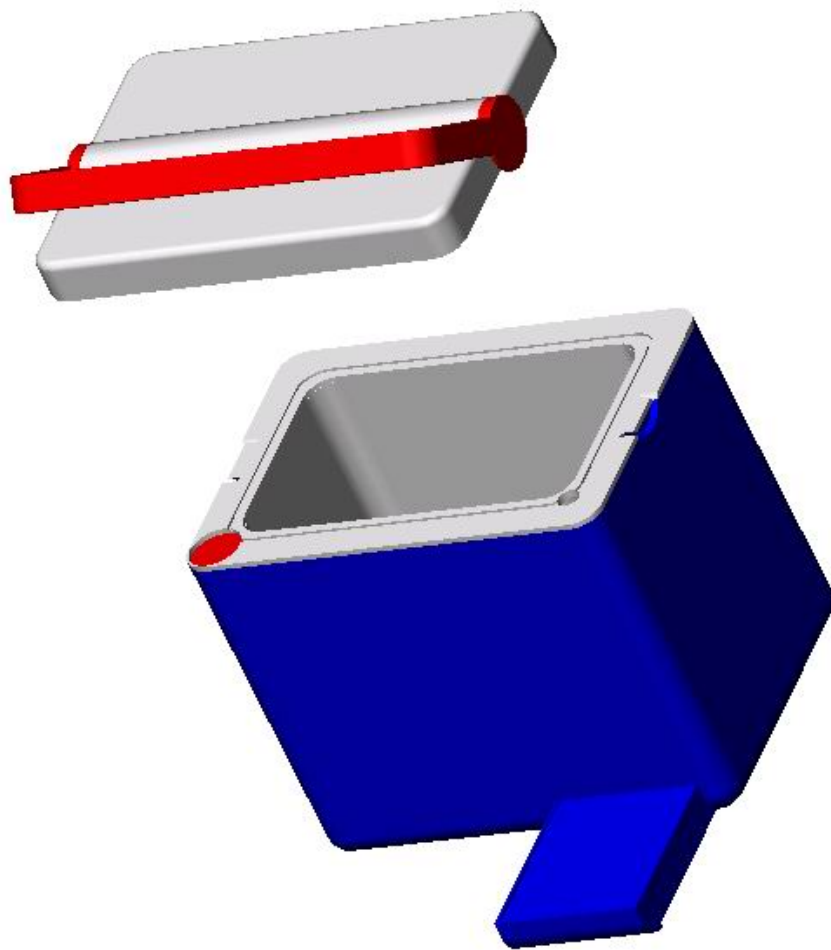


ZOOL GmbH

- Zeolite Cooling for cool people -



- Business plan -

This business plan was made within the Company Establishment course of the ITTM program at the TFH-Berlin during winter semester 2003/2004.

Course: Company Establishment

Professor:Prof. Dipl.-Ing. Jahnke

Date of handing in:2004-01-23

students:

Name	student number	signature
Dehlsen, Jan		
Copur, Mümtaz		
Kern, Phillip		
Lange, Thomas		

Content

1	CONTENT	3
2	SUMMARY.....	5
3	COMPANY & PERSONS	6
3.1	LEGAL FORM.....	6
3.2	PERSONS.....	6
3.3	LOCATION	7
4	PRODUCT & MANUFACTURING	8
4.1	PRODUCT.....	8
4.1.1	<i>Idea of Business.....</i>	8
4.1.2	<i>Where the product can be used?</i>	8
4.1.3	<i>Target group?.....</i>	8
4.1.4	<i>What product warranties does the customer expect?.....</i>	9
4.1.5	<i>Competitors</i>	9
4.1.6	<i>What is the INNOVATION?</i>	9
4.1.7	<i>New Products and Markets by this Innovation!</i>	9
4.1.8	<i>State of the Project</i>	9
4.1.9	<i>Bill of Material</i>	10
4.2	FURTHER DEVELOPMENT OF THE PRODUCT	11
4.2.1	<i>How is the product protected?</i>	11
4.2.2	<i>What are the disadvantages of the product?</i>	11
4.3	PRODUCTION	11
4.3.1	<i>Production Steps</i>	11
5	MARKET	12
5.1	MARKET POTENTIALS	12
5.2	COMPETITORS	12
6	MARKETING	13
6.1	PRODUCT LAUNCH	13
6.1.1	<i>Goals</i>	13
6.1.2	<i>Marketing Strategy 1</i>	13
6.1.3	<i>Marketing Strategy 2.....</i>	13
6.1.4	<i>Marketing Strategy 3.....</i>	13
6.2	TIME SCHEDULE.....	13
6.2.1	<i>Marketing Strategy 1.....</i>	13
6.2.2	<i>Marketing Strategy 2.....</i>	13
6.3	PRICING.....	14
7	ORGANIZATION.....	15
7.1	PERSONAL STRUCTURE	15
7.2	MAIN FOCUSES	15
8	PLANNING.....	16
8.1	FINANCIAL PLANNING	16
8.2	PLAN FOR FURTHER ACTIONS	19
8.2.1	<i>Establish Business Structure</i>	19

8.2.2	<i>Provide Office & staffing</i>	19
8.2.3	<i>Establish Supplier/Reseller Network</i>	19
8.2.4	<i>Further Actions</i>	19
9	RISK ANALYSIS	20
9.1	SUPPLIER / RESELLER CONTRACTS	20
9.2	LOCATION	20
9.3	COMPETITORS	20
9.4	LIQUIDITY PROBLEMS	20
9.5	FINANCIAL PLANNING	20
9.6	MARKET DEVELOPMENT	21
10	ATTACHMENTS	22
10.1	EXPLANATION OF FINANCIAL PLANNING	25
11	FIGURES & TABLES	27
11.1	FIGURES	27
11.2	TABLES	27

1

Summary

The business idea to found the ZOOL Company is a new application of the Zeolite Cooling principle. This Application as a portable Cooling Box for the leisure market, what is completely independent from external power and what is totally harmless to nature environment. The box uses the natural mineral zeolite as source for the cooling process. Zeolite can be environmentally friendly recycled by drying.

The company will be able to sell its product with the beginning of March 2004. First there will be a small start series of 4000 units. All parts will be produced externally. The job of the ZOOL Company is provide technical knowledge and to organize sales and logistics.

There is a second product in development phase that will later complement the Cooling Box. This product is a Zeolite Drying Box that enables the user to recycle the zeolite by himself.

In the first year the company will start with 5 employees. In the first year it will have a revenue of 285.000€ within 4 years the revenue will increase to 807.000€. The break even is reached after 4 years.

2

Company & Persons

2.1 Legal Form

To minimize impacts to the founders in case of failure we choose the legal form of GmbH. The required 25000€ will be paid from all founders.

According to “Gesellschaftervertrag” and “Geschäftsführervertrag” all members of the GmbH have the equal weight of decision making. They form the board of the company.

The members are:

- Copur, Mümtaz
- Dehlsen, Jan
- Kern, Phillip
- Lange, Thomas

The board dedicated a CEO that is responsible for representing the company.

CEO: Kern, Phillip

All the other members of board are representatives of the CEO.

2.2 Persons

The Management team consists of 4 members. Actual they are all taking part in the Master of Science program of International Technology Transfer Management at the TFH-Berlin. Originally they come from very different fields so that they are able to complement each other.

Dehlsen, Jan

He always was interested in environmental friendly applies and problem solving. Therefore he started studies in environmental technologies / renewable energies at FHTW Berlin and graduated successfully. During this studies he made a half year practical trainee at a company in India and get contact with Asian culture. By working out the diploma thesis he got first contact with research & development projects at ZAE Bayern in Munich.

Now he takes part at the ITTM program at the TFH to improve his management qualities.

Copur, Mümtaz

He has graduated from Engineering Faculty at the University of Istanbul in 1999. From 1999 to 2002 he worked for HSCB (Hongkong Shanghai Banking Cooperation) as a management trainee in Retail Banking Department. There he dealt with marketing and sales activities. That is why is predestined for the marketing tasks in our company.

Lange, Thomas

Thomas Lange passed the A-Level 1998 in Wolfen(Germany). After a apprenticeship at Siemens AG in the field of Information and Communication in Berlin, he started to study the Bachelor program Communication System at the TFH-Berlin. During this time he worked for the Siemens AG, in Berlin since the year 2002 in the mobile telecommunications sector for two years. Afterwards he changed to the more business orientated area and began the master program.

Phillip Kern

After an apprenticeship at the Siemens AG in Munich, he worked half a year for Shanghai Siemens Mobile Communication in China and got some experiences about international business. Afterwards he returned to Germany and made his Bachelor degree in Communication Systems at the TFH-Berlin together with Thomas Lange. He directly continued to start the Master program. During all the time of studying he never lost the connection to Siemens AG where he gained some experiences about project and work processes and also about some development tools.

2.3 Location

The office of our business will be located in the surroundings of Berlin, because of cheap rent and lower labour costs and also to be close to the main market in Germany.

The box and all additional parts will be produced in different companies in Asia. Here we found the best conditions for producing (because of existing production facilities for PVC parts with sufficient quality standards, good infrastructure and logistics, cheap labour and production costs).The Zeolite granulate will be from the Indonesia because of cheapest offer. All parts will be packaged also in Asia and than transported by Ship to Europe.

We are not dependent to fixed suppliers in case of negative impacts. We are flexible to change suppliers because of short term contracts.

3

Product & Manufacturing

3.1 Product

3.1.1 Idea of Business

A goal of the establishment of an enterprise is the production and the selling of a regenerative operated cooling box for the leisure range and the exchangeable cooling accumulator. The cold box is a normal available commercial cold box. With the help of a regenerative accumulator the necessary cooling capacity can be made available for cooling of beverages and meals in spare time and camping range. This accumulator is connected adaptive with the cold box, since a change of this accumulator is necessary. Characteristic of this product is the accumulator unit. It is extracted functioned based on the principle, that during evaporation by liquids, the liquid loses energy (cooling capacity). In order to evaporate the water used in our system, we use an integrated vacuum pump to create a negative pressure (to lower the boiling temperature). For the case, that the water vapour does not condense again immediately, we use a zeolite filled storage for store the water vapour, because zeolite exhibits the characteristic, to be able a big amount of water molecules comparing to its own size. If the zeolite memory is full, (i.e. it can take up no more water) it must be exchanged and/or again loaded. The loading (drying process of the zeolite) is accomplished by means of solar power. In addition the zeolite cartridge can be unscrewed. For drying the inside zeolite granulate you have the possibility to pour out the zeolite. Now you can dry in your oven. Because of nonpoisonous, you can dry it while baking bread and others. But additional we will offer an additional solar drying device but unsolved technical problems postpone the insertion of this product. The selling of the cartridges is made thereby by construction markets since this way shows up also with the selling of gas cartouches for camping means.

Conventional cold boxes function either by the storage of additional cooling accumulators and hold a cooling Temperature maximally one day, or with a 220 V connection. For these products the resources (electric power, frozen cooling accumulators) are not always available during leisure activities. Here our product offers the solution, because it is not depending directly on any infrastructure. And it is free of any pollution or environmental influences.

A further feature is the self assembling possibility by the customer.

3.1.2 Where the product can be used?

Everywhere where portable cooling of goods is necessary and no power source is available or useful.

Cooling of:

- food and beverage
- medical goods

3.1.3 Target group?

The target group covers the camping range primarily. The typical camper is very open in relation to practical technology and prefers independent supply. Also it is

rather nature group and is particularly open for regenerative solutions, even if it means to have an additional expenditure (vacuum pumps, cartouche changes, self assembling). However there also exists a large potential in the range of weekend trips, since in the summer at least a need for cooled beverages exists in particular here.

3.1.4 What product warranties does the customer expect?

The customer expects a durable product which not harms the environment while using it. The cooling box should be able to cool down at least 15 degrees under surrounding condition. Furthermore he wants the possibility of an always independent use. Therefore he can dry the Zeolite from cartridge by his own. Also the Box should be of low weight. Here we have little disadvantages because of the need of water and zeolite inside the box.

3.1.5 Competitors

As far as we know there is no directly comparable product available, except a low series cooling system for developing countries from Zeo-Tech.

<http://www.eg-solar.de/english/products/solarrefrig.htm>

A similar product that addresses the same market is the Self-cooling Keg of Zeo-Tech. But here its just a cooling keg for beer and no further additional things.

3.1.6 What is the INNOVATION?

The Self-cooling keg is only able to start the cooling process one time. We are able to regulate and to exchange the zeolite for constant use.

The Cooling-System of Zeo-tech is very heavy and expensive because it's produced in low series and not addressing this market.

3.1.7 New Products and Markets by this Innovation!

Maybe in future it will be possible to adopt the principle to air conditioning systems e.g. for cars, maybe in combination with solar component to dry the zeolite.

3.1.8 State of the Project

The engineering part of the zeolite Cooling Box is still done. Production Partners were found.

Negotiation with supermarkets and construction markets just have been started with first positive feedback

3.1.9 Bill of Material

- box
 - cartridge for zeolite
 - connector (a kind of “click- mechanism”)
 - cover mechanism (for storing zeolite)
 - box (2 separate chambers)
 - top-cover
 - handle
- vacuum pump
 - piston with handle
 - cylinder
 - pipe/tube for in/out coming air
- valve (1 for cooling process regulation, 1 for vacuum pump)
- pipes/tube
- sealing gasket (1 for closing the box/cover, 1 between box and cartridge)

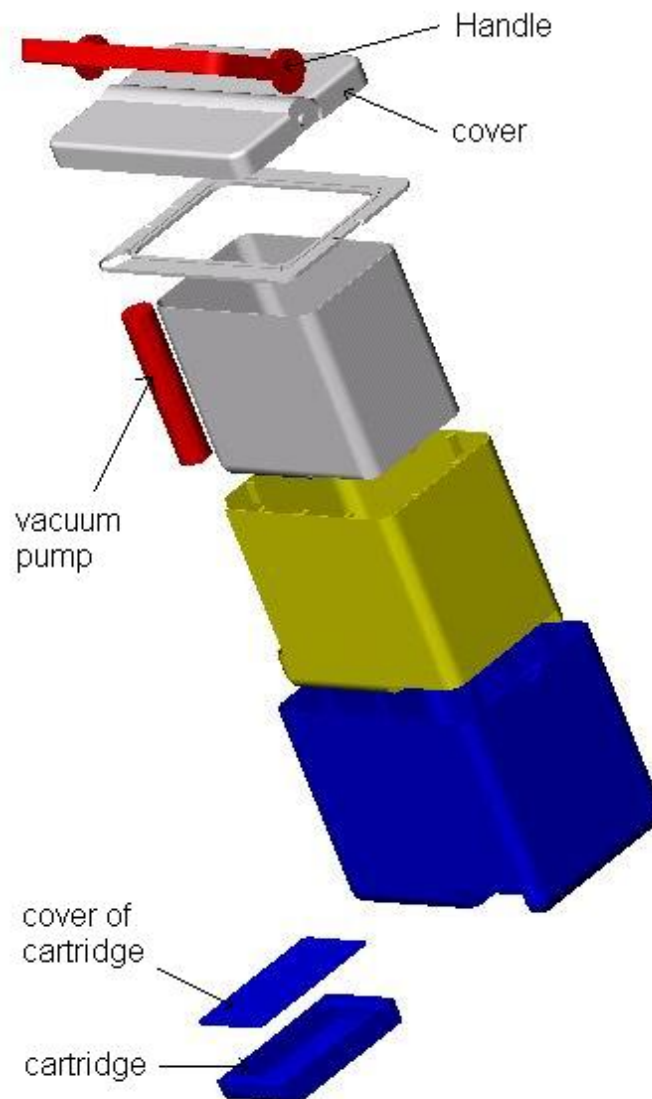


figure 01 **Explosion figure of Cooling Box**

3.2 Further Development of the Product

3.2.1 How is the product protected?

There are some Patents about the technical principle. But they are from 1983 so they should be free for use now. (US patent 4,531,384)

We will file the patents for our application directly after founding the company, when the financing is assured.

3.2.2 What are the disadvantages of the product?

Disadvantages in comparison to similar products are the need, to change the accumulator. But this disadvantage is relative, because our product has the possibility to cool wherever it is needed, in comparison to conventional cooling boxes or electrical powered cooling boxes.

A big disadvantage is the weight of about 3 kilogram because of heavy cooling mechanism of about 2 kg.

To reach long cooling times you have to use the valve very regular.

3.3 Production

3.3.1 Production Steps

We do not produce by ourselves. We just give the orders to our suppliers so that we are flexible if changes occur.

- production of the plastic parts
- production of the pump or buy pump from the market
- buy valves, sealings
- buy zeolite
- packaging of all parts
- transportation

4

Market

Leisure itself is a big Economic factor with sales of more than 250 Mrd. € per year in Germany. But also in all other European countries are quiet good demands in the leisure market.

Our product is not just a niche product. Cooling boxes are an indispensable commodity in nearly every household. For sure not every household will buy our product but at least there is a high potential.

For our main target group the Statistische Bundesamt counted 100000 stays on camping sites in 2003. Also there is a much bigger ratio of potential customers that are not counted because of individual stay possibilities and just weekend trips.

The leisure market is important and because of the growing societal demand for environmentally friendly and sustainable solutions. Our product is able to satisfy this demand. Especially the society in Germany is well informed and sensitive for environmental friendly products because of the forward pushing policy of the government due to regenerative energy use.

4.1 Market Potentials

Due to the investigated facts from the market analysis, we assumed to be able to sell at least 28000 ZCB within the duration of the next 4 years.

Furthermore we expect to sell one additional cartridge for every cooling box sold.

For our drying box (still in development) we assume low series around 1000-1500 a year.

4.2 Competitors

We have not yet discovered competitors with a similar device on market.

5

Marketing

To save advertisement costs, distribution costs and storage cost we made contract with two final sellers – PLUS Discounter markets with over 2700 markets in Germany and HORNBAACH Construction markets. In the beginning just high frequented markets will be provided with our products.

The concept to the sell it to the end customer is the “IKEA-principle”. Our product will be delivered in single parts and assembled by the end customer itself. This is really simple because of the “clic&fixed”-system, the parts can be connected easily. The target group for our product will be attracted by this, because camping-people are practical oriented.

5.1 Product Launch

5.1.1 Goals

We plan to sell in the 1st year about 4000 parts of our products. That means approximately 1 sold box per market.

5.1.2 Marketing Strategy 1

We are going to make agreements with supermarkets/ construction markets to sell our product.

5.1.3 Marketing Strategy 2

Later we plan to offer our product to food or beverage producers (e.g. beer or soft drinks) as promotional product. They can print their logos to the surface of our cooling box.

5.1.4 Marketing Strategy 3

For our zeolite drying box, we plan to print advertisement on the packages of zeolite cooling box. So the customers will get informed about the new product, where to get it and when it will be available. So there is also no additional cost for advertising.

5.2 time schedule

5.2.1 Marketing Strategy 1

This will start directly with the beginning of production.

5.2.2 Marketing Strategy 2

We will start to offer this concept to producing companies after the 1st year was successful.

5.3 Pricing

Produkt / Dienstleistung	ZCB	AZC	ZDB
	Preis/Einheit	Preis/Einheit	Preis/Einheit
Materialkosten	17.10	0.70	12.00
+ Personalkosten	11.95	0.49	8.38
+ Fremdleistungen			
+ Vermarktungs- und Vertriebskosten	3.54	0.37	1.00
+ Abschreibungen			
+ Umlage der FuE-Kosten			
+ weitere Gemeinkosten			
= Selbstkosten	32.59	1.56	21.38
Gewinn in %	175	200	200
+ Gewinn	57.03	3.12	42.76
= Mindestverkaufspreis	89.62	4.68	64.14
Rabatt in %			
+ Rabatt	0.00	0.00	0.00
= Listenpreis (netto)	89.62	4.68	64.14
Skonto in %			
+ Skonto	0.00	0.00	0.00
= Verkaufspreis (netto)	89.62	4.68	64.14
Umsatzsteuer in %	16	16	16
+ Umsatzsteuer	14.34	0.75	10.26
= Verkaufspreis (brutto)	103.96	5.43	74.40

table 01 price calculation

6

Organization

6.1 Personal Structure

In the beginning there will not be a personal hierarchy, because the company only consists of the four founders and maybe one secretary.

They are all in equal positions to make decisions. Every one of them will have a main focus, for what they are responsible.

6.2 Main focuses

Finance	→ Dehlsen, Jan
Marketing	→ Copur, Mümtaz
Patent research, location management	→ Lange, Thomas
Technical development	→ Kern, Phillip

7

Planning

7.1 Financial Planning

The needed starting capital is about 350000€. This includes the founding costs and running costs at least for the first half year. For further calculations we assume credits with an interest of 7.5%. (For detailed information refer to the attachments.) As main information, the profits and losses plan shows a positive balance sheet in 2005. The Break Even Point we will reach in the beginning of the 2nd quarter in 2007. See also table 02. In our calculation we assumed less sells of our products.

	2004	2005	2006	2007	2008
Umsatzerlöse	284.100	458.650	633.200	807.750	982.300
Bestandveränderungen					
andere aktivierte Eigenleistungen					
sonstige betriebliche Erträge					
Materialkosten	53.400	86.100	118.800	151.500	184.200
bezogene Fremdleistungen	11.750	18.125	24.500	30.875	37.250
Personalkosten	238.282	250.196	262.706	275.841	289.633
Löhne/Gehälter	193.725	203.411	213.582	224.261	235.474
Sozialabgaben und Berufsgenossenschaft	44.557	46.785	49.124	51.580	54.159
freiwillige soziale Aufwendungen					
Abschreibungen	7.417	8.417	8.667	4.250	1.750
sonstige betriebliche Aufwendungen	92.700	64.540	66.650	75.350	84.100
Raumkosten	12.000	12.000	12.000	12.000	12.000
Fahrzeugkosten					
Werbekosten					
Reisekosten	28.000	12.000	5.000	5.000	5.000
Kommunikationskosten	3.500	3.000	3.000	3.000	3.000
Versicherungen/Beiträge/Gebühren	14.200	22.540	31.650	40.350	49.100
Beratungskosten	10.000	10.000	10.000	10.000	10.000
Leasing					
Lizenzgebühren					
Patente/Schutzrechte	5.000				
sonstige Aufwendungen	20.000	5.000	5.000	5.000	5.000
Zinsaufwendungen	26.250	22.500	15.000	7.500	
Ergebnis der gewöhnlichen Geschäftstätigkeit	-145.698	8.772	136.878	262.434	385.367
außerordentliche Erträge					
außerordentliche Aufwendungen					
Ergebnis vor Steuern	-145.698	8.772	136.878	262.434	385.367
Steuern vom Einkommen und Ertrag		0	68.980	129.592	192.638
sonstige Steuern					
Jahresüberschuss/Jahresfehlbetrag	-145.698	8.772	67.898	132.842	192.729
Kumuliert	-145.698	-136.926	-69.028	63.814	256.543

table 02 profit & loss calculation

	2004	2005	2006	2007	2008
Umsatzerlöse	284.100	458.650	633.200	807.750	982.300
Personalkosten	238.282	250.196	262.706	275.841	289.633
Jahresüberschuss/Jahresfehlbetrag	-145.698	8.772	67.898	132.842	192.729
verfügbarer Cashflow	135.718	48.907	24.472	60.564	254.043

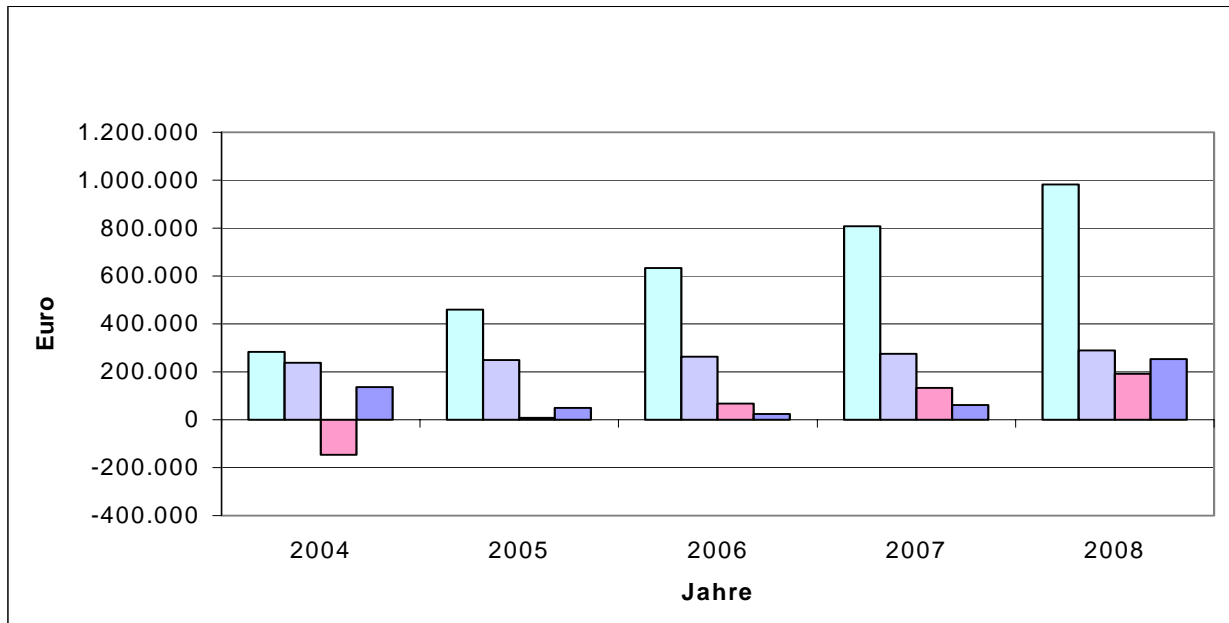


figure 02 financial overview

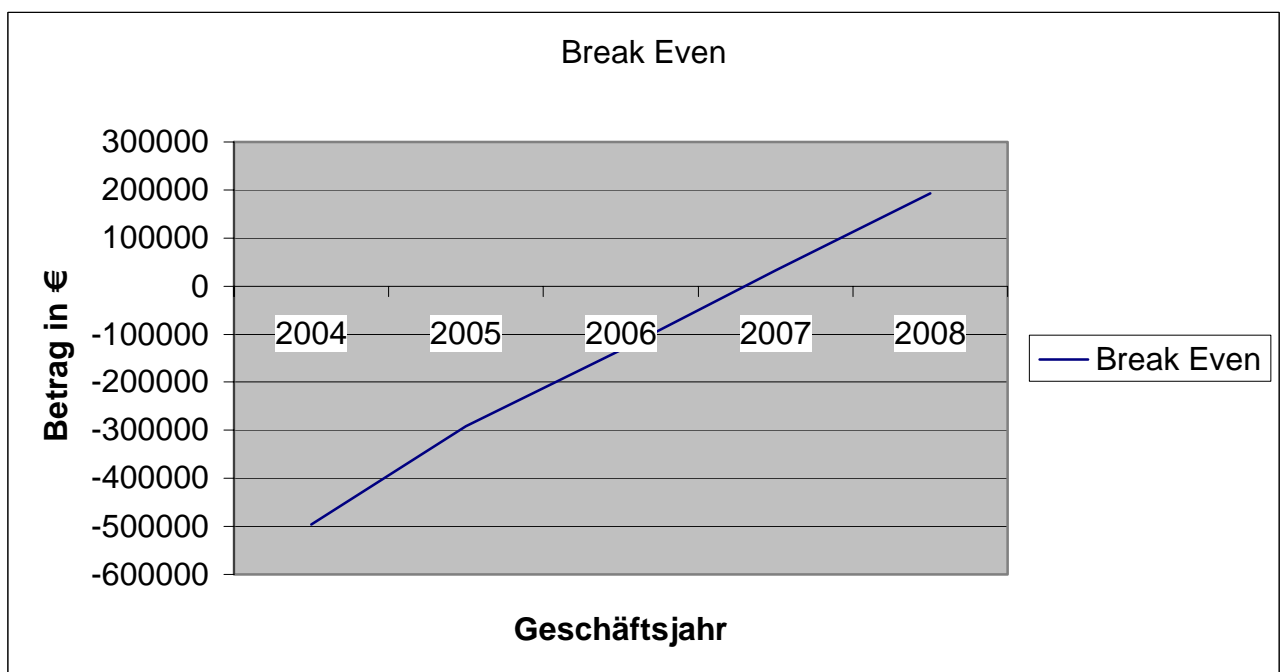


figure 03 break even analysis

The liquidity of the company is always given.

Monat	Januar	Februar	März	April	Mai	Juni	Juli	August	September	Oktober
Einzahlungen										
Umsatzerlöse				23.675	47.350	47.350	71.025	47.350	18.940	9.470
Anzahlungen										
Kredite	350.000									
Beteiligungen										
staatliche Zuschüsse										
Sonstige Einzahlungen										
Summe Einzahlungen	350.000	0	0	23.675	47.350	47.350	71.025	47.350	18.940	9.470
Auszahlungen										
Materialkosten	53.400									
Fremdleistungen	11.750									
Personalkosten	19.865	19.865	19.865	19.865	19.865	19.865	19.865	19.865	19.865	19.865
Raumkosten	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Fahrzeugkosten										
Werbekosten	1.000									
Reisekosten	12.000	4.000	2.000	2.000	1.000	1.000	1.000	1.000	1.000	1.000
Kommunikationskosten	750	500	500	500	500	500	500	500	500	500
Versicherung/Beiträge/Gebühren	14.200									
Beratungskosten			1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Leasing										
Lizenzgebühren										
Patente/Schutzrechte	5.000									
Tilgungen										
Zinsen										
Investitionen	26.000									
Steuern										
Sonstige Auszahlungen										
Summe Auszahlungen	144.965	25.365	24.365	24.365	23.365	23.365	23.365	23.365	23.365	23.365
Über-/Unterdeckung	205.035	-25.365	-24.365	-690	23.985	23.985	47.660	23.985	-4.425	-13.895
Saldo Vormonat		205.035	179.670	155.305	154.615	178.600	202.585	250.245	274.230	269.805
Effektive Liquidität	205.035	179.670	155.305	154.615	178.600	202.585	250.245	274.230	269.805	255.910

table 03 liquidity calculation

	2004	2005	2006	2007	2008
Kassenbestand		135.718	48.907	24.472	60.564
Ergebnis vor Steuern	-145.698	8.772	136.878	262.434	385.367
Abschreibungen	7.417	8.417	8.667	4.250	1.750
Erhöhung Rückstellungen					
Auflösung Rückstellungen					
Cashflow 1	-138.282	152.907	194.452	291.156	447.681
Steuern	0	0	68.980	129.592	192.638
Cashflow 2	-138.282	152.907	125.472	161.564	255.043
Aufnahme von Krediten	350.000				
Beteiligung					
Tilgung	50.000	100.000	100.000	100.000	
Cashflow 3	161.718	52.907	25.472	61.564	255.043
Investitionen	26.000	4.000	1.000	1.000	1.000
Cashflow 4	135.718	48.907	24.472	60.564	254.043
Einzahlungen von Gesellschaftern					
Auszahlungen an Gesellschafter					
verfügbarer Cashflow	135.718	48.907	24.472	60.564	254.043

table 04 cashflow calculation

7.2 Plan for Further Actions

To go on further with the establishment of the company some more actions have to be done.

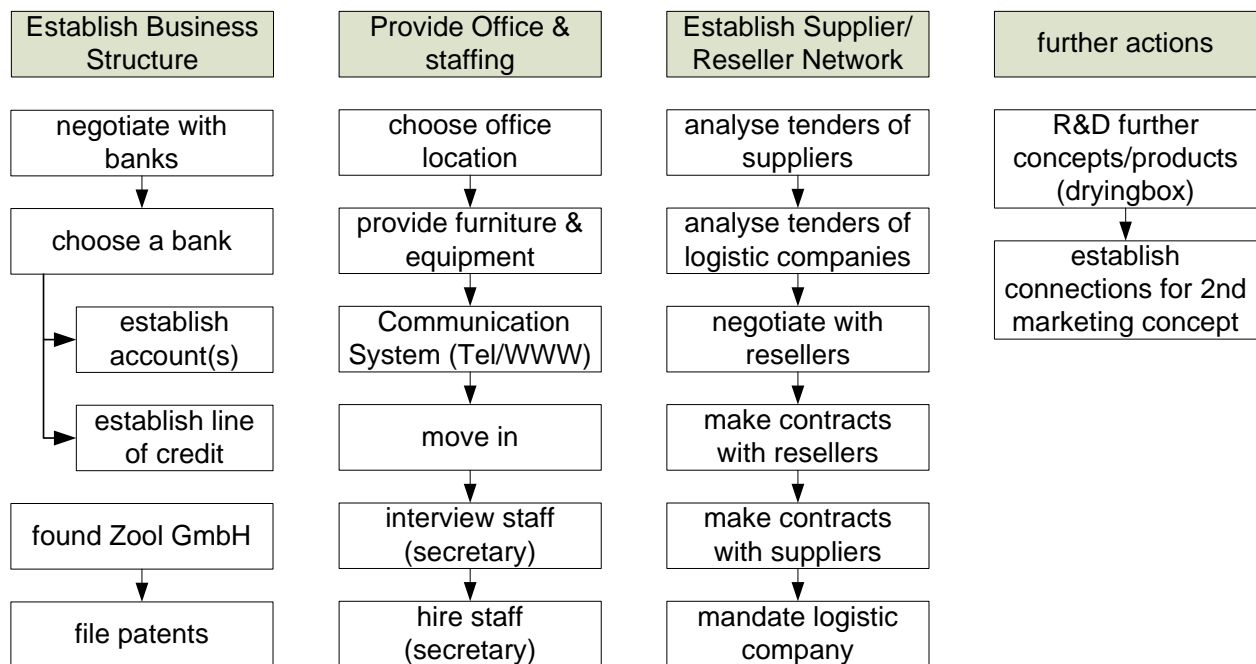


figure 04 Further Actions

They are divided into 4 groups but these groups do interfere and should not be regarded individually.

7.2.1 Establish Business Structure

This contains important next steps that are necessary to proceed with the company. At the end should stand the new founded company, what is ready for action. This is the condition for one of the most important actions: To file the patents for our application.

7.2.2 Provide Office & staffing

The work environment for the company will be established.

7.2.3 Establish Supplier/Reseller Network

The results of negotiations with Suppliers and Resellers are the basis of our business. So the highest attention has to be spent to these actions.

7.2.4 Further Actions

These actions are planned to take place, when the main business is running well.

8

Risk Analysis

8.1 Supplier / Reseller Contracts

Because the contracts with suppliers and resellers are most important for our business, they are also our main risk. Until now we have only not binding statements from resellers and offers from suppliers. With starting the business we first have to fix these statements and offers to binding contracts.

To keep the financial risk low we have to consider it while doing the credit negotiations with the bank(s). First we only need a small credit to found the company to be able to make contracts. After successful signing of contract we need some more money to pay the suppliers. To get the higher credits we have the arguments of the signed reseller contracts.

8.2 Location

Choosing the right location is one of the most important factors for success for producing companies. Because we are not a direct producing company the risk of choosing the wrong location is really low. We only have to decide for an office location. All other location decisions (storage and suppliers location) are really flexible, so we can react very fast if some frame conditions change.

8.3 Competitors

Until now we were not able to find direct competitors, but we have to observe the market further to be able to react fast if new competitors come up or unrecognized will be found.

8.4 Liquidity Problems

Liquidity problems can become really serious for the new company, because we depend on deliveries of our suppliers and on the payments of our resellers. So if one of this fails we can run into problematic bottlenecks.

Therefore we have to choose our suppliers carefully. Also we always should be able to fallback to an alternative supplier in an adequate time. For this Ability we have to observe potential suppliers constantly what has the positive side-effect to switch the supplier also if we find a cheaper but still reliable one.

8.5 Financial Planning

Against mistakes in financial planning we are not resistant, but before any action will take place the financial plan will be checked by independent experts. Especially for tax aspects experts should be consulted

8.6 Market Development

We did an intensive research on the potential market and found out that the risk not to sell the focused amount of products is very low. But if the market develops in other directions, we can react fast, because we do not own much of inflexible facilities and we can change or cancel contracts to suppliers really fast, because we will try to make them for short terms. So we are able to minimize losses in case of unexpected market development.

Attachments

Personalplanung (Euro)

Funktion	Einstellung Mon.	Jahr	Gehalt/Monat	Anzahl Gehälter/Jahr	2004	2005	2006	2007	2008
Sales / Finance	12	2003	3.000	13.5	42.525	44.651	46.884	49.228	51.689
Productengineering	12	2003	3.000	13.5	42.525	44.651	46.884	49.228	51.689
Distribution/ Marketing	12	2003	3.000	13.5	42.525	44.651	46.884	49.228	51.689
Logistic	12	2003	3.000	13.5	42.525	44.651	46.884	49.228	51.689
Secretary	1	2004	1.750	13.5	23.625	24.806	26.047	27.349	28.716
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
					0	0	0	0	0
Summe					193.725	203.411	213.582	224.261	235.474
zuzügl. Personalnebenkosten			23 %		44.557	46.785	49.124	51.580	54.159
Gesamtpersonalkosten					238.282	250.196	262.706	275.841	289.633
Anzahl Mitarbeiter					5	5	5	5	5

durchschnittl. Gehaltssteigerungen/Jahr 5 %

table 05 personal planning

Materialstückkosten (Euro)

Produkt/Dienstleistung	Zeolith Cooling Box		AddZeolithCartridge			Zeolith Drying Box		
Menge	Art/Bezeichnung	Preis	Menge	Art/Bezeichnung	Preis	Menge	Art/Bezeichnung	Preis
	Vakuumpumpe	10.00		AZC	0.50		Metalbox	2.00
	box	4.50		Zeolite 2kg	0.10		black coating	5.00
	Zeolith cartridge	0.50					top concentrating mirror / lens	4.00
	valve	0.50						
	pipes & tubes	0.50						
	Zeolite 2kg	0.10						
	packaging	1.00		packaging	0.10		packaging	1.00
Material Einzelkosten pro Stück		17.10	Material Einzelkosten pro Stück		0.70	Material Einzelkosten pro Stück		12.00
	Materialgemeinkosten in %	0		Materialgemeinkosten in %			Materialgemeinkosten in %	
Materialgemeinkosten pro Stück		0.00	Materialgemeinkosten pro Stück		0.00	Materialgemeinkosten pro Stück		0.00
Materialstückkosten		17.10	Materialstückkosten		0.70	Materialstückkosten		12.00

table 06 material cost calculation

Preiskalkulation (Euro)

Produkt / Dienstleistung	ZCB	AZC	ZDB
	Preis/Einheit	Preis/Einheit	Preis/Einheit
Materialkosten	17.10	0.70	12.00
+ Personalkosten	11.95	0.49	8.38
+ Fremdleistungen			
+ Vermarktungs- und Vertriebskosten	3.54	0.37	1.00
+ Abschreibungen			
+ Umlage der FuE-Kosten			
+ weitere Gemeinkosten			
= Selbstkosten	32.59	1.56	21.38
Gewinn in %	175	200	200
+ Gewinn	57.03	3.12	42.76
= Mindestverkaufspreis	89.62	4.68	64.14
Rabatt in %			
+ Rabatt	0.00	0.00	0.00
= Listenpreis (netto)	89.62	4.68	64.14
Skonto in %			
+ Skonto	0.00	0.00	0.00
= Verkaufspreis (netto)	89.62	4.68	64.14
Umsatzsteuer in %	16	16	16
+ Umsatzsteuer	14.34	0.75	10.26
= Verkaufspreis (brutto)	103.96	5.43	74.40

table 07 pricing

Umsatzplanung (Euro)

Produkte / Dienstleistungen	2004				2005				2006			
	Absatzmenge	Einheit	Preis	Umsatz	Absatzmenge	Einheit	Preis	Umsatz	Absatzmenge	Einheit	Preis	Umsatz
Zeolith Cooling Box	3.000.0	Stück	90.00	270.000	4.500.0	Stück	90.00	405.000	6.000.0	Stück	90.00	540.000
AZC	3.000.0	Stück	4.70	14.100	4.500.0	Stück	4.70	21.150	6.000.0	Stück	4.70	28.200
Zeolith Drying Box		Stück		0	500.0	Stück	65.00	32.500	1.000	Stück	65.00	65.000
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
				0				0				0
Summe Umsatz				284.100				458.650				633.200

Produkte / Dienstleistungen	2007				2008			
	Absatzmenge	Einheit	Preis	Umsatz	Absatzmenge	Einheit	Preis	Umsatz
Zeolith Cooling Box	7.500	Stück	90.00	675.000	9.000	Stück	90.00	810.000
AZC	7.500	Stück	4.70	35.250	9.000	Stück	4.70	42.300
Zeolith Drying Box	1.500	Stück	65.00	97.500	2.000	Stück	65.00	130.000
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
				0				0
Summe Umsatz				807.750				982.300

table 08 revenue planning

Investitionsplanung (Euro)

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
<i>Grundstücke und Gebäude</i>					
Grundstücke	0				
Gebäude	0				
Neu- und Umbauten	0				
Installationen	1.000				
Renovierungen	1.000				
Summe Grundstücke und Gebäude	2.000	0	0	0	0
<i>Verwaltung</i>					
Büromöbel	5.000				
Fahrzeuge					
Telefonanlagen und Fax	1.000				
EDV (Hard- und Software)	13.000				
Sonstige Investitionen Verwaltung	1.000	1.000	1.000	1.000	1.000
Summe Verwaltung	20.000	1.000	1.000	1.000	1.000
<i>FuE</i>					
Labortechnik	1.000				
EDV-Geräte					
Sonstige Investitionen FuE	2.000	2.000			
Summe FuE	3.000	2.000	0	0	0
<i>Fertigung</i>					
Maschinen					
Werkzeuge	1.000	1.000			
Sonstige Investitionen Fertigung					
Summe Fertigung	1.000	1.000	0	0	0
Gesamtsumme Investitionen	26.000	4.000	1.000	1.000	1.000

table 09 investment planning

Abschreibungsplan (Euro)

	Nutzungsdauer in Jahren	2004	2005	2006	2007	2008
Grundstücke und Gebäude						
Gebäude		0	0	0	0	0
Neu- und Umbauten		0	0	0	0	0
Installationen		0	0	0	0	0
Renovierungen	3	333	333	333	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
Summe Grundstücke und Gebäude		333	333	333	0	0
Verwaltung						
Büromöbel	4	1.250	1.250	1.250	1.250	0
Fahrzeuge		0	0	0	0	0
Telefonanlagen	4	250	250	250	250	0
EDV (Hard- und Software)	3	4.333	4.333	4.333	0	0
Sonstige Investitionen Verwaltung	4	250	500	750	1.000	1.000
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
Summe Verwaltung		6.083	6.333	6.583	2.500	1.000
FuE						
Labortechnik	4	250	250	250	250	0
EDV-Geräte		0	0	0	0	0
Sonstige Investitionen FuE	4	500	1.000	1.000	1.000	500
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
Summe FuE		750	1.250	1.250	1.250	500
Fertigung						
Maschinen		0	0	0	0	0
Werkzeuge	4	250	500	500	500	250
Sonstige Investitionen Fertigung		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
		0	0	0	0	0
Summe Fertigung		250	500	500	500	250
Gesamtsumme Abschreibungen		7.417	8.417	8.667	4.250	1.750

table 10 amortisations

9.1 Explanation of Financial Planning

Single material costs

By an order volume of 30000 boxes split over 5 Years we can achieve a production price of about 17,1 € per unit. Here our new invented Click & Fix mechanism requires high developed production processes. Therefore the plastic parts are a little more expensive than usually. Because of a required high vacuum leak proof, vacuum pump are the most expensive part of the zeolite cooling box. Also for the same volume of additional zeolite cartridges we achieve a production price of 0.7 per unit. For our in the developing phase being zeolite drying box we assume low production 5000 within 4 years.

The material costs including the profits from the manufacturers of the parts

Price calculation

Personal costs per unit: labour cost over 4 years divided by planned produced parts

$$\frac{1347558}{65000} = 20,82\text{€}$$

$$\frac{20,82\text{€}}{(17,1 + 0,7 + 12)} = 0,6988 \bullet (17,1 \text{ oder } 0,7 \text{ oder } 12)$$

= product weights labour costs per unit

External costs: all external cost are included in the material costs

Marketing & Distribution: here we have just transportation cost from production place to provider

-120 t Zeolite to packaging place = 5 Container a 2500€
from

Indonesia to China =

12500€ (26 t loading capacity)

-product shipping: 30000 ZCB packages → one package
(w,l,h → 30x40x35)=0,042m³

1 Container (2,33x11,98x2,28) = 63,6 m³

-1500 packages pro container → 20 container a 5000 €
from China to Germany = **100000€**

30000 AZC packages → 1 Container is needed = **5000€**

5000 ZDB packages (30x40x10) → 1 Container = **5000 €**

→ transportation cost per unit

Financing

We assume a credit with a volume of about 350000 € and following conditions: 7.5 %

Insurance

Rechtsschutz, Transportversicherung, Produktionsausfallversicherung,
Betriebshaftpflicht

We assume 5% of turn over volume

Break Even Analysis

Based to our financial plan we reaching the break even point in the in the beginning of the 2nd quarter in 2007.

10

Figures & Tables

10.1 Figures

FIGURE 01	EXPLOSION FIGURE OF COOLING BOX	10
FIGURE 02	FINANCIAL OVERVIEW	17
FIGURE 03	BREAK EVEN ANALYSIS	17
FIGURE 04	FURTHER ACTIONS	19

10.2 Tables

TABLE 01	PRICE CALCULATION.....	14
TABLE 02	PROFIT & LOSS CALCULATION	16
TABLE 03	LIQUIDITY CALCULATION	18
TABLE 04	CASHFLOW CALCULATION	18
TABLE 05	PERSONAL PLANNING.....	22
TABLE 06	MATERIAL COST CALCULATION	22
TABLE 07	PRICING	23
TABLE 08	REVENUE PLANNING	23
TABLE 09	INVESTMENT PLANNING.....	24
TABLE 10	AMORTISATIONS	25