and installation of electrical systems in vessels. Vard Electro delivers high quality products and installations, and focus on customers feedback.

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### 0.1.2 Product

The following products is delivered in the system.

- Lighting equipment from Q-aviation.
- Complete Control System.
- Complete installation of the system.

### 0.1.3 Markets

This system is specially designed for luxury vessels such as cruise and yachts. The helideck lighting and control system is designed in compliance with the rules and regulations in CAP 437, and should be followed by all moving helidecks. This standard applies to landing areas for british registered helicopters.

### 0.1.4 Competitors

There are several suppliers for helideck equipment, which is in compliance with the regulations in CAP 437. Most suppliers are delivering customer spesific solutions, and great solutions for upgrading of an allready installed helideck. These solutions is mainly intended for offshore installations and vessels.

Installing helideck lighitng equipment on cruise and yachts, requires several changes in the ordinary installation method, which follows limited solutions and large costs. Vard Electros helideck lighting and control system is specifically intended for these kind of vessels. This means that the installation method for our system is integrated in the price.

### **0.1.5 Purchase criteria**

Following products is included in the purchase:

1. Complete lighting and control system for moving helidecks.
2. Installation of lighting and control system, and additional equipment.
3. Customer specific solutions.
4. Troubleshooting and service.
5. Competitive prices.
6. Attachments and references.

### **0.1.6 Competence**

- Design.
- Shipbuilding and installation.
- Electrical systems.
- Engineering.
- Service and repair.
- Standards and regulations.

### **0.1.7 Technology**

- Software.
- Control System.
- Communication.

### 0.1.8 Collaborators

- Q-aviation.
- Wago.
- Anda-Olsen.

### 0.1.9 Critical success factors

- FSE and HSEQ.
- Documentation.
- Cooperation and support from suppliers.
- Marketing.

### 0.1.10 Actions

To reach success Vard Electro needs to:

- Maintain relationship with current and past customers.
- Acquire more customers.

The followig actions for marketing the product will contribute with success:

- Marketing on Vards official website.
- Advertising via social media.
- Participating at seminar.

### 0.1.11 Costs

Following items shows the estimated costs for each delivered system. This includes equipment, installation and service.

1. Control System:

- Equipment: Approx. 50 000 NOK.

2. Installation:

- Equipment: Approx. 50 000 NOK.
- Installation/Service: Approx 40 000 NOK.

3. Lighting:

- Approx. 850 000 NOK (Depends on the size of the helideck).

4. Painting:

- Approx. 50 000 NOK per system.

5. Total:

- Approx. 1 040 000 NOK.

In addition, costs for marketing is vital. These costs are not additional for each ssystem, but divided on the total amount of sold systems.

- Marketing:

- Approx. 20 000 NOK for marketing expertise
- Approx. 20 000 NOK for participating on seminar

- Total:

- Approx. 40 000 NOK per system

**0.1.12 System price**

The cost per system is estimated to approximately 1 040 000 NOK. This includes equipment, installation, service and painting. In addition, 40 000 NOK for marketing, but this is not included when return of investment is calculated. Compared to other suppliers, Vard Electro will be lower in price. To invest in our system we will therefore sell our complete system for approx:

- Price: 1 250 000 NOK

This price makes Vard Electro earn 210 000 NOK per system. The price is dependent on how many lights should be mounted on the helideck, and whether the lights shall be painted as well.

**0.1.13 Return of investment (ROI)**

The return of the investment shows the profit per system Vard Electro earns for every complete system that is sold, excluded the costs for marketing.

$$Earn = Value - Cost$$

$$ROI = \frac{Earn}{Cost} = \frac{(1250000 - 1040000)NOK}{1040000NOK} = 0.2019 \quad (1)$$

The return of investment is approximately 20,19 % per system.