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Dear Anil,

Please find enclosed analysis of our current situation. For easier reading I have build this document in chapters, each consisting of three sections: Scope Definition, Details/Description and Conclusion. You can omit Details if you want summarizing statements. To make things even more concise, additional data and charts are organized as appendices at the end of text.

Order of chapters:

- ☰ Current Situation
- ☰ Expansion Options
- ☰ Implementation of the Most Promising Option
- ☰ Project Outcomes: Gains and Risks
- ☰ Summary

Best regards,
Wojciech St. Mościbrodzki

1. Current Situation

1.1. Scope

This is an evaluation of our current situation, critical issues statement and description of values we can benefit from during implementation of the solution.

1.2. Details

Since 60's our Company has acquired a leading position in domestic iron pipes market. Right now we are biggest India local manufacturer. Our success was fostered by infrastructure projects stimulated by India's quick development (approx. 5% annually). The position at India market has been secured thanks to government's policy, which prevented local industry from foreign competitors with protective duties and complex tax law. However, this seems to be changing as strategy has been altered to continuous process of freeing the market 10 years ago. We can expect increasing, aggressive competition in domestic market with foreign entries. Moreover, one domestic DIP competitor recently joined the market but we expect that he will be able to threaten our position in two years. Few international DIP competitors are considering taking a foothold. They would probably be able to produce CIP, as this technology is easier to implement. Price competition in a few years is very probable.

Currently we support two main product lines: CIP (cast iron pipes) and DIP (ductile iron pipes), since 1994. Our production facilities in India offer 130.000 DIP tonnes and 165000 CIP tonnes per year, but we still have some unused capacity. Although being more expensive, DIP-based products are less vulnerable in transportation and handling and offer longer serviceability (approx 70 years in opposition to 40 years for CIP). Alternative technologies are not supported by us, but are available from other producers. These include PVC, mild steel, pre-stressed concrete, which are cheaper than DIP, but offer short lifespan of 15-20 years and are known for negative impact on water quality. However we must take in mind that price vs quality issue is slightly different in developed and developing countries.

Last year production reached total of 231000 tonnes of pipes, contributing to cash reserves of 50 mln USD. However, despite revenues increase (reaching 124 mln USD), the overall expense productivity (Net profit – to – expenses) fell from 23% to 14% last year. While tax level remained at the same level, this means that our effectiveness is significantly decreasing. The total revenue volume includes export sales, but their contribution lowered from 25% to 20%. That leads to the conclusion, that our loss of efficiency was mainly driven by diminishing domestic market. The incoming increase of competitiveness will even strengthen this trend, most probably. Moreover, the domestic market growth in 90s was backed by international agencies funding but henceforth the investments will have to be supported from limited state-government sources. We can expect therefore that demand level in domestic market is to remain roughly at last year level. Our capacity in India is right now able to cover 100% of this volume (we now serve 90% of DIP market running at 85% workload). Please also note that this market is driven by government orders so there is a skew in order timetable. Therefore, due to budgeting schedule, we suffer from not fully utilizing our facilities' capacity in late quarters.

1.3. Conclusion.

We have reached the growth limits with our current market profile. Further expansion on domestic market is not possible, as the demand will not raise and we can expect more and more competitiveness as well as new players, resulting in decrease of ROI. Moreover, strong price competition is expected in 2-3 years. We must take action or suffer risk of losing our stand. Foreign expansion is highly recommended and delaying it is hazardous.

2. Expansion options

2.1 Scope

This is a description of advantages and disadvantages of possible expansion strategies (primary alternatives).

2.2. Details

Options

Geographically, we can consider expansion on Asian market or on European one. Two options were considered (France and Vietnam), according to senior management suggestions. Functionally, we have two possible ways of expansion: setup of foreign sales and marketing offices, or building of a manufacturing facility (finishing only or casting and finishing). Regarding ownership issues, we can try exclusive ownership or as a joint-venture project. The last variant is unlikely to happen in Europe due to extremely strong position of main local competitor (88% of local market). The whole tree of possibilities is presented as Exhibition 1.

Strategical Aspects

Strategically, expanding to Europe means competition with big players on their grounds. That means that we would have a very challenging competitor, able to use vast resources and sustain a period of price war. Make note, that St. Cobain's Group production potential exceeds whole European market by 2 times (and they still have almost 50% market share). This competition, on the other hand, can place us as a global player. However, we must find a serious competitive advantage. The only option here can be workforce cost, which are 10 times higher in Europe than in India. That leads to the conclusion, that if we would like to spread to Europe, we'd rather should take sales-and-marketing option and concentrate on a good transportation system (by sea, probably) – so warehouses should be placed in port cities, connected to European road system. Expanding with finishing facility only seems to be slightly less attractive, as 10% bonus on cost can be achieved also by main competitor who has facilities around the world (note: 80-85% of the price lies in production). The casting and finishing facility for Europe is not promising.

Expansion to Asia is less challenging, because competitors are much more of our scale, except Kubota (but this one focuses on products of higher quality). Therefore, we would compete with rivalling firms that are at our range. Moreover, we can probably use some of our CIP capacity here, as developing Asian countries will probably have some niche for cheaper offer. On the negative side - Asian strategy, even successful, will not place our company as a recognizable global player.

Market Aspects

Market opportunities were evaluated on competitor analysis data. As we have only four-year cumulatives in Asia, we estimated last year volumes using linear model of 5% market growth (using pure averages brings a difference of 10000 tonnes per year). The calculated values of Asian market are summarized in Exhibition 2.

Asian market is relatively smaller, taking 17% (ca. 151,000 tonnes per year) of joined Eurasian sales. (Europe takes the 83% rest - ca. 765000 tonnes per year). However, Asian sales are balanced between all 4 local markets, each promising in growth, while in Europe two main countries take 65% of all Europe demand. Moreover, we estimate that European market will not grow in size (which can lead to more competition), while Asian will be increasing in close and medium future. To sum it over: we can expect that due to different growth rates in a few years market size proportions will come around 1:4 (Asia to Europe).

Europeans expect DIP only and our capacity of CIP will rather make no benefit. However, this market is far more unified by means of UE and getting a foothold here will give us wide access to all countries. Rules of the market are far more clear and less bureaucratic and political-linked in Europe than in developing Asia.

Asian market offers probably more possibilities to spend our remaining CIP capacity. We can also benefit reasonably from local producer position, as there is no DIP manufacturer in Vietnam (as well as in Singapore and Cambodia). There is a possibility of enacting tax barriers or unique local standards, so if local status has been achieved, we would have a competitive edge (typically competitors must spend at least 500000 USD to match local standards).

Rough estimation forecast close-future potential sales of 10000 tonnes in Asia or 30000 tonnes in Europe.

Finally, precise current market estimations are given in Exhibition 3.

Competition Aspects

Europe is usually partitioned between competitors. That means companies used to focus on competition in one or two countries only. That leads to the situation where only big players can compete as usually two main competitors take more than 85% of sales. Large amounts of production volumes means that they benefit from scale effect and if we won't be able to take advantage of significantly lower costs, we will lose price competition. On the regional (UE) level, leading competitor, St. Cobain's Group takes 45% of the market.

Asian market is far more balanced, except from Malaysia. Two best competitors usually take about 60% of market share. On the country level, supply is covered by 5-6 companies. With smaller volumes, that means that aggressive expansion can take us high even though we do not possess a production potential of St. Cobain's Group. Malaysia, on the other hand is dominated by local company. On the regional (Asian) level, leading competitor, Kubota takes 22% of the market. However, his profile is based on high quality DIP so we can utilize the market specifics (less developed countries tend to be more driven rather by price than by quality) and benefit from better price. However, cost-based competition is risky because of second biggest rivaling company, Xinxin, which is claimed to be on lower production costs than us. That gives a suggestion, that if we plan to compete on Asian market we should consider building a local plant to catch both cheaper workforce and local producer benefits (today's competitors are exporting their product, not manufacture them locally). Please follow Exhibition 4 chart for details.

Financial Aspects

For financial evaluation, a set of factors was included in analysis. The most important is sales forecast, based on market estimation, sales representatives evaluations and expansion option bonuses (status of local manufacture gives etc.). Next factor deals with production costs (which is higher in Europe) and estimated price we can offer (competitiveness factor, local status bonus etc.). We assumed 10 years of depreciation and slightly higher taxes in EU. Establishment of sales and marketing seems to be slightly more promising in Europe, while plant-based options are better in Asian approach. Note, that financial estimations did not cover possible market of CIP in Asia.

Please check details in Exhibition 5.

Operation Aspects

European operations include high cost of land, work and activities. However, business procedures are straightforward and not politically driven. English is widely used as commonly understood language, and accounting standards, legal issues etc. are not a problem. The highly experienced staff will be available on the market. Joint-venture possibility is not available.

Asian operations are complicated because of political coincidence, transformation period of economical system and not well-established standards. We can also expect fairly high level of corruption and bureaucracy, which can influence rational planning and scheduling. We can acquire some knowledge how to deal it by taking a joint-venture approach. This also will result in incentive plan from Vietnamese government.

To gather it all, we have prepared a short formal summary. A set of factors was chosen and each option (A-J) was evaluated by those factors using scale from -5 to 5. Each factor was weighted from 1 to 3 before we have computed an overall score. The final results are given below.

	Score	% of max
G. Asia, Finishing Plant, Joint-Venture	109	100%
E. Asia, Casting and Finishing Plant, Joint-Venture	97	89%
H. Asia, Finishing Plant	89	82%
F. Asia, Casting and Finishing Plant	78	72%
D. Asia, Sales Office Only	65	60%
A. Europe, Sales Office only	32	29%
C. Europe, Finishing Plant	32	29%
B. Europe, Casting and Finishing Plant	23	21%

Fig. 1. Option grades

This summarizes our recommendation: joint-venture finishing plant in Vietnam. Second two options were evaluated only slightly lower. Worst grades applied to costly and risky by competition means plant in Europe. Please check Exhibition 6 for details.

2.3. Conclusion

8 different strategies can be taken. Our considerations suggest expansion into Asian market, by means of 30000 tonnes finishing plant (and sales network), carried on as joint-venture operation. For first 2 years additional capacity will be added to our plant in India; later expansion location to be decided.

3. Implementation

3.1. Scope

This is more detailed description of desired option and a sketch of implementation project.

3.2. Details

Detailed Expansion Strategy

In short time, we should target a leading position on Asian position. To achieve that we need to reach the local manufacturer status of one developing country (Vietnam) and use experiences gained on this market to quickly spread on the whole region. In first year our competitive advantage will be based on combined effect of 'local producer benefits' and possibility of delivery of cheaper products (CIP) if needed (developing country specifics). By taking the scheme of joint-venture enterprise, we should learn the South Asian market profile as much and as fast as possible (the lack of local experience seems to be main reason of previous expansion failures of our competitors). In politically related economy we should also quickly develop a network of contacts and links (please note that I don't mean corruption) to be sensible and flexible for everything what can affect the market. The cultural issues can play a significant role and we should stay tuned to those aspects. Our joint-venture approach can only help us. We would also benefit from extra government money, so our cash flow is secured. At this time we should also create sales offices in the region.

If we would be able to implement this strategy, we would be able to add market understanding and perfect network to our competitive advantages portfolio. That will place us as main competitor on Asian market and give us some rarity (potential new entries will lack our knowledge). If our forecasts of sales growth are correct, we will be able to add casting facilities to Vietnam or other Asian country. Note also, that leaving decision of casting localization would also play an incentive role for Vietnamese authorities (we would need their active support to remain on schedule). Our gathered experiences, both operational and strategic will minimize the failure risk of this costly investment.

In long term we should be able to use our Asian position as a starting point to try to compete on global market. While our potential will be probably still lesser than St. Cobain's, we will be able to compete on price with far lower labor costs. In that moment of time we should constantly look for opportunities to install on European market.

As with India we should focus on our capacity of DIP facilities in first years. We still have a margin of 20000 tonnes of DIP and 44000 tonnes of CIP. This allows us to reach our sales target in Asia without building expansion in 2-3 years. We should also consider our CIP lines – first period in Vietnam should show if the demand for cheaper products will be enough to carry on with profitable production. If not, we should head to closing some capacity and possibly use freed resources to slightly increase DIP facilities (if technologically possible). Please note, that even though our option is "finishing expansion only", we are open to expand casting facilities, but actual location will be decided after gathering some knowledge (GATE2).

Project Timetable:

STRATEGIC GOALS: DIP capacity increase in two years, foreign sales increase 10000 tonnes, reaching the leading position in Asia

PHASE 1:	Installation of finishing facility in Vietnam
Objectives:	Establish a working facility
Milestones:	Create a joint-venture partnership, start investment process, start cultural merge, complete the building process, starting sales network, start investigation of possible casting plant localization, confirmed status of local manufacturer
GATE 1:	Verification: facility running at full potential, sales level at least 25% target level (2500 DIP and CIP)
PHASE 2:	Strengthening the foothold
Objectives:	Take full benefit of local manufacturer status
Milestones:	Apply for ISO standard for Vietnamese facility, reach at least 20% utilization of new facility, reach at least 10% margin of price per unit, sales level at least 80% of target, investigate CIP market in Asia, complete establishment of sales network in Asia, make decision of DIP casting localization, cultural expertise gained
GATE 2:	verification: facility profitable, market growing, leading position acquired, CIP facility future known
PHASE 3:	Capacity expansion
Objectives:	reach +50000 tonnes DIP capacity, maintain CIP profitability (sustain or reduce production level, depending on Asian demand),
Milestones:	ISO standard for Vietnamese facility gained, 30% of new facility reached, sales level at least 100% of target, 15% price bonus reached, start of Europe expansion investigation
GATE 3:	verification: strategy goals reached

Project Organization

We should carefully organize this project, as this strategic investment is critical for our company. Therefore we should address key success factors: sales profitability, facility creation, production management, expertise gathering and cultural management.

The implementation process needs coordination and controlling from our headquarters, therefore we should appoint Steering Committee, reporting to both Electrosteel Vietnam Joint Venture Board and to main HQ. This will give us steering power, but leave formal dependency from subsidiary enterprise board (we assume we would also have share-based control over the enterprise). The responsibility of Steering body is to maintain allegiance to overall strategy, while direct management should be placed in one person – Expansion Project Executive Manager. The project should consist of at least 4 streams: Construction, Convergence (cultural and organizational management, experience transfer), Sales, Marketing and Production. The last will start in the end of Phase 1. Sales, Marketing and Production Executives should become a part of Board of Directors members when their streams complete. Note: The visual aid, charts etc. for this scope can be found in Exhibition 7

Responsibilities:

Steering Committee	Allegiance to strategy, overall project schedule, finance
Project Executive	Efficiency of Implementation, Coordination, Operations
Sales Executive	Establishment of regional network (phase 1/2), Profitability and Sales Revenues (Phase 2/3)
Marketing Executive	Customer Relationships, Maintenance of Links and Contacts
Construction Manager	Plant Delivery, on time and with high quality, according to local standards and procedures
Production Manager	Efficiency of Production, supplier management, quality control, cost control
Convergence Manager	Knowledge Transfer, Cross-cultural Management, Experience gathering (regional profile)

3.3. Conclusion

By taking proposed approach we can reach our strategic goals in 3 years. Phased decomposition maintains our flexibility and hold incentive values for Vietnamese government.

4. Outcomes. Gains and Risks

4.1 Scope

This part summarizes the possible gains and threats through implementation.

4.2. Details

We should be able to complete and probably exceed our strategic goals in ~3 years. Successful entry should give us more than 10000 annual, as we will be able to grasp our competitors' shares.

Proposed approach includes next key decision (casting facility localization) at GATE2. At this stage we are mostly threatened by implementation problems: time lags in construction, bureaucratic problems etc. Political change is less probable, but in Vietnam reality can significantly affect our activities. We need to track all possible situation development from the very beginning – sensible and flexible people in convergence team are key priority. Competition risks are more likely to emerge during Phase 2 – especially if something goes wrong with Sales Stream. Marketing people should observe St. Cobain's, Kubota and Xinxin activities. At the GATE2 we should take decision about location of further casting capacity. Should it be foreign investment, we need to choose location. This takes incentive to support our operations from Vietnam government (in hope for further investments), but we can't delay this decision. The construction should start in Phase 3, depending on current market situation and financial reserves. Starting from late Phase 1 we would also encounter risk of cultural problems. The convergence team must place special attention to carefully manage the process of merging our staff with Vietnamese people and environment. However, if we succeed with that task we will gain unique experience and competitive advantage.

4.3. Conclusion

We estimate that approximately 60% risks came from implementation process (organizational, cultural and managerial problems). The 30% are marketing and sales specifics (competitiveness, failure of demand etc.). The rest comes with unexpected events like serious political shift, technology breakthrough, disasters etc.

5. Summary

Our proposed way of reaching the strategy goals is oriented to maximum chance of success with reasonably low level of risk. We cast off (temporarily) the Europe direction, as our position is not powerful enough to beat St. Cobains on their grounds without high hazard (win-or-die strategy). Instead, we try to get bonuses and competitive advantage from unique position of local manufacturer and gather as much experience as we can get to configure further expansion at GATE2.

APPENDICES

Exhibition 1: Tree of possibilities

Actual strategies are marked with grey background (white fields represent options further partitioned). Please note JV strategies for Europe are rather impossible to follow.

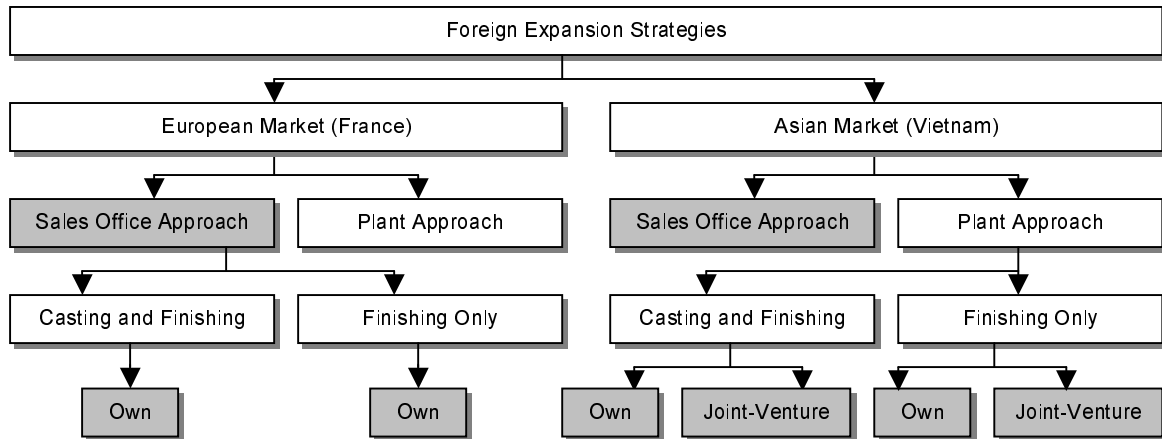


Chart 1: Expansion Possibilities

Exhibition 2: Trend-based decumulativation of Asian Market

This chart decomposes cumulative, 4-year sales volume for every company present on Asian market. As the market is growing in time, the average 4% increase model was used (see the annual factor values).

	Market growth indicator:	4%								
	Year	1997	1998	1999	2000	Year	1997	1998	1999	2000
	Annual factor	4,25	4,08	3,93	3,78	Annual factor	4,25	4,08	3,93	3,78
	Vietnam					Singapore				
	1997-2000	1997	1998	1999	2000	1997-2000	1997	1998	1999	2000
St. Gobain Group	20000	4710	4898	5094	5298	15000	3532	3674	3821	3973
Kubota	15000	3532	3674	3821	3973	60000	14129	14695	15282	15894
Kurimoto	0	0	0	0	0	16000	3768	3919	4075	4238
Tyco	0	0	0	0	0	15000	3532	3674	3821	3973
Xinxin	30000	7065	7347	7641	7947	0	0	0	0	0
KCIP	25000	5887	6123	6368	6622	0	0	0	0	0
Electrosteel	900	212	220	229	238	30000	7065	7347	7641	7947
Local Asian	40000	9420	9796	10188	10596	0	0	0	0	0
Total:	130900	30826	32059	33341	34675	136000	32027	33308	34640	36026
	Hong Kong					Malaysia				
	1997-2000	1997	1998	1999	2000	1997-2000	1997	1998	1999	2000
St. Gobain Group	25000	5887	6123	6368	6622	2000	471	490	509	530
Kubota	35000	8242	8572	8915	9271	15000	3532	3674	3821	3973
Kurimoto	10000	2355	2449	2547	2649	0	0	0	0	0
Tyco	35000	8242	8572	8915	9271	0	0	0	0	0
Xinxin	25000	5887	6123	6368	6622	0	0	0	0	0
KCIP	15000	3532	3674	3821	3973	0	0	0	0	0
Electrosteel	4000	942	980	1019	1060	8000	1884	1959	2038	2119
Local Asian	0	0	0	0	0	130000	30614	31838	33112	34436
Total:	149000	35088	36492	37951	39469	155000	36501	37961	39479	41059

Table 1: Interpolation of annual sales in Asian market

This chart summarizes conclusions from the previous one. The interpolated values of 2000 sales in Asia region are presented for each company and as a total. Please note that omitting the growth of market in interpolation causes more than 10000 tonnes difference.

Asian Market in 2000					
	Local Level				Regional
	Vietnam	Singapore	Hong Kong	Malaysia	Asia
St. Gobain Group	5298	3973	6622	530	16423
Kubota	3973	15894	9271	3973	33112
Kurimoto	0	4238	2649	0	6887
Tyco	0	3973	9271	0	13245
Xinxin	7947	0	6622	0	14569
KCIP	6622	0	3973	0	10596
Electrosteel	238	7947	1060	2119	11364
Local Asian	10596	0	0	34436	45032
Total:	34675	36026	39469	41059	151228

Table 2: 2000 sales in Asia region. Values are interpolated from 4 years cumulatives.

Exhibition 3: Sales 2000

This chart compares two target markets. Please note, that light grey fields correspond to country-to-region ratio, while dark grey represent regional-to-global value.

	Market Sales											
	Asian					European						Global
	Vietnam	Singapore	Hong Kong	Malaysia	Total	France	Germany	UK	Spain	Italy	Total	Total
St. Gobain Group	5298	3973	6622	530	16423	220000	0	0	60000	65000	345000	361423
Kubota	3973	15894	9271	3973	33112	0	0	0	0	0	0	33112
Kurimoto	0	4238	2649	0	6887	0	0	0	0	0	0	6887
Tyco	0	3973	9271	0	13245	0	0	0	0	0	0	13245
Xinxin	7947	0	6622	0	14569	0	0	0	0	0	0	14569
KCIP	6622	0	3973	0	10596	0	0	0	0	0	0	10596
Electrosteel	238	7947	1060	2119	11364	0	0	0	0	0	0	11364
Local Asian	10596	0	0	34436	45032	0	0	0	0	0	0	45032
Stanton Pipes	0	0	0	0	0	0	0	40000	0	0	40000	40000
Halburghutte	0	0	0	0	0	0	150000	0	0	0	150000	150000
Tiroler R-M Werke AG	0	0	0	0	0	0	40000	0	0	0	40000	40000
Buderus GmbH	0	0	0	0	0	0	50000	20000	0	0	70000	70000
Local European	0	0	0	0	0	30000	0	5000	5000	80000	120000	120000
Total	34675	36026	39469	41059	151228	250000	240000	65000	65000	145000	765000	916228
	Percentage of regional market				% of global	Percentage of regional market					% of global	
	23%	24%	26%	27%	17%	33%	31%	8%	8%	19%	83%	

Table 3: Eurasian sales in 2000 and percentage of regional and global markets

This chart present market share values in percentages.

	Market Share Analysis											
	Asian					European						Both
	Vietnam	Singapore	Hong Kong	Malaysia	Total	France	Germany	UK	Spain	Italy	Total	Total
St. Gobain Group	15%	11%	17%	1%	11%	88%	0%	0%	92%	45%	45%	39%
Kubota	11%	44%	23%	10%	22%	0%	0%	0%	0%	0%	0%	4%
Kurimoto	0%	12%	7%	0%	5%	0%	0%	0%	0%	0%	0%	1%
Tyco	0%	11%	23%	0%	9%	0%	0%	0%	0%	0%	0%	1%
Xinxin	23%	0%	17%	0%	10%	0%	0%	0%	0%	0%	0%	2%
KCIP	19%	0%	10%	0%	7%	0%	0%	0%	0%	0%	0%	1%
Electrosteel	1%	22%	3%	5%	8%	0%	0%	0%	0%	0%	0%	1%
Local Asian	31%	0%	0%	84%	30%	0%	0%	0%	0%	0%	0%	5%
Stanton Pipes	0%	0%	0%	0%	0%	0%	0%	62%	0%	0%	5%	4%
Halburghutte	0%	0%	0%	0%	0%	0%	63%	0%	0%	0%	20%	16%
Tiroler R-M Werke AG	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%	5%	4%
Buderus GmbH	0%	0%	0%	0%	0%	0%	21%	31%	0%	0%	9%	8%
Local European	0%	0%	0%	0%	0%	12%	0%	8%	8%	55%	16%	13%

Table 4: Market share analysis

Exhibition 4: Competition analysis

This chart presents competition on local and regional market. The analysis is based on grouped statistical approach and show first (main competitor) sales, joined two first and joined three first competitors. Higher values represent monopoly-like market organization or heavy domination from main players.

Competition on Local and Regional Markets												
	Asian					European						Global
	Vietnam	Singapore	Hong Kong	Malaysia	Regional	France	Germany	UK	Spain	Italy	Regional	Total
First Competitor	10596	15894	9271	34436	45032	220000	150000	40000	60000	80000	345000	361423.4
Second Competitor	7947	7947	9271	3973	33112	30000	50000	20000	5000	65000	150000	150000
Third Competitor	6622	4238	6622	2119	16423	0	40000	5000	0	0	12000	12000
Market Leader Share	31%	44%	23%	84%	30%	88%	63%	62%	92%	55%	45%	39%
Two Leaders Share	53%	66%	47%	94%	52%	100%	83%	92%	100%	100%	65%	56%
Three Leaders Share	73%	78%	64%	99%	63%	100%	100%	100%	100%	100%	66%	57%

Table 5: Competition and market share gained by main players

This chart shows current utilization of manufacturing potential. The last part (potential-to-demand ratio) should be investigated with caution, as players usually focus on the one region and moving supply from one market to another can be difficult or time-consuming (yet still possible).

	Sales			% of Demand		Potential / Demand		
	Asia	Europe	Potential	Asia	Europe	Asia	Europe	Global
St. Gobain Group	16423	345000	2000000	11%	45%	1323%	261%	218%
Kubota	33112	0	800000	22%	0%	529%	105%	87%
Kurimoto	6887	0	80000	5%	0%	53%	10%	9%
Tyco	13245	0	70000	9%	0%	46%	9%	8%
Xinxin	14569	0	250000	10%	0%	165%	33%	27%
KCIP	10596	0	150000	7%	0%	99%	20%	16%
Total	94832	345000	3350000	63%	45%			

Table 6: Capacity utilization

Exhibition 5: NPV Forecast

This is financial forecast for main options. We have assumed that depreciation is based on linear, 10-years model. Sales levels are estimated on marketing suggestions. Price per unit values include benefits from being a local competition, transportation savings and discounts caused by heavy competence.

Investments are calculated with company 50.000.000 USD reserves, no banking costs included.

	Asia			Europe		
	Sales	Cast & Fin.	Finishing	Sales	Cast & Fin.	Finishing
Fixed Assets Initial Costs:	0	42000000	1873000	0	42000000	1873000
Fixed Assets Annual (Depreciation)	0	4200000	187300	0	4200000	187300
Annual Operation Costs:	120000	50000	50000	400000	50000	50000
TOTAL Annual Costs:	120000	4250000	237300	400000	4250000	237300
Sales forecast:	10000	15000	10000	30000	30000	30000
Price per Unit:	600	660	610	580	595	585
Cost per Unit:	540	520	530	540	570	560
TOTAL Annual Sales Revenue:	600000	2100000	800000	1200000	750000	750000
Gross Profit:	480000	-2150000	562700	800000	-3500000	512700
Tax Level:	20%	20%	20%	30%	30%	30%
Tax Value:	96000	0	112540	240000	0	153810
Net Profit Per Year:	384000	-2150000	450160	560000	-3500000	358890

Table 7: Financial forecast

Exhibition 6: Formal Option Analysis

This table presents expansion option evaluation. Each option is graded -5 (extremely negative) to +5 (extremely promising) by means of weighted factors. Factors weights are 1 (slight impact) to 3 (high impact). Please note: 'regional' applies to continent level, 'local' is country-based. Total evaluation is given at the bottom.

Options are:

- A. Europe, Sales Office only
- B. Europe, Casting and Finishing Plant
- C. Europe, Finishing Plant
- D. Asia, Sales Office Only
- E. Asia, Casting and Finishing Plant, Joint-Venture
- F. Asia, Casting and Finishing Plant
- G. Asia, Finishing Plant, Joint-Venture
- H. Asia, Finishing Plant

Factor	Weight	A	B	C	D	E	F	G	H
Market Evaluation									
Approx Regional Annual Demand	2	4	4	4	3	3	3	3	3
Approx Local Annual Demand	1	3	3	3	3	3	3	3	3
Projected Regional Annual Sale	3	4	4	4	2	2	2	2	2
Projected Local Annual Sale	3	4	3	3	2	2	2	3	3
Market size	2	4	4	4	2	2	2	2	2
Market growth	2	2	2	2	4	4	4	4	4
Potential market position	3	2	3	3	2	4	4	5	4
Local manufacturer rarity gain possibility	3	0	3	3	0	5	4	5	4
Potential CIP niche	1	0	0	0	3	3	3	3	3
Operations									
Activity Barriers (bureaucracy, language problems, corruption etc.)	2	0	0	0	-3	-1	-2	-1	-2
Quick entry	2	3	0	2	3	2	0	2	1
Pipe - project funding available	1	3	3	3	2	3	2	3	2
Ease of operation	2	2	0	0	2	2	1	2	1
Operation Costs	3	1	0	0	1	0	0	0	0
Strategic Opportunities									
Global potential	2	3	1	1	0	0	1	0	1
Long term market trends	3	1	1	1	4	4	4	4	4
Regional GNP growth	3	1	1	1	3	3	3	3	3
Regional stability	1	2	2	2	1	1	1	1	1
Competition									

Competitors profile (product substitution)	3	-2	-2	-2	1	1	1	1	1
Main competitor regional share	3	-3	-3	-3	-1	-1	-1	-1	-1
Main competitor local share	3	-4	-4	-4	-1	-1	-1	-1	-1
Main competitor to Electrosteel (potential) ratio	3	-5	-5	-5	-2	-2	-2	-2	-2
Main competitor to Electrosteel (capacity) ratio	1	-3	-3	-3	-1	-1	-1	-1	-1
Competitor's bonuses	3	-5	-3	-3	-3	0	-1	0	-1
Financial Analysis Results									
Quick benefits	1	3	1	1	3	1	1	2	2
Reasonable long term ROI	2	0	2	1	1	2	1	3	2
Cash Flow	2	3	-1	1	3	-1	-1	1	1
Local status price bonus	2	0	1	2	0	4	2	4	2
Labor costs	1	0	-3	-2	0	2	2	1	1
TOTAL SCORE									
		32	23	32	65	97	78	109	89

Table 8. Formal expansion option analysis

Exhibition 7: Project Schedule and organization

Project organization during implementation of expansion.

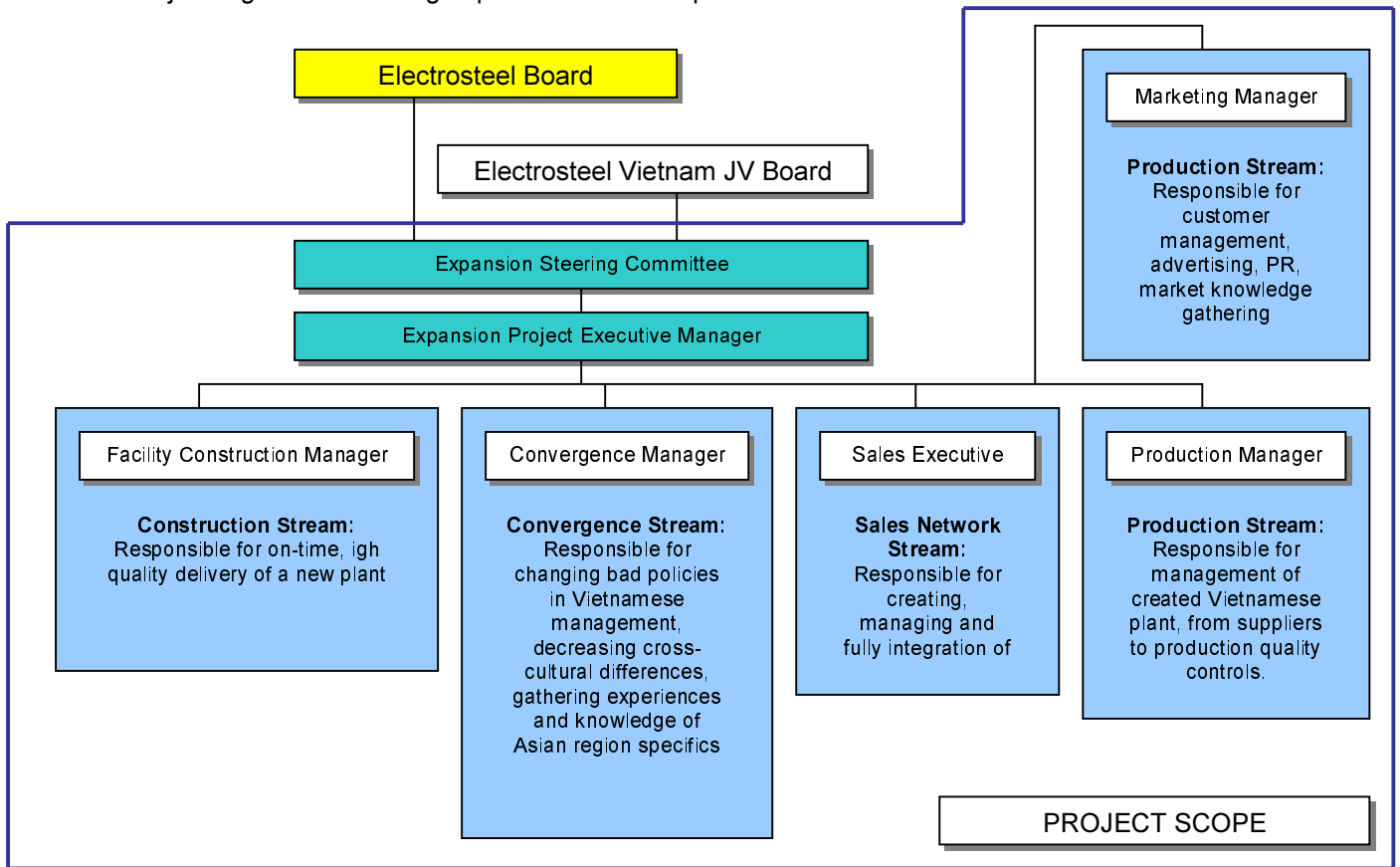


Fig. 1: Project Organization

Project Timetable shows estimated schedule of the project. Please note, that 6 month enterprise organization represent potential problems with beaucratic. We think that production stream should start before final completion of construction activities. The initial activities can be carried out, office organizaed etc. Sales is divided into pure organizational activities and transaction making.

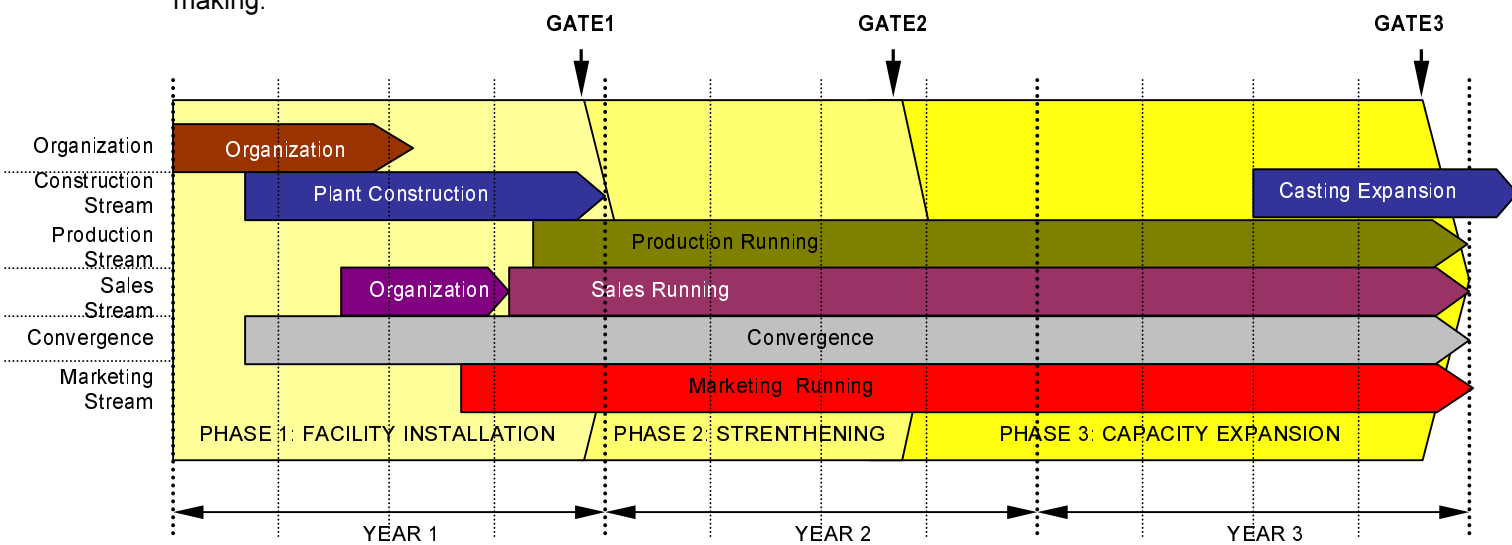


Fig. 2 Implementation Timetable