

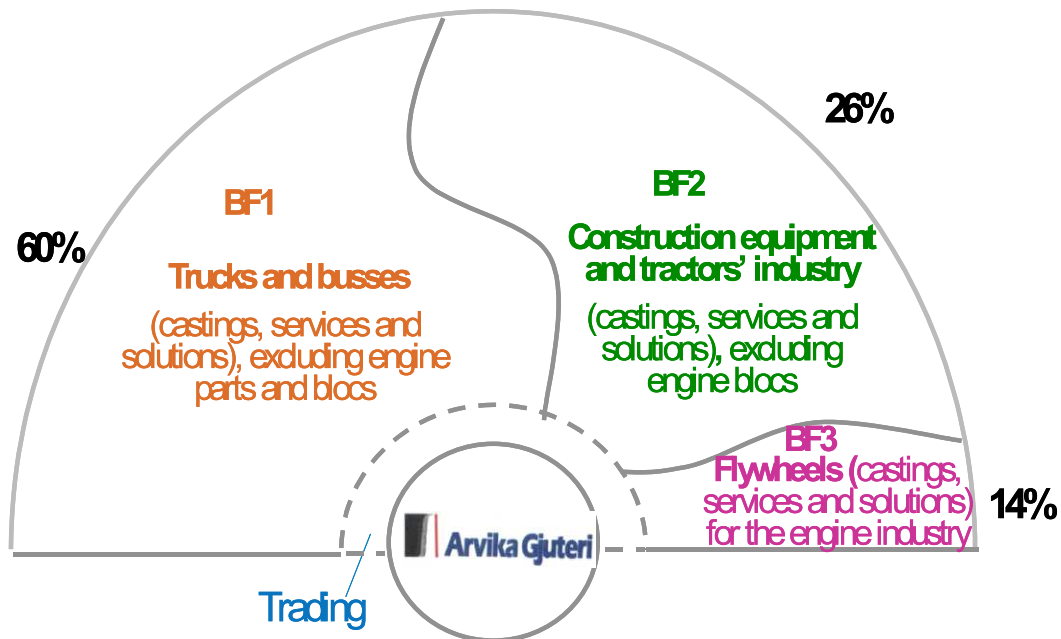
Article 1

Un plan de développement

Defining and analyzing of business fields will define the right strategy for Arvika Gjuteri.

There are three business fields.

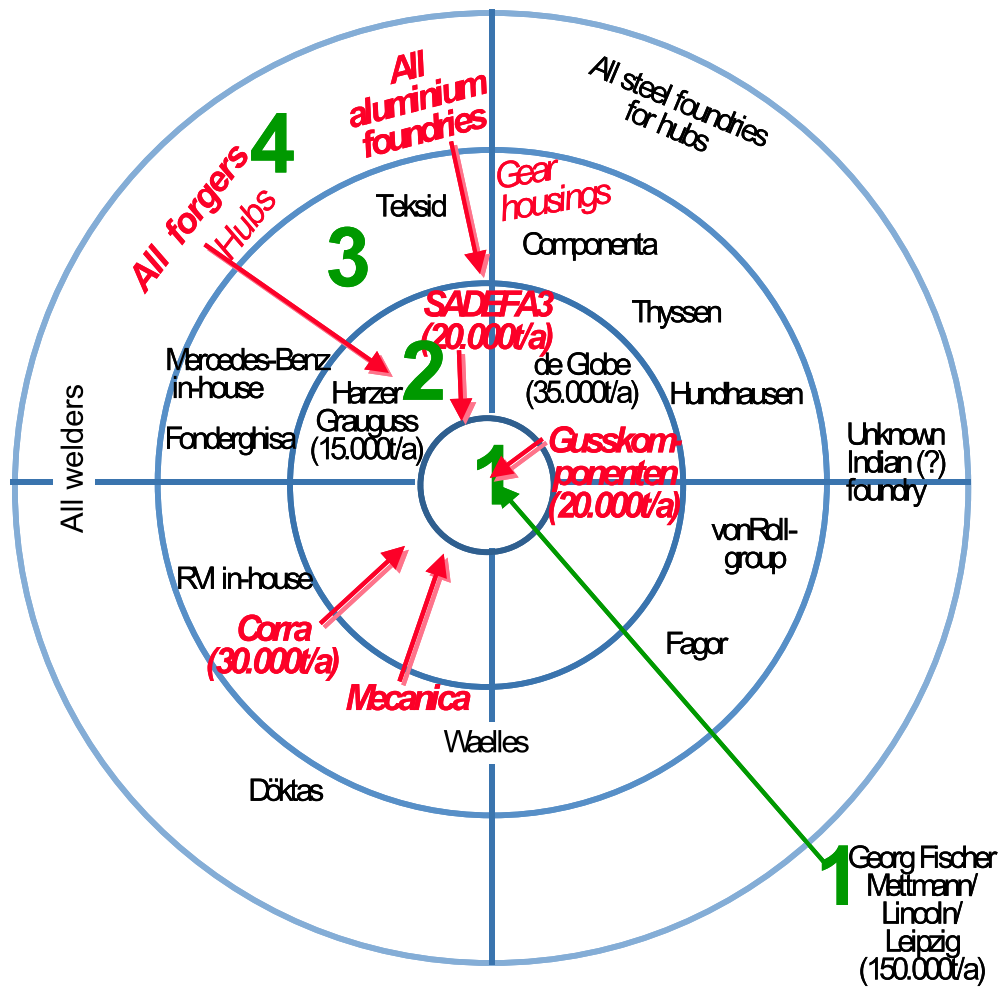
The geography of the business field could be represented as follows



Business field: BF -1 Trucks and busses

1.1 Competitors (possible capacities)

- ◆ Prospect on current buyers
- ◆ *Potential competitors within a period of 3 years*



1.2 Purchasers:

Actual: Volvo Trucks (S)
Scania (S)
Meritor HVS (GB/S)

Potential:

MAN (D)	Mercedes Benz (D)	Iveco (I)
RVI (I)	Freightliner (USA)	GM (USA)
Ford (USA)	NAF (D)	Rockwell F)
Rockinger (D)	VBG (S)	Alcoa
Clark (USA,B)	Eaton (GB)	ZF (D)
Grove (USA)	PPM (F)	Demay (D)
Krupp (D)	Liebherr (D)	DAF (NL)
Sisu (FIN)	Mack (USA)	Hino (JP)
Tatra (CZ)	Steyr (A)	Sauer SAF(I)

All manufacturers of truck and trailer axles and couplings

1.3 Products and services:

Products:

- * Hubs
- * Hub retainers
- * Transmission housings
- * Carrier housings
- * Differential housings
- * Brackets
- * Couplings
- ▶▶▶ *Actually no engine parts*

Services:

- ◆ Product development with
 - CAD-design
 - Simulation and solidification
 - ◆ Machining
 - ◆ Cost optimization
 - ◆ Surface treatment
- Potential: Trading*

1.4 Channels of distribution:

- * Direct
- * GB: Direct with the help of an agent

1.5 Regions

Actual:

- * Sweden
- * GB
- * Worldwide supplying of actual customers

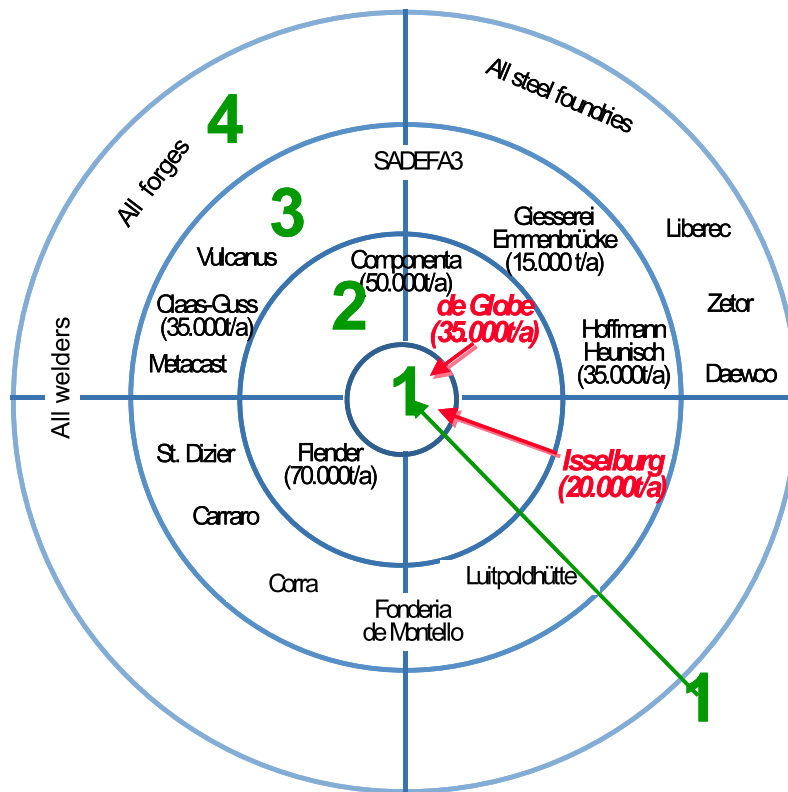
Potential:

- * Europe
- * USA/Can

Business field: BF -2 Construction equipment and tractor industry

2.1 Competitors (possible capacities)

- * Prospect on current buyers
- * *Potential competitors within a period of 3 years*



2.2 Purchasers:

Actual:

- * Volvo CE (S)
- * JCB (GB)
- * Dana Corp. (GB)
- * Valtra/Valmet (FIN)
- * Sisu (FIN)

Potential:

- ◆ CNH (I, D, F)
- ◆ Caterpillar (USA)
- ◆ Komatsu (JP)
- ◆ Hitachi (JP)
- ◆ Liebherr (D)
- ◆ Partek (FIN)
- ◆ All tractor manufactures

2.3 Products and services:

Products:

- * Transmission housings
- * Carrier housings
- * Differential housings

Services:

- ◆ Product development with
 - CAD-design
 - Simulation and solidification
- ◆ Machining
- ◆ Cost optimization
- ◆ Surface treatment
- ◆ *Potential:* Trading

2.4 Channels of distribution:

- ◆ Direct

- ◆ GB: Direct with the help of an agent

2.5 Regions:

Actual:

- ◆ Scandinavia
- ◆ Great Britain

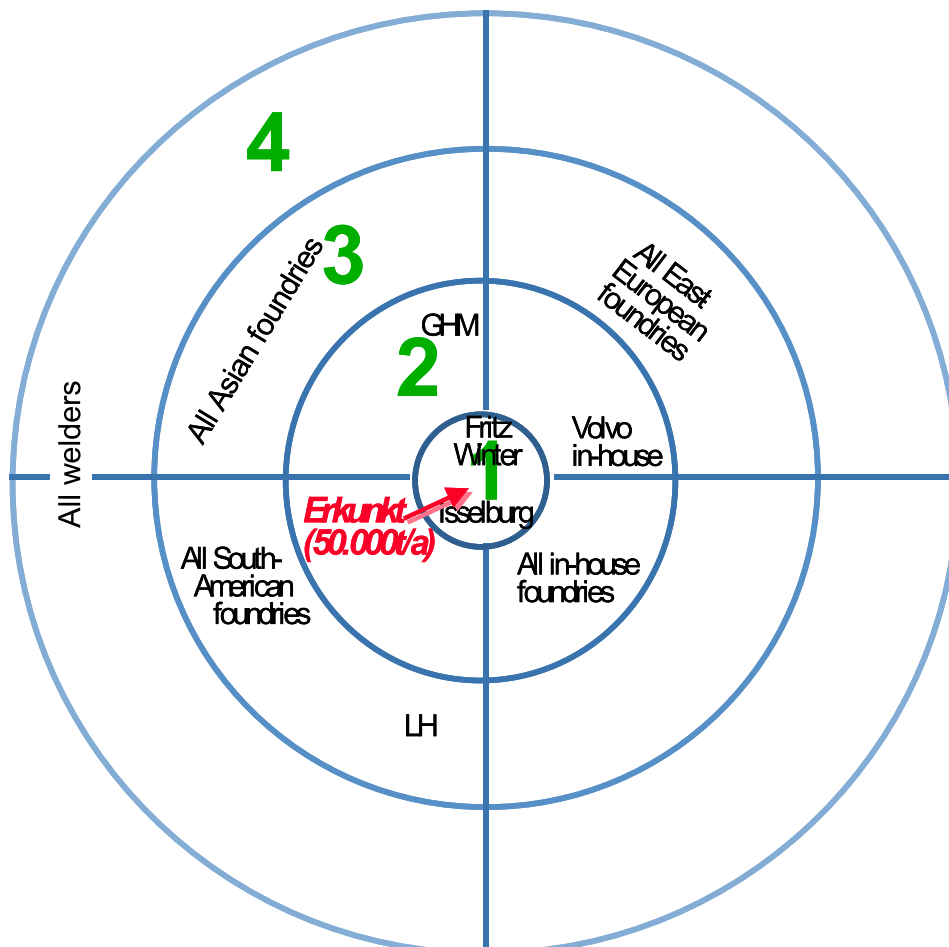
Potential:

- ◆ Europe
- ◆ USA/Can

Business field: BF -3 Flywheels

3.1 Competitors (possible capacities)

- ◆ Prospect on current buyers
- ◆ *Potential competitors within a period of 3 years*



3.2 Purchasers:

Actual:

- ◆ Scania (S)
- ◆ Volvo CE (S)
- ◆ Volvo Truck (S)

Potential:

- | | |
|----------------------------|--------------------|
| ◆ MAN (D) | Mercedes Benz (D) |
| ◆ RVI (F) | DAF (NL) |
| ◆ Sisu (FIN) | Guascor (S) |
| ◆ Bazan (S) | Ruston Diesel (GB) |
| ◆ Liebherr (D) | VM (I) |
| ◆ GE (USA) | GM (USA) |
| ◆ Moteur Baudoin (F) | Deutz (D) |
| ◆ MTU (D) | Wärtsilä (FIN) |
| ◆ Man B&W (D) | Cummins (GB) |
| ◆ John Deere (USA) | Hedemora (S) |
| ◆ Detroit Diesel DDC (USA) | Waochesha (USA) |
| ◆ Perkins (GB) | Caterpillar (USA) |
| ◆ Paxman (GB) | |

3.3 Products and services

Products:

- ◆ Flywheels, even ready for assembling

Services:

- ◆ Product development
- ◆ Cost optimization
- ◆ Spare part ´warehousing

3.4 Channels of distribution

- ◆ Direct

3.5 Regions:

Actual:

- ◆ Sweden

Potential:

- ◆ Europe
- ◆ USA/Can

This analysis leads us to the conclusions, which are summarized in the following chart.

STRATEGY

3 business fields

Busses and trucks. 60% du CA.

- Transmissions housings (4300t) : retreat from market (short medium term)and/or trading if it possible
- Carrier housings (3000t): Take it if profitable
- Ready to assemble brackets (900t): To be developed with parts specialized on Arvika box
- Couplings et saddles (40t) : Further studies
- Differential housings (1100t) : retreat (short term)
- Hubs (6700t) : growth on selected customers. Make it profitable

Role on the market:

- ❖ To become the leader in hubs
- ❖ To stay a specialist with brackets and carrier housings

Construction equipment and tractor industry . 26% du CA

- Carriage and king post (2500t): Growth with more attractive specialties (specialized on Arvika boxes).
- Hubs & Hubs retainers (900 + 500 t): Growth in this niche
- Axle casing and PTO covers (1000t): Growth
- Oil pan (250t): Retreat. Trading
- Axle bridges (250t): Growth with more attractive parts (specialized on Arvika boxes)

Role on the market:

- ❖ The specialist of ductile iron

Engine components. 14% du CA

- Flywheels ready to assemble (1800t): Take it if profitable, or trading to make it profitable if customer allows
- Flywheels blanks (1800t): Trading

Role on the market:

- ❖ Acknowledged as a solution provider

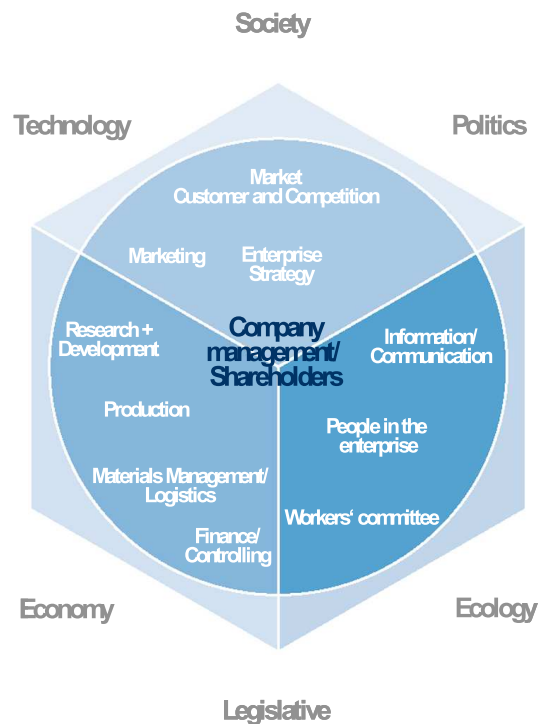
Development Plan

Strategic enterprise development

Integrated change management



Successful restructuring processes are integrated change management processes, which are developed and realized in all 3 dimensions with the people of the enterprise.



Development Plan.

1-1 Analysis of the current situation in Arvika Gjuteri AB

The current situation could be summarized as follows:

Weaknesses due to environment:

- Local culture.
- A production and technical oriented organization
- A never lasting pressure on the price from main customers.
- The cost supply for raw material.
- The plant is considered saturated by the current customers

Internal weaknesses:

- No clear strategic vision.
- Poor rating from our main customer Volvo (B52).
- Lack of global vision from the production management because of the lack of communication between departments.
- Weak management in some areas.
- Lack of flexibility and mobility in the different workshops.
- High level of scraps (10,5%).
- Cost structure non-under controls.
- Poor contribution to the margin and recurrent losses.
- Lack of cash.
- In its current situation the tool is nearly saturated.

**No future without a deep
Reorganization of the company**

Internal difficulties:

- Many action plans, but no results because a lack of persistence.
- Lack of dynamism of the management, in spite of the huge potential of improvement.
- Lack of efficiency of the former structure of management.
- No change in the way of solving the problems, which become bigger because of the high level of the orders.

CONCLUSION:

Action required:

- **Reorganizing Arvika Gjuteri AB according following criteria:**

Cost and profitability under control - Professionalism - Global Efficiency - Quality.

- **Developing the synergies with the forge.**

1-2 Main problems to be focused on.

- Definition of a Strategy.
- Change the former organization into a process organization.
- Cost control.
- Profitability, efficiency and flexibility.
- Change mentality and habits.

Strategy:

We dealt with the corporate strategy in another chapter, but this strategy should be communicated inside the company. Each member of the company should understand and share the strategy. That involves:

- The strategy should be clear:
- The strategy should be supported by the strengths of the whole process ; Marketing-Commercial-Design-Prototypes-Industrialization et les capacities of the production tool.
- Profitability focused and safeguarding of the future.
- Reorganizing the enterprise according to the above-mentioned values.
- Synergy with the other companies of the group.
- Former organization should be changed.
- Everyone should have a global perception of the logistic and the flows.
- Enterprise should be reorganized according to a process organization.
- Task forces will be created to solve the main problems of the enterprise. Organization should be defined as solution bringer instead of having functions.
- Improving the communication inside and outside the enterprise.
- Having a biannual action plan of everlasting improvement
- Reorganizing the process of development of the product according to the whole process starting from the definition of the product to its industrialization. One of the reasons why the current level of scraps is high is due to the lack of procedure guide during the industrialization process.
- Short cutting the decision-making process, by integrating all the players in the enterprise
- By motivating the employees through an adequate package of remuneration.

Creation of Task forces:

In order to implement quickly the re organizational process, we create 6 task forces, whose mission will be:

- Improvement of the process of product development, from the design department to the industrialization. This group will work on decreasing the scraps.
- Global improvement of the logistic. That includes increasing the moulding line cadence.
- Reorganization of purchase and supply department. The goal is to reduce the supply costs by 10%.

- Organization of a costs reduction task force, including everyone who may be involved in the production process.
- Integration of the maintenance process in the production process.
- Get the QS 9000 certification required by our customers. That includes any other certification, which could be required in the future (ISO 9000-2000, more process oriented).

Every month a general meeting will take place in order to report to the employees the improvements, which have been achieved and the future action plans and goals.

Costs control

That involves

- Global re-negotiations with the products and services suppliers. The goal is to get 10% less than the budgeted costs
- Reduction of the scraps level by 50%
- Increasing the productivity of the molding ligne by 15%.
- Operating the synergy between the foundry and the forge.
- Internal and external logistic of the enterprise under control.
- The whole process -order - prototypes - tooling- samples – series, under control.
- Flexibility of the employees and an incentive compensation policy.

Efficiency et flexibility

Increasing the efficiency of the company involves:

- A clear definition of the task and mission of every one.
- Organization of a permanent action plan to improve the company's efficiency (PAP) .
- Organization of the work in task forces, with a possibility to make decision within the frame of a delegation
- Creation of supervisors and team leaders in the work shops
- Organizing a wages policy with a variable part linked to criteria such as quality, flexibility, efficiency.
- Creation of a training plan for the employees and the workers

Implementation of the changes.

The high level of the orders should not hide the deep need of restructuring the enterprise. The implementation of this change will be safeguarding the future of the company. That involves:

- A reduction plan of the employment.
- Communication to the social partners of the action plan and the expected results. During this communication phases, it should be explained to the partners, that this reduction phase is required in order to make the company profitable. They have to understand that a profitable enterprise gives a chance to share the profit with all the players.
- Recruiting new « expertises ».
- Organization of tasks forces to solve any emerging problem.
- Promotion of the key values of the new concept of the enterprise.
- Promotion of the new strategy

The support of the new organisation

4-1 The scenario of restructuring plan

From objectives of management and strengths and weakness of company and imperative of restructuring, we have developed the following objectives that we must reach during this year.

To have a break even around of 20 000 tons.

This objective entails a very strong action on the organisation and costs and the motivation of working groups.

To obtain quickly a new quotation A95 and more by main car constructors.

To reduce or purchasing cost to 10%.

We must negotiate again with all our suppliers with an explanation about why we demand this effort and we must find new suppliers coordinating our efforts with the group.

This strategic plan of reduction will be ready in the middle of March.

To reduce our internal scraps of 50% for first year.

We must rebuilt the transfer of new product from the design to production and we must identify problems upstream the more possible

To increase the capacity of enterprise of 15% without investment and over peoples

We must set up and master the upstream and downstream flows of moulding line.

To reach a target of > 95% for the precision delivery.

We must master all the flows of the process of production and we must change have the manner of think from workshop by workshop to global flow of enterprise.

To increase by 50% our delivery quality performance each year from at the present to 2003.

We must focus our effort on the Hubs and Gearboxes for VOLVO.

To increase by 50% the possibilities for the workers to be multi-purpose.

We must set up a training plan and we must elaborate a new policy of wages.

To integrate in the plant, the Kaisen's methods

We must set up auto-control, maintenance of first level, Kanban and so on.

To position enterprise in the group

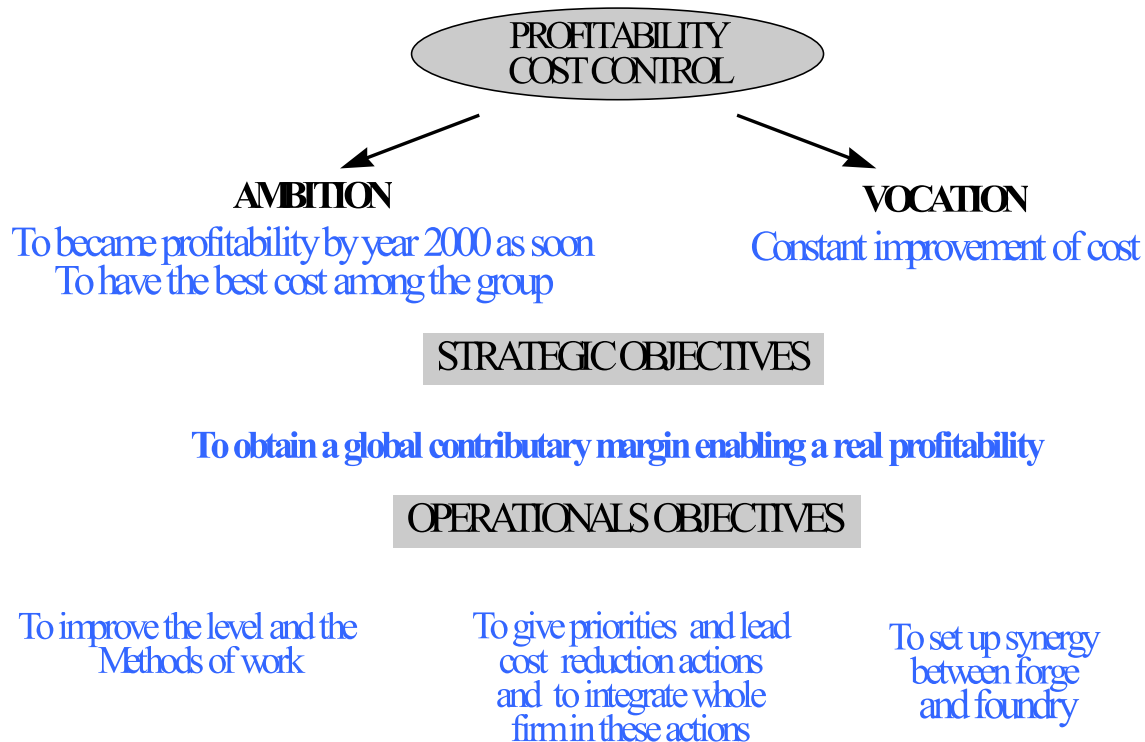
We must set up a commune information process and examine the best answer in the group for our customers.

4.2 The main axis of new organisation.

The begin on the definition of the essential values as regards durability of Arvika Gjuteri's plant, is to say:

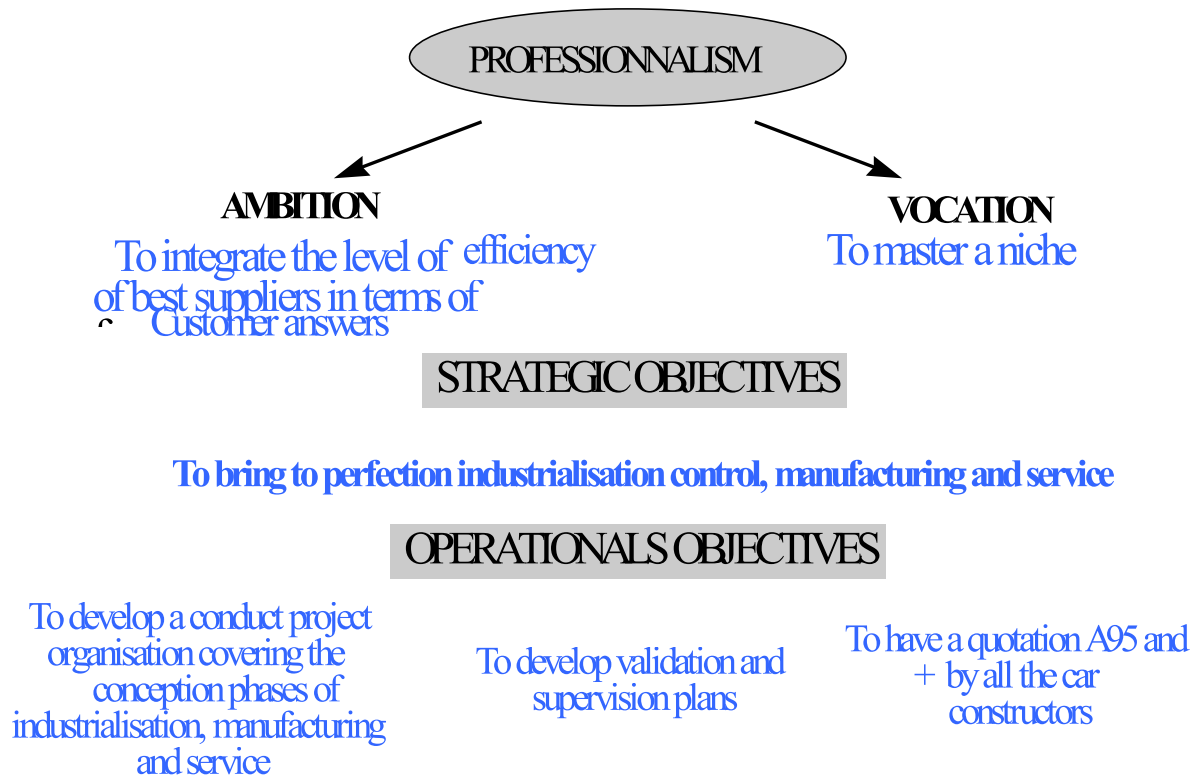
**COST CONTROL AND PROFITABILITY - GLOBAL EFFICIENCY -
QUALITY - PROFESSIONALISM.**

The setting up of these values is translated into :



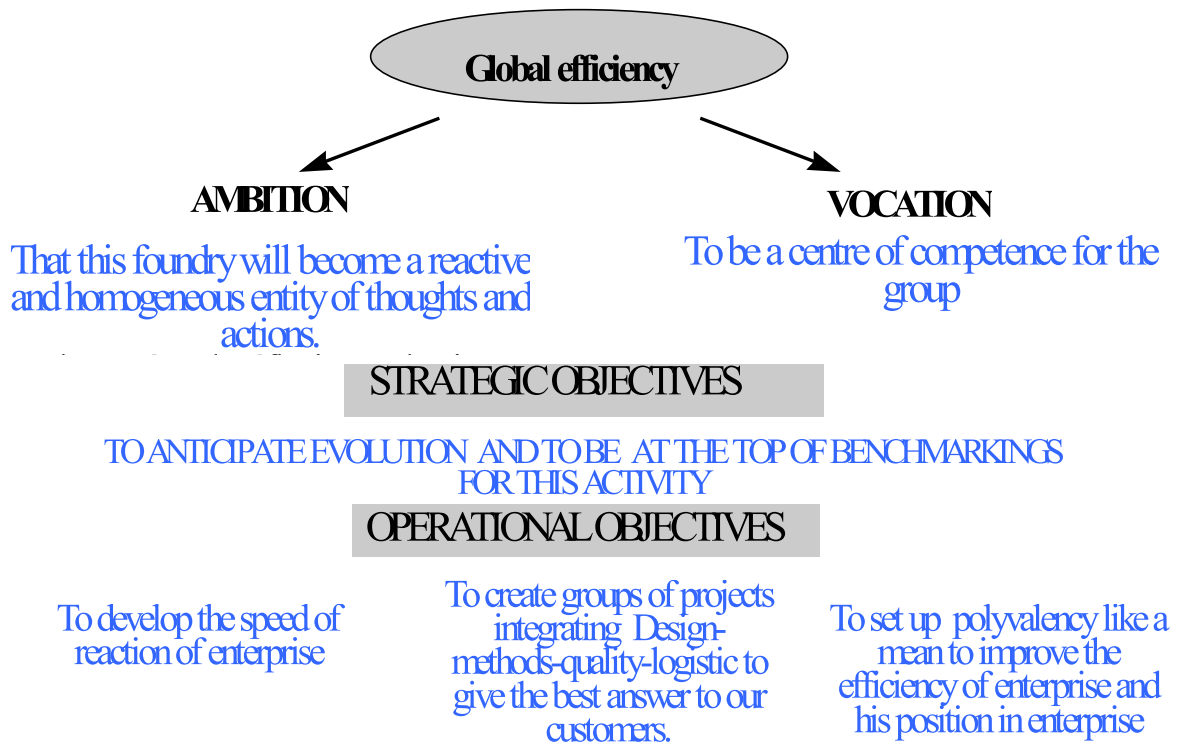
For the setting up of cost control & profitability value, it is requested :

- 1 To expend energy and time on cost and tools improvement, so we need.
- 2 To reduce the number of project and actions of present existing in ERBA and to concentrate only onto essential actions for the survival of the firm. Those projects are in order:
 - The cost reduction ones requested by customers.
 - The cost reduction projects onto low contribution products.
- 3 To integrate production in reduction cost project's group from the very beginning at foreman level.
- 4 To better integrate the firm in the group (Procedures, purchase, design, studies, tools, so on).
- 5 To base customer quotations on the base of costs at the date of first production of products, not on the base of present costs.
- 6 To implement the described actions in the purchase strategic plan.
- 7 To integrate a real strategic purchase approach.
- 8 To set up a biannual plan of permanent improvement and to follow it.
- 9 To share the potentialities and to group the administrative services and other ones (Maintenance, Laboratory, and so on..) of forge and foundry.



The development of professionalism value needs:

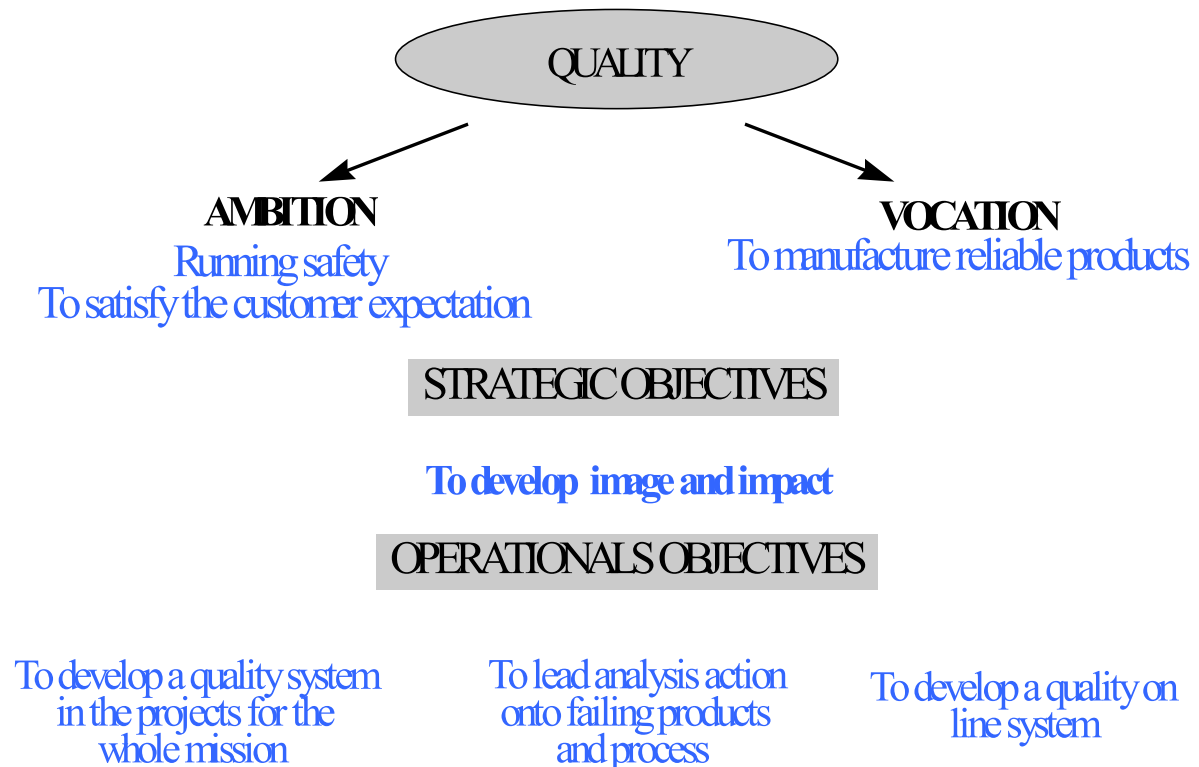
- 1 To lean on working groups as the pivot of the firm.
- 2 To develop a conduct project organisation covering a great part of conception phases industrialisation phases, manufacturing and service ones and to set up a plan of permanent improvement.
- 3 To change a part of management committee and to put the right men at the right place.
- 4 To develop validation and supervision plans.
- 5 For the new products, to structure customer's methods interface notably as regards definition tool's elaboration.
- 6 To restrain to a quality level by the respect of Quality certification and procedures and to the integration of quality in all projects and process of enterprise.
- 7 To lean on the group to give a global answer to the customers.



The development of global efficiency value needs :

- 1 To lean on working groups as the pivot of the firm and to promote the actions and people of these groups.
- 2 To set up a conduct project organization covering all the phases of action of enterprise and the linked P.A.P.
- 3 That the multipurpose criterion becomes an important strength of enterprise with:
 - The integration of this criterion and the mobility into the definition of variable wage.
 - The opening of carrier evolution for the operators who chose this way.
 - Assistance for people who integrate a external cycle of professional training.
 - The elaboration of complete training plan.
- 4 To search for information upstream, among customers, tradesmen, workshops and so on...
- 5 The re melting of organization under the form of:
 - Matrix customer/team management trade up to different department.
 - Processes
- 6 To implement a technologic watch.
- 7 To promote the arrival of ideas of improvement from all the sectors of enterprise.

- 8 To be always professional.
- 9 To master our internal and external logistic and to have good answer in terms of delivery precision.



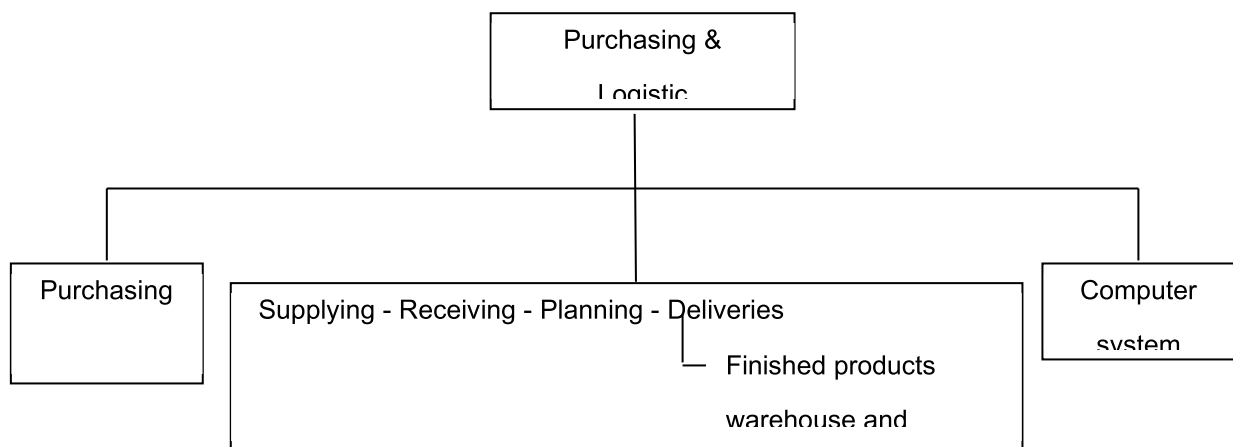
The development of quality value needs:

- 1 To obtain quickly the QS 9000 ant to finalize the integration of documentation system in line.
- 2 To be more reactive as regard of problems of enterprise.
- 3 To integrate concept and quality constraints into all the firm's processes.
- 4 To lead analysis actions of products and process failings.
- 5 To give our efforts to decrease the level of scraps.
- 6 To master the parameters of process and to minimise the possible limits of fluctuation.
- 7 To develop a quality system in the projects for the whole mission.

The repercussions on the organization are the following ones:

For logistic:

We would like to group into a same department Purchasing and logistic. This one is directly linked under the general management. The mission of this department is the management of internal and external flows and the management of purchases with objectives to decrease the costs.



For production:

- To integrate a supervisor by shift and to separate the part process and the part fettling. Their role is :
 - To manage workshops and to animate the workers.
 - To
 - To master with the technicians of process and maintenance, the process of production.
 - To participate into working group.
 - To help designers during the creation of new products.
 - To promote the kaisen's methods in each shift.
 - To work at the master of process

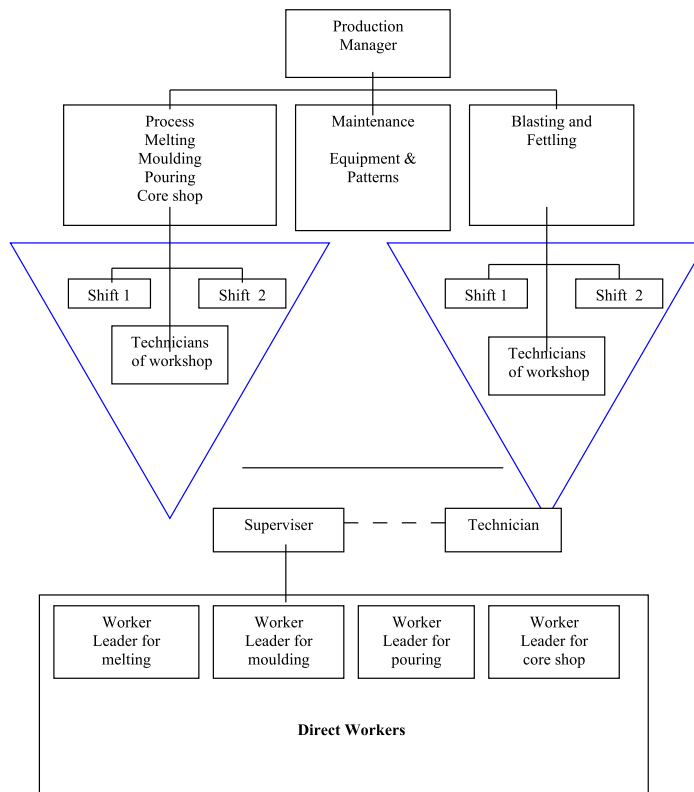
- To integrate directly the process technicians into production 2 technicians (one by shift) for the part process and 2 for the part fettling. Their roles are:
 - To perform the improvement action plan.
 - To hold back the process into the fixed limits of fluctuation and to reduce these limits for increasing the quality reliability of process.
 - To bring solutions into working groups.

- To assist designers for new product.
- To support supervisor for technical questions.
- To promote the Kaisen's methods in each shift.

We have separated the technicians of methods improving the process who move to production and the technicians of methods improving the product who move to the designers in Commercial-Product department.

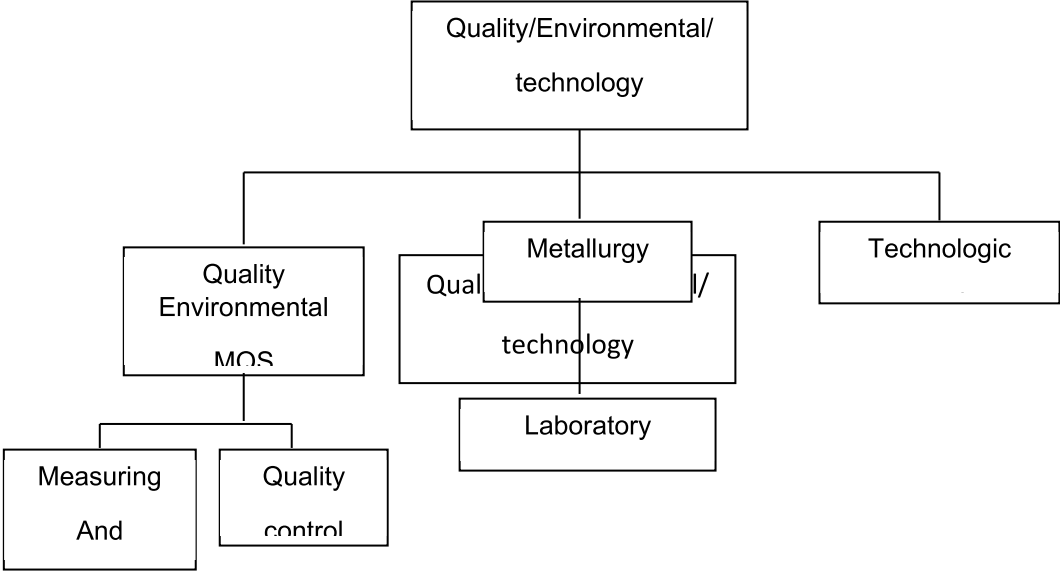
- To integrate under each couple of supervisor and technician, a group of leader workers which become from each section of process. The time of these leader workers is shared, 80% of their time they are direct workers and for other 20% they are local animator. Their roles are:
 - To animate their local workshop and take the decision concerning their area.
 - To report to supervisor or technician when the problem exceeds their competence.
 - To participle into working group.
 - To promote the Kaisen's methods in each shift.
- To integrate maintenance service under production department and to do to work together the operators of maintenance and operators of production.
- To link the maintenance of patterns with the equipment maintenance

The new organization of production is the following one:



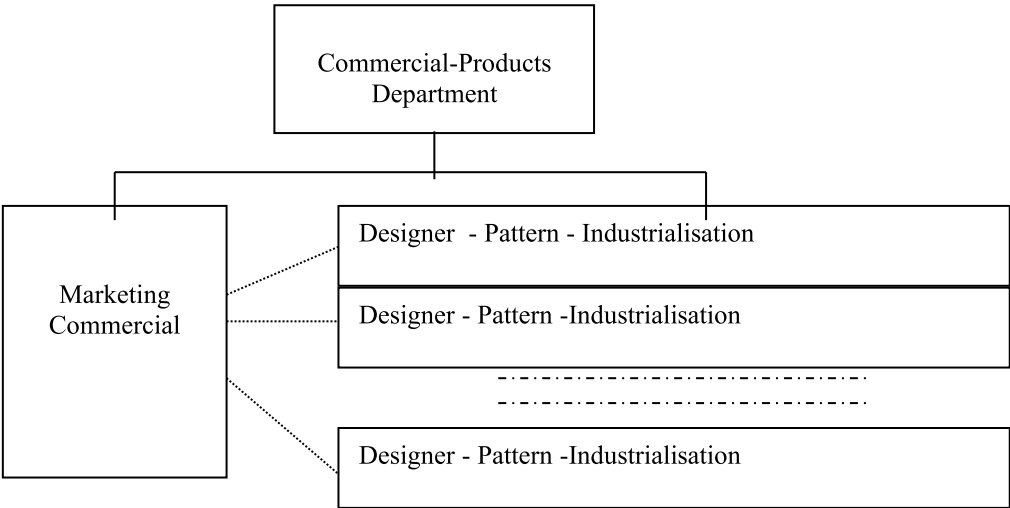
For Quality and Environment

We group in a same department Quality, Environmental, Laboratory and Technology watch.



The people of this department have to be able to realize internal audits into enterprise.

A great Commercial and Product department organised in group of customer projects.



The administrative and financial services will be grouped with the same ones of forge.

4.3 Motivation vectors

To motivate enterprise and to move it, we have created six working group.

- First group works on the improvement of organization to transfer the new product from design to production and on the elimination of scraps.
- Second one works on the global organization and improvement of internal and external logistic including the increase of cadence of molding line.
- Third group organizes purchasing and supplying with an objective to decrease the costs of 10%.
- Forth one is reduction cost group of project.
- Fifth group works on the integration of maintenance with production.
- Sixth one prepares the certification QS 9000 .

Break-even point for 2000

The here above hypothesis led to a break even point with deliveries amounting to 20 000 tons

Production in Tons	20 000	%
Sales price/kg	8,70	
Sales of goods	174 000	
Other sales	2 000	
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Total sales	176 000	100,00%
Raw Material	45 600	25,91%
Other production consummation	8 900	5,06%
Direct labour	50 000	28,41%
Subcontracting	2 400	1,36%
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Total variable costs	106 900	60,74%
Contribution	69 100	39,26%
Salaried employee	17 000	9,66%
Maintenance	9 500	5,40%
Other expenses	30 500	17,33%
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Total fixed cost	57 000	32,39%
Operating profit	12 100	6,88%
Depreciation	9 600	5,45%
Interest expenses	2 400	1,36%
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Income before machining	100	0,06%
Machining net income	2 600	
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Income after machining	2 700	1,53%