



## CASES for DTU course "Knowledgebased Entrepreneurship"

This case was developed with economical support from "Fonden for Entreprenørskab" by Dorte Wiene, CEO, Aditus, Karen Murdock and John Heebøll, DTU Management Engineering, 2011-2012.

Thank you to the founders and the company for smooth collaboration and for making the information available for educating and training future technology based entrepreneurs.

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## BluePrinter – the enterprising master students in action

November 2012

### Background

BluePrinter was founded in 2008 by two DTU graduates, Anders Hartmann and Frederik Tjelle- sen.

When Anders and Frederik started as bachelor students at DTU, neither of them planned to be- come entrepreneurs. Their graduation project however was an innovative coffee grinder. Since they didn't own the right to the idea they were hired by the "Malykke Coffee Grinder" Company, and after completion of the development, they started their own business "Tjelhart ApS". Tjelhart ApS main focus was to offer maintenance on the Grinder product and accessories, as well as general product development for other companies.

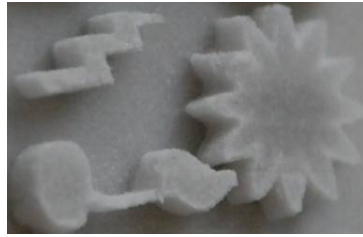
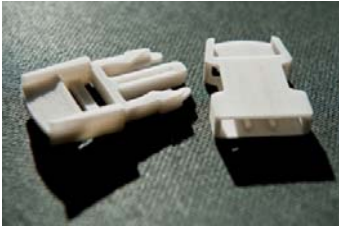
Two years later they both decided to enroll on the DTU master education which took them 3 years – one more than stipulated – due to them working part time with their development com- pany.

Still needing a final project to fulfill the requirements for the M.Sc.E master thesis, Anders and Frederik decided to define their own project. They identified a "gap in the market" for a 3D print- er that could produce a good quality output at a "reasonable price". The resulting solution was the first version of "BluePrinter" for which they both received top marks

Realizing that they were onto something with a significant market potential the two fresh M.Sc.E.s in 2008 proceeded to establish the company 3DPrinter ApS (later renamed to the cur- rent Blueprinter ApS).

### The Product

BluePrinter is an office friendly 3D printer that enables the World's approximately 7 million CAD users to print out professional 3D objects as easy as they would print a word document. This al- lows them to reduce product time to market, offers significant saving on prototyping and helps to maintain confidentiality by keeping prototypes in the "skunk works" until released. The market for 3D printers is very large and represented by many new and innovative solutions – why it also is a very competitive market. It is therefore significant to emphasize that the Blueprinter solution is unique due to price and function. More specifically, Blueprinters target group require that the 3D model's produced by the printer are both durable/strong as well as flexible. Today this requires a professional printer in the price range euros 150.000 – euros 1.000.000 as well as educated per- sonell to operate the printer. With Blueprinter's nylon material and technology you achieve the same results at a much lower price and everyone is able to operate it.



## Business development

At founding time, the company TjelHart boasted a prototype which was developed as part of the master thesis project. A novelty search revealed no existing patents covering the inventive steps that they had developed for their printer. This encouraged them to continue working on refining the prototype and to begin the process of applying for their first patents. After eleven months of intense work without any salary the founders decided that it was time to look for funding.

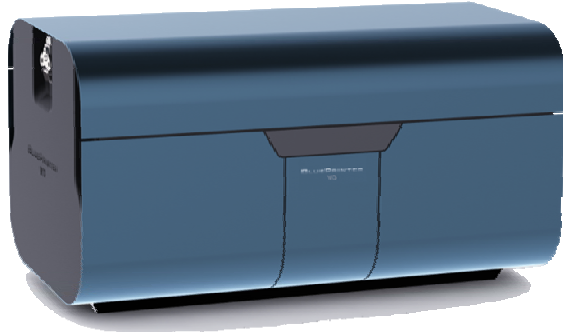
The search for funding was initiated immediately after graduation, and only after the first round of funding, did the patent application process start.

The search for external funding began in early 2009 and proved to be quite a challenge as neither of the founders had any idea about how to do this. Who do you talk to or where do you go? What should be in place etc? They had hoped that there was somewhere or someone at DTU that could help them. But again, no one in their own network could point them in the right direction.

In addition to the difficulty of fund raising, the process also proved to be very time consuming, taking away almost all focus from product and business development. The efforts paid off however and in August 2009 the company received its first round of funding (financial incubator investment) from Seed Capital.

This first round of funding was used to hire a software developer, establish a new company "BluePrinter ApS" with the major objectives being to mature the technology and develop a second prototype.

Today the company has patents pending in 7 countries mainly protecting the printing of 3D objects by using Thermal Printhead. Furthermore a 'ready to sell' product is almost finalized, having completed extensive field tests.



The company has launched a new funding round (fall 2012) to support market development and expand the business both nationally and internationally. A professional CEO has joined the company to assist in fundraising, business development and internationalization.

### **The market**

Industry analysts expect the current (global) 3D printing market to reach \$ 6.5B by 2019. By making 3D printing available at a reasonable price, more than 500,000 companies will become potential customers and expand the market by an additional \$13.5B.

The new technology enables BluePrinter to obtain significant reductions in production costs which again will make it possible for the company to sell it with a profit at a price, which allows every engineering company (regardless of size) to purchase a professional Desktop 3D printer.

### **The Business Model**

BluePrinter's present business is built around a mix of hardware sale (printers) and recurring sale of materials. The company anticipates that it can make net initial revenue of \$15.000 per printer, cleaning station and powder with recurring revenue of \$860 per printer per month. The printer will be distributed through a worldwide reseller network over next 3 years concentrating on markets in Germany, Denmark, USA and China.

## Your Task

Imagine for a moment that you are part of the founding team.

- How would you handle the initial search for investors?

At the early stage investment (2.round), coming up now, late 2012) the battle for negotiating a high pre-money valuation starts.

- Consider preparations, initiatives and actions that you could initiate to increase the valuation and the attractiveness of the company

Distribution channels are established via agreements with resellers.

- What types of resellers can you suggest and what are the advantages and disadvantages of each type.
- Make a search and suggest at least three resellers – by company name and profile – in Germany, USA and China.
- Discuss the pricing issue: suggest a price strategy – and include Everett's Innovation Diffusion Model in your arguments

The company management was strengthened early 2012 to take it successfully through the next funding round and subsequently scaling up the business. This was done by hiring a new CEO.

- Suggest relevant education, experiences and personal traits of the candidate that you would look for.
- What incentives would you offer to attract and retain the right person?
- Where would you search for such a character?