

Densen Audio Technologies, Denmark : SME case 09

Densen Audio Technologies



This case illustrates an example of a producing SME that changed from a traditional organisation to a 'networked' organisation. Production has been outsourced and free-lancers working from home handle design, construction and occasional support. Products are distributed worldwide through a network of around 30 dealers. The company experienced immediate growth and efficiency as result of the change. The case is a snapshot of the birth and development of an enterprise and how it crossed a critical threshold. Densen Audio Technologies is still a low volume enterprise and not particularly 'e-working', still it is an interesting example of a networked enterprise.



1. Name of Company

Densen Audio Technologies

2. Function of Company, i.e. what business are they in?

Densen Audio Technologies is a small company designing, producing and marketing high-end hi-fi audio equipment for "connoisseurs". Densen transforms audio philosophy and attitudes into hi-tech purist designs with high quality in sound performance and design aesthetics - far beyond ordinary consumer's equipment.

Densen buyers discuss performance before price. Besides the unquestionable sound qualities products like Densen's possess a high level of added value in the form of the joy of owning a well performing article representing more than just cost-performance and market segment considerations. A piece of Densen equipment is the result of a *con amore* enterprise. All these qualities add up to a higher level of experienced quality.

This quality is according to managing director Thomas Sillesen more important than 'Brand' and origin, i.e., country. Densen's customers wish to own a quality product with a 'story-value' and care little whether the design is manufactured in Horsens, Denmark – which is the case – or in Taiwan.

3. Distinctiveness of the Case, i.e. why was this case selected?

Densen was chosen because it is an example of a very small SME that took off from a pure hobby level based on design ideas different from mainstream practice - i.e., feedback free amplification stages – for those interested in the technology.

Densen managed to survive the first difficult years and has established itself in the hi-fi establishment worldwide. In itself it is not unusual that a company runs a production and operate through an international distribution network, but it is probably more frequent among larger enterprises than among very the very small.

Densen is very small, i.e., there are only four people employed in the central office in Esbjerg, Denmark, one sales person placed in the UK and 3-4 free-lancers living in other places in DK. All manufacturing is out-sourced to BB-Elektronic, Horsens.

4. Description of the initiative

The history of the enterprise is quite illustrative. Activities took off in 1988 at the hobby level from a downtown apartment. Over the next 5 years experiments gradually refined design ideas. Densen started seriously building equipment in 1992 and in 1993 the activity became full-time professional. From 1993 until the end of 1998 production grew out of the apartment and into a 1000 sqm production facility while the number of employees grew to 15.

New models were developed and the distribution network was established. From the start, Densen has worked with 3-4 external designers transforming the ideas of Thomas Sillesen into electronic circuits and boxes. These designers are free-lancers and work around 15% on average for Densen. Every designer has a special expertise for example in infrared remote control, amplification stage design, digital signal processing, mechanical design etc. The designers work generally in other product areas such that competition issues are avoided. The development of a new product takes place in steps. First a new concept is developed. Then it is split up into separate design units and elaborated such that prototypes can be built. After tests and measurements the design is refined, tested again and finally made ready for production with all the necessary documentation. Designers are hired per task with an initial agreement about cost. If the estimated cost turns out to be insufficient to finish the design the contract will be adjusted as required. Development cost is not a particular issue, since the design costs are relatively low compared to other cost components of a new product. The free-lancers are essentially teleworkers living in different places. In case the demand for design will grow in the future full time or part time employment may be relevant. In that case at least two of the designers are candidates for teleworking as employees, one living in the northern of Jutland, the other in Flensburg, Germany, close to the Danish border. New designers are found by 'word of mouth' through human networks or incidental, for example at exhibitions. A free lance correspondent is used for demanding language translation tasks. New models are naturally inspired by the competition in this special product niche. Distributor contacts are typically made at international audio equipment exhibitions and there are currently representatives in some 30 countries. All distributors are renowned country level specialists in high-end equipment. Working with exclusive distributors is a mutual commitment requiring Densen to follow up closely with newsletters, participation in fairs and exhibitions with associated distributor meetings. Distributors are relatively small enterprises selling high-end equipment in the range of 4.000-25.000 _ (Euros) for a total installation.

5. Changes: what changes, if any have taken place since the scheme started?

Business was relatively successful except that Densen experienced difficulties in creating the necessary overhead to cater for continuous development and growth, probably a very common problem given the size of the enterprise. Production and quality control became too time consuming to handle within the financial framework. In the meantime a professional board had been appointed. Around September 1998 a board member suggested that production should be outsourced and forces focussed at sales and development of new products.

Densen realised that they were far better at designing and selling than at producing the actual – in industrial terms – relatively low volume and acted consequently. The reorganisation took place almost overnight and as a result turnover and profit increased



rapidly (+50%) to around 9 mill Dkr in 1999. Expectations and indications for 2000 are that growth will continue and turnover will almost double.

The sub-supplier takes care of all manufacturing processes and all that is left for Densen is to attach proper labels to equipment for individual countries.

The most remarkable about this result is that production was **not** moved to a low salary area but simply handed over to a company somewhere else in Denmark specialised in producing electronic equipment according to a given specification.

6. Innovative aspects of the initiative

Densen Audio Technologies is not yet at the leading edge of e-business. However, the decision to split up activities, to outsource production and to concentrate on their core business comprehends most of the basics of what e-business is about.

Communications is currently handled by means of telephone, fax, and e-mail supplemented by Internet presence. Enterprises like Densen are inherently networking. All enterprises in the global market are networking somehow as well, no matter whether they run their own production or not.

But size matters! Densen took the innovative step that any small producing company should consider: to out-source production if it is difficult to make it profitable and/or it suffers from capacity problems. Despite the IT- low-tech level it is still innovative to concentrate on the parts of business that optimise profits. (or even most innovative?)

7. Benefits of the initiative

Outsourcing relieved Densen from the burden of keeping up a production facility with an inadequate ratio between volume and the demand for competencies to ensure flawless production.

According to Thomas Sillesen outsourcing created a high level of mobility and flexibility concerning production.

Working with free-lancer designers gives Densen the required flexibility and design capacity without overheating the economy. It could be expected that recruiting of competent free-lancers might be difficult, but time has shown that there is quite a community of people with interests in hi-fi audio design issues not employed in the audio equipment industry. These designers are far from being 'nerds' with their own 'religion' about design. On the contrary they loyally implement new design ideas.

The issue of loyalty to design ideas may seem obvious, but in Densen's product segment quality comprehends more than price/performance and cost optimised production, and as 'nerds' tend to pursue their own ideas there is a risk that they set their own targets.

Important quality factors shaping the final products are taste and attitude - not quite unlike famous sportscars like Ferrari, Maserati, Alfa Romeo and Aston Martin are not just fast cars with sporty qualities, but rather the synthesis of the dream and essence of a sportscar and joy of driving.

8. Barriers to the initiative

Free-lancers are not liased firmly to the enterprise, which in potentially represent a risk that design details might leak. This risk should not, however, be overexposed as the risk exists also with employed designers or products may be reverse-engineered.

Communication with free-lancers tend to be slower than desirable, for example fast support requirements are not always met sufficiently.

In general Densen experienced what many enterprises do, that capital and more development is needed to consolidate steadily.

Outsourcing production and design rise new issues concerning logistics and 'internal' communication, i.e., communication between networked partners. Now that needs are recognised more focus will be on improving the information part of the 'production system'.

9. Impact(s) of the Initiative

The overall benefit of the new organisation has been higher profit, better quality and growth. Some actions and tasks are now faster, more flexible and more dynamic.

The overnight change from own to external production is an example of the nature af the flexibility. Once realised that a company does not need to manufacture its own products itself a high degree of freedom is gained and available resources utilised better. For the small enterprise it is a big advantage to employ key resources only when needed.

In Thomas Sillesen's opinion - despite constraints imposed by use of free-lancers - the concept is considered to be extremely feasible and beneficial in the western countries. Sillesen estimates, that the scheme properly arranged with the right product and market might generate a turnover of 100 mill Dkr. ~ 14 mill _ with only 10 people employed in the enterprise itself.

The assumption is underpinned by several cases already working in similar ways. One of the well known examples in the IT sector is LASAT, a modern company in DK. LASAT has almost from the beginning concentrated on design and sales, while production was handled in the far east. (www.lasat.com)

At the very large scale the Danish shoe manufacturer ECCO practices a networked production, where parts – not full models – are manufactured in different plants around the world in order to optimise logistics, supplies and cost of work processes. (www.ecco.com) Placing production in other parts of the world is not out of scope. One of the incentives could be to become able to minimise transport of units to the surrounding markets. For other companies this may not be a universal formula, but for Densen it is fully realistic. Feasibility seems to depend very much on the product and the prevailing customer structure.

10. Lessons Learned from the Case Study

A professional board is important. It can be difficult for the busy entrepreneur to see his own activities in the right perspective. Sometimes the external view breaks a vicious circle and strategic decisions are made obvious.

Product maturation is the weak/sensitive area calling for attention when outsourcing. When production was still in-house there was a sliding transition from prototype to production. Now all details must be in place before starting external production. Generally small (or all) enterprises should not waste time on non-core activities. Densen wasted much time on production causing low activity levels in sales and creativity. Recruitment of full time staff for a fast growing enterprise is a particular issue that should be born in mind by any entrepreneur. It has been somewhat difficult to find people who could match dynamic development like growing a factor twenty in space consumption and activities while building up a worldwide distribution network in a time period of less than 3 years. Particularly for a company too small to fully exploit full time employees as well as run a profit-optimal manufacturing facility, using free-lancers is a very flexible and cost optimising solution. The growth and the increased networking have shown informal procedures to be insufficient. There is a growing need for quality handbooks of all processes, and to put more effort into documentation. These procedures and activities are an important element in the future e-work setup.

11. Expectations and future plans

Plans comprise to increase development of new models and increased production. More development as well as product maturing effort is needed. Some of the new productions may move abroad. Currently operations continue with external assistance, but it is being considered whether to solve some of the staff expansion by full time employment or free-lancing, or both. The decision depends on regional availability of qualified people and what is optimal in the every day situation.

On the IT side there is no doubt that an enforced activity is required in all e-areas. The increase in sales, units produced, number of models and more dispersed actors involved calls for e-solutions of all kinds. An extranet will be built up to handle routine information exchange more efficiently. But also other information tasks will benefit. It is for example estimated that dealer access to FAQs on the new extranet will resolve 50% of all questions.

12. Contact Information:

<i>Name of lead organisation:</i>	Densen Audio Technologies
<i>Contact name:</i>	Managing Director Thomas Sillesen
<i>Address (street, zip code, City, country):</i>	Randersvej 28, 6700 Esbjerg, Denmark
<i>Telephone:</i>	+45 75 18 12 14
<i>Fax:</i>	+45 75 45 39 38
<i>Email:</i>	www@densen.dk
<i>Website URL:</i>	www.dense.dk