



# PERI

## Current Situation

Alexander Schwörer sat in his office on the fourth floor of PERI headquarters in Weissenhorn, a year after completing his MBA at Tuck and returning to his family's business in Germany. He'd never really left it behind, he reflected, having spearheaded PERI's expansion into the U.S. market in its core business of formwork for concrete while attending Tuck. But now, a year later, there were no more study breaks – he was fully engaged in PERI's future, working hand-in-hand with his father, Artur, who, though nearing 70, was as energetically involved as ever.

There would be lots of issues to tackle, Alex knew. Even at over 500 million Euros in turnover last year (see Exhibits A, B, and C for an income statement, balance sheet and cash flow statement respectively), PERI was a vertically integrated firm in an age when this was no longer fashionable nor, some might have said, efficient and practical. The shift from a purchase-oriented market to a rental one seemed to be a global trend in concrete formwork and scaffolding and brought with it new service and customer relationship challenges. Much of the necessary investment in equipment rental parks had been made over the last four years, but the debt accumulated remained to be paid off and now there was the strategic question of the need for pan-European rental parks. The relatively new scaffolding business was doing well in Spain, but the question of where and how quickly it should be expanded was an important one. In fact, Alex had three Tuck students working with him this summer, two of them on the expansion of the scaffolding business into the U.S. PERI was expanding by leaps and bounds internationally, but the market in Germany was really down – where they used to get 4.5% of the list price as a monthly rental rate, 2002 had averaged 2.99%. He wondered what all this meant for PERI's customized approach to each client, indeed each construction site – costs would have to be reduced somewhere.

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This case was written by Professor Hans Brechbühl of the Tuck School of Business at Dartmouth, with assistance from Professor Yiorgos Bakamitsos of the Tuck School of Business at Dartmouth and Stefan Muehleemann, T'04. It was written as a basis for class discussion and not to illustrate effective or ineffective management practices. The authors gratefully acknowledge the support of the Glassmeyer/McNamee Center for Digital Strategies, which funded the research and development of this case. Version: December 2003.

Note: The numbers in this case are broadly representative of PERI's performance, but not necessarily an exact reflection of their financial statements.

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## PERI History

This was quite a company Alex had returned to. It had its humble roots in 1969, when Alex's father, Herr (Mr. in German) Artur Schwörer built his first wooden girders for cement formwork. As he completed his first orders, his customers demanded more and Herr Schwörer gradually became a project engineer, helping his clients execute their projects. In this evolution were the seeds of the PERI solution philosophy. Within three years, PERI had an exhibit at the BAUMA in Munich, the world's largest building conference and exhibition. Growth came quickly after that. Two years later, PERI was already an international company, having established subsidiaries in Switzerland and France and then adding Spain in 1975. Expansion then slowed, with the U.S. and three European countries being added over the next thirteen years. But beginning with the addition of Great Britain in 1989, the 1990s saw rapid international expansion (see Exhibit D for a list of subsidiaries and year added). The first half of the 1990s also heralded an incredible boom period within Germany, due largely to the tremendous rebuilding opportunities brought by the fall of the Berlin Wall and the subsequent German reunification. Turnover in Germany tripled between 1989 and 1994 when it peaked at 165 million Euros, and then began a gradual descent to where it is today at around 100 million. Simultaneously, PERI began planting its flag in Asia. As the window closed on rebuilding in the former East Germany, PERI began opening others, entering South America and the Middle East, and expanding in the United States which it had initially entered in 1982. PERI seriously stepped up its international volumes beginning in 1994, and by 1997, turnover internationally had outstripped turnover in Germany (see Exhibit E for recent year sales figures and trends).

## PERI's Business in 2003

PERI has grown from a company with a turnover of roughly 50 million Euros twenty years ago, to a turnover of more than 525 million in 2002. Of this, less than 20% is now from Germany. With the exception of a couple of joint ventures, all subsidiaries, including international subsidiaries, are wholly owned. PERI employs 3500 people in 34 countries, approximately 1350 of them in Germany, of which 1000 are at the headquarters in Weissenhorn, SE of Stuttgart. PERI does almost all of its own manufacturing at its factories in Weissenhorn and ships products from there all over Europe and around the world (see Exhibits F and G for charts illustrating sales by region and country).

PERI sells and rents three types of construction equipment, all of which are made from wood, steel or aluminum (see Exhibit H for pictures of each category of equipment):

- Formwork for pouring concrete walls;
- Metal shoring (supports) for concrete slabs; and most recently
- Scaffolding for construction of all types.

The first two of these are normally used by general contractors and concrete subcontractors. The general contractors, who take on many different projects, tend to rent the equipment, basing their requests on the requirements of the particular job they were accepting –

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superintendents or project managers on site usually made rental decisions. Smaller companies, usually the concrete subcontractors who specialize in certain work and tended to do the same type of job over and over, often bought – their purchases tended to be made by the owners.

Only recently has PERI entered the scaffolding market, originally to meet a shoring market demand in Asia, where scaffolding was in demand as a cheap shoring system, not as access scaffolding. It was not introduced as a standalone product (access scaffolding), however, until the right competitive advantage was found – in this case, the ability for one man, from a safe position below, to erect the next level of the scaffold completely, guardrail included, ensuring his safety when he climbs to the next level (since the safety guardrail will already be in place). PERI then introduced it as a standalone product in Spain and is rapidly moving to expand. Scaffolding clients are far less homogeneous and can be divided into five market segments: industrial scaffolding (power plants, etc. – rent), commercial scaffolding (erect and disassemble – rent or buy), remodeling contractors or craftsmen (buy), special events (PERI's arena product – rental), and general contractors (generally rent). Of these, only the last are currently amongst the clients to whom sales already talks. PERI provides engineering services for formwork, shoring and scaffolding, though scaffolding requires distinctly less technical expertise. PERI also offers cleaning and repair services for its products.

From its inception, PERI's philosophy has revolved around providing better ideas, better solutions, for its clients. The heart of this concept is that if PERI can provide simpler, more easily utilizable equipment, the client can use this relatively inexpensive equipment to save on the comparatively more expensive labor through faster, simpler setup. To give a concrete example, to create a standard 30 cm (12 inch) thick cement wall, 63% of the expense is in the formwork into which the cement is poured, and only 37% is in the actual cost of the cement. Of that formwork-related 63%, the vast majority (80%) is labor cost! Quite simply, the easier and more efficient to use the formwork is, the lower the labor requirements, and the lower the costs to build the wall.

PERI has a large product selection that addresses the needs for formwork, shoring and scaffolding from small construction projects to huge bridges or skyscrapers. From PERI VARIO, an extremely flexible variable girder wall system, to PERI DOMINO, a lightweight panel wall system, PERI has a formwork product for every need. The same is true in its other product lines, even in its new scaffolding line where PERI has products from simple façade scaffolding (PERI UP) to industrial applications (e.g. PERI Rosett) for refineries, bridge repairs, etc.

PERI's products have been used for major construction projects all around the world. A small sample list would include:

- The new Federal Chancellery in Berlin, Germany
- Trump World Tower III in New York, USA
- The Cross of the Third Millennium in Coquimbo, Chile

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- Petronas Towers, Kuala Lumpur, Malaysia
  - Eleftherios Venizelos International Airport, Athens, Greece
  - The Ohio State Football Stadium extension in Columbus, OH, USA
  - Beni Haroun Dam in Wilaya de Mila, Algeria
  - The world's tallest highway bridge, the Viaduc de Millau in France.

As construction companies grew larger in size, PERI's business was increasingly becoming a rental business. Internationally 65% of the business is now rental, and is even higher in Germany, having reached 75% there.

PERI's business in its home territory of Germany has been difficult lately. The industry has really suffered as the economy has bottomed, and competition for projects is fierce as competitors seek to grab what share of the available business they can at almost any cost. As stated above, PERI's rental rate (defined as the percentage of the list price of the rented material paid as a monthly rental fee), which used to be 4.5% in Germany, slumped to 3.17% in 2001 and further to 2.99% in 2002. It had only stabilized at around 3.2% in 2003 because PERI simply refused to accept any projects below that. Even so, PERI currently ships 200-300 tons every day from Weissenhorn alone (that's about 20 loaded semi-trucks).

## The Competition

All of PERI's main competitors were in existence when PERI was founded, yet today PERI is the largest formwork, shoring and scaffolding company in the world. Below is a comparison of the turnover of PERI and its closest competitors using turnover figures in Euro for 2001:

PERI (German): 496 million

Doka (Austrian): 370 million

Hünnebeck (German – part of Thyssen Group): 160-170 million

SGB Patent (U.S. – owned by Harsco): 120 million (mostly in scaffolding)

Efco (U.S.): 80 million

PERI's sources of competitive advantage appear to be three:

- PERI has always managed to stay ahead technologically, coming up with the next generation of simplicity in formwork or shoring ahead of its competitors
- PERI has also generally been a first-mover in international expansion
- Most competitors use a dealer model – PERI has shied away from that since its inception, believing that a direct sales model empowering a highly educated and technically competent sales force is the best way to go.

## PERI's Business Model and Culture

Superior engineering has been at the heart of PERI's development as a company. Products are designed to be simple and easy-to-use – if they can't be developed satisfactorily that way, they are simply not brought to market by PERI. This engineering focus carries over from the product to the sales arena as well. Each client relationship is managed by a local "sales engineer" who is required not only to be able to handle the relationship building aspects, but must be thoroughly competent technically, able to deal with all clients without a "tech guy" present.

PERI is also very customer-solution focused. PERI has operated on the principle that it can provide a tailored solution that recognizes the unique circumstances of every construction site for its clients. PERI's hi-touch approach often includes on-site consultation during construction and sometimes even input from PERI engineers based at the headquarters in Weissenhorn.

PERI is very vertically integrated. The company not only designs, manufactures and sells its products, it also provides services around them. In fact, on the extreme end, when they are not readily available or don't meet the exact needs, PERI often also designs and builds the machines that manufacture its products! The company has few partnerships – Danzas, their logistics (trucking) partner is their only partner of any significance – although they are considering partnerships for the erection and dismantling of scaffolding.

PERI's culture is one of delegation of authority – even when Herr Schwörer, the company's founder, goes to a client with a sales engineer, the offer comes from the sales engineer to the client, not from the boss. Herr Schwörer believes strongly that a culture of letting people be responsible for their areas and not creating bureaucratic procedures is not only the right personnel policy, but also accounts for the fact that his chief competitor, Doka, has 8% higher personnel costs. Yet with PERI's growth, monitoring follow-thru on the ever increasing number of projects kicked-off was becoming more difficult.

Understanding of the changing business issues, regardless of ones functional assignment, runs very deep in PERI. They have a strong and well-coordinated management team that functions using "management by objective" for itself and its employees. Unlike what one would expect from a German company, Herr Schwörer doesn't particularly care for organization charts (though he admits that this causes a bit of a struggle as to how to conceptualize the organization). He prefers just to have a description of what each person does and believes strongly in doing yearly reviews and revisions, having each person write their own job descriptions and propose their own goals for the coming year.

PERI does have common metrics it uses to measure the success of its business overall and the progress of its subsidiaries. Many of them are relatively standard metrics any business would use, but some are peculiar to the nature of the business: utilization factor for rental yards, tons/day for logistics, etc. For a list of the main metrics PERI uses, see Exhibit I.

While software development to aid the design process and project management was a valuable element of PERI's approach, using enterprise information technology was not deeply ingrained strength of PERI's. In fact, given the different systems and processes

subsidiaries were using, gathering useful figures on rentals across PERI was proving rather difficult. As Alex reflected on this, he wondered about the role of information technology. Could it be an enabler for PERI? Could digital technology help PERI maintain its hi-touch engineering service and customer-solution orientation while still cutting costs? He resolved to think through some of the critical processes for the company and then get some help seeing where they may be able to apply technology to PERI's advantage.

## **Sales Process and Fulfillment**

Each country organization (subsidiary) has sales offices spread around the country as appropriate based on the market. Leads are acquired in any number of ways, from direct solicitation by the client, to reading about an upcoming construction project in the paper, to aggressive pursuit of relationships with key construction firms. The sales engineer owns the relationships with the clients and meets with them to determine their interest and the project needs. The sales engineer, together with the design engineer from the local engineering office when needed (75% of the time), then create the proposal for the client, tapping expertise from Weissenhorn (5%) or rarely, elsewhere within PERI. About half of the sales engineers have their offices at the engineering support office – the other half work out of home offices and communicate by telephone, fax, and e-mail with the design engineers. If the PERI sales proposal is accepted and becomes an order, the sales engineer places the order with the country organization which fulfills the order from stock on hand if possible. If it is not available, the country organization should check with neighboring countries and, if necessary, order from Weissenhorn (via fax) where the sales support and order management group (VKI is the German acronym) receives the order.

VKI checks, via computer and phone, with the warehouse if the material is on hand, creating a piece list if none accompanied the order (many products have numerous small parts or connectors that are integral to its functionality – these are not always identified by the sales engineer). If the product is available, VKI physically passes the order to new material warehouse management, which notifies Danzas (which does about 80% of PERI's shipping), providing them a paper list with the information for the order pickup and preparing the order. The finished product is then shipped to the client by Danzas. If the requested product system is not completely available in the specified quantity, VKI calls and informs the subsidiary, branch or if local, the sales engineer, that certain parts of the order must be manufactured (this only happens 3-5% of the time) and decides if a partial delivery is appropriate. VKI provides all sales support for logistics and billing, does all billing, coordinates with subsidiaries, German branches and sales engineers. VKI even accepts direct orders on occasion, and processes all sales orders from PERI subsidiaries abroad.

But many of these customer facing (or at least customer-impact) processes are entirely manual and fairly complex. Order management, for instance, involves over 100 steps on average (for an illustration of the lengthy process flow see Exhibit J). Not only does the customer have no visibility into where the order is, neither does the sales engineer. There is no IT system that checks the status of the process. The sales engineer has to call, fax or e-mail to get order status or check on back-orders.

## Rental Process and Fulfillment

The role of the sales and design engineers is very similar in a rental situation, but the role of VKI changes somewhat in the rental fulfillment process. They become the clearance center for all rentals within Germany, determining from what warehouses the orders submitted by the sales engineers will be supported. Abroad, each subsidiary has someone who performs this function nationally. They make these decisions chiefly based on transport costs and overall view of material usage, sometimes supporting orders through deliveries from a number of different warehouses.

VKI or the national offices locate rental materials by using printouts of equipment stored at each yard. They then follow-up by contacting the yard to inquire about availability of the product. After checking availability on paper, the yard often verifies actual availability by physically checking for the equipment in the yard. Lack of availability demands part of the load comes from the new materials warehouse in Weissenhorn, essentially necessitating a purchase of equipment by the subsidiary from Weissenhorn. Or, in the case of Germany, a partial shipment from Weissenhorn.

## Rental Yard Management

Rental yards are storage areas for rental equipment. Efficient management of its rental yards has become an increasingly vital component of PERI's business. So much so, that there is now much consideration being given to a plan to consolidate into bigger and bigger rental yards that have a transnational function ("Euro" rental yards). In Germany, for instance, PERI currently has ten rental yards, six of the largest variety (so-called A yards), two medium-sized "B" yards and two smaller "C" yards. Certain other countries also have more than one rental yard based on the volume of business and geography of the country.

The biggest challenge for individual rental yards is that of getting returned material ready for re-rental. When a truck rolls in returning equipment, yard workers identify the customer and order and count the most important pieces with the driver as they are dropped off – this generally occurs within one hour of the return of the equipment. 87% of what PERI receives back is OK and is returned to the rental stocks. The rest is sent to the repair area or, if in really bad shape, taken out of service.

If the cost of the damage or of missing parts exceeds 1000 Euros, the client is called and a bill subsequently sent. If it is less, only a bill is sent. PERI is now using digital technology for accountability for damage on returned rental parts, using digital photography to document damage and assess the \$ value, and then send the photographs to the clients via e-mail.

But the biggest issue in the process of the management of the return of rental materials is not repair or damage, but rather inventory control and visibility. It takes an average of one week until each return shipment is totally inventoried, returned to stock, and re-entered into the yard's computer. At peak times, this can even extend longer. That means that at any given time, over 1000 tons of material in Germany alone is invisible and not available for re-rental even if it is in the yard. Weissenhorn accounts for about 60% of this volume. Given the

potential impact it could have on rental utilization rate, PERI has been considering an IT-linked Europe-wide logistics process and is working on increasing rental equipment visibility by decreasing the time required to register return of rented equipment.

## **PERI Software Solutions**

PERI has also developed a number of its own engineering and project planning software solutions: ELPOS, PERICAD and PERIAN. ELPOS and PERICAD are not only used internally, but also made available to clients.

ELPOS is a formwork software program for basic planning and for daily work scheduling for the basic (and most used) PERI wall-, slab- and platform systems. It is used both by superintendents and estimators for daily operations scheduling, including material disposition and cycle planning, and also by PERI sales engineers for rapid creation of parts lists and proposals. It is an easy-to-use system, not a CAD-based system that allows customization for each construction site, ensuring the proper materials are present.

PERICAD is a more up-scale professional planning software to be used for any formwork application. It requires basic CAD skills and a more capable computer system. It is targeted at AutoCAD users, and is used by PERI design engineers. It is available in a version for scaffolding as well. It adapts layout plans, compares costs of options, etc.

PERIAN is used by PERI sales and design engineers for the basic purpose of creating proposals. It incorporates certain import functions from ELPOS and PERICAD and is used strictly internally.

Both ELPOS and PERICAD are available for client use. When a client makes a major purchase of PERI systems, ELPOS and PERICAD are most often included for the client by PERI without additional cost. There are some exceptions to this, usually made when it is an unusually complex project, or competition has driven other aspects of the proposal lower than acceptable. If the client is simply renting, the software is available for purchase – ELPOS costs about 2000 Euros, PERICAD about 3500. In about 90% of the rental cases, clients choose to have PERI engineering services as a part of the package, so software is only purchased if the client wants to engineer it themselves, or in order to have onsite to handle small engineering changes that arise on a daily basis.

## **Keys to Future Competition – What They Mean to PERI**

Alex thought about the three things his father was emphasizing as the keys to successful competition in this industry in the future: technological development, service offerings, and product availability. Herr Schwörer feels that technological development will continue to be important – forms for concrete are constantly getting lighter and lighter, but must also bear increased loads – and PERI is known for the ease of use and safety of its equipment. He also believes that service will continue to be an increasingly critical component. And last, but hardly least, Herr Schwörer is convinced that availability of product and the ability to deliver when the client wants must be high. There was a time when the market was more of a buying

market and many could compete. Now that it has become a rental market the competition has become a lot tougher and only those with big rental parks/good availability and high utilization rates will succeed.

These three industry demands are likely to mean at least three imperatives for the company. PERI must:

- ***Balance its ability to provide tailored solutions with profitability.*** The realities of today's environment make this a critical issue for PERI. Breadth of product offerings inherently provides more ability to tailor solutions – is this still the right way to go as the market continues to head more towards rental (vs. buy)? How do you deal with the different construction traditions and regulations around the world? Not offering such design flexibility would also diminish the authority and joy of the sales engineer, perhaps threatening PERI's culture.
- ***Ensure it can achieve the highest market share in every country it is in or enters.*** High market share enables higher operating efficiency and high utilization factors for the rental parks.
- ***Emphasize cost leadership without losing utilization.*** This is especially true in the rental parks and their associated processes. PERI has been working with its subsidiaries (using a balanced scorecard approach so they see the importance of all aspects of the enterprise).

As Alex reflected on these and how PERI might execute them, he returned to the question of the role of information technology. Where could it help them – in marketing, in the sales process, in engineering solutions, in logistics? What progress had they already made in this arena of IT-enabling processes? He resolved to think through some of the critical processes for the company and then get some help seeing where they may be able to apply technology to PERI's advantage.

Perhaps he should start by getting more technology into the logistics system, mused Alex. This would be a great help to Wolfgang Bohnacker, the energetic logistics chief. But what about providing greater capability on the customer end – wouldn't that be the place to invest first? Or would a more internally-oriented platform that promoted increased employee interaction or facilitated internal processes be the way to go? Alex thought he'd best start off by writing a list of the potential ways he could use information technology and what the likely impact on the firm and the bottom line would be.

## Financial Profile: Income Statement



### Income Statement

in TEUR	2000	2001	2002
<b>Operating revenue</b>	440,675	515,621	548,221
<b>Cost of materials</b>	94,363	104,133	109,977
<b>Personnel expenses</b>	115,674	128,111	138,020
<b>Depreciation</b>	76,593	94,964	104,860
<b>Other operating income</b>	24,975	12,108	12,410
<b>Other operating expenses</b>	112,640	130,913	142,608
<b>Financial results</b>	-19,826	-23,818	-23,993
<b>Profit from ordinary operations</b>	46,555	45,789	41,172
<b>Taxes</b>	23,486	20,359	18,249
<b>Profit for the year</b>	<b>23,069</b>	<b>25,430</b>	<b>22,923</b>
Thereof Sales	185,414	210,862	222,529
Sales in %	42.1%	40.9%	40.6%
Rental	244,387	285,238	303,492
Rental in %	55.5%	55.3%	55.4%
<b>Growth rate</b>	24.1%	17.0%	6.3%

## Exhibit A

## Financial Profile: Balance Sheet



### ■ Balance Sheet

in TEUR	2000	2001	2002
<b>Tangible assets</b>	110,807	117,409	124,087
<b>Rental assets</b>	188,942	220,190	228,918
<b>Inventories</b>	87,581	87,044	84,284
<b>Trade receivables</b>	128,210	151,155	156,798
<b>Cash-in-hand, bank balances</b>	13,504	9,049	9,509
<b>Other assets</b>	39,396	46,269	46,198
<b>Total assets</b>	<b>568,440</b>	<b>631,116</b>	<b>649,794</b>
<b>Equity</b>	124,067	150,914	166,461
<b>Shares of silent partners</b>	28,121	28,110	28,430
<b>Accruals</b>	35,045	31,446	31,061
<b>Liabilities to banks</b>	301,531	334,677	339,214
<b>Other liabilities</b>	69,053	76,306	78,237
<b>Other equity and liabilities</b>	10,623	9,662	6,392
<b>Total equity and liabilities</b>	<b>568,440</b>	<b>631,115</b>	<b>649,795</b>

## Exhibit B

## Financial Profile: Cash Flow Statement



### ■ Cash Flow

in TEUR	2000	2001	2002
<b>Profit before tax</b>	46,554,529	45,789,035	41,171,855
<b>Tax paid</b>	23,485,574	20,359,165	18,249,294
<b>Depreciation</b>	76,593,052	94,964,312	104,860,353
<b>Change in provisions</b>	480,795	180,040	653,921
<b>Funds from operation</b>	<b>100,142,802</b>	<b>120,574,222</b>	<b>128,436,835</b>
<b>Inventory (rentals)</b>	(104,447,897)	(114,531,868)	(99,991,188)
<b>Inventory (sales)</b>	(27,641,156)	537,309	2,759,568
<b>Receivables</b>	(41,172,386)	(26,192,492)	6,272,480
<b>Payables</b>	31,373,541	(1,722,877)	(1,302,554)
<b>Free Operating Cash Flow</b>	<b>(41,745,096)</b>	<b>(21,335,706)</b>	<b>36,175,141</b>
<b>Capital expenditure</b>	(21,408,714)	(18,853,959)	(31,790,407)
<b>Free Cash Flow</b>	<b>(63,153,810)</b>	<b>(40,189,665)</b>	<b>4,384,734</b>

## Exhibit C

# PERI Subsidiaries

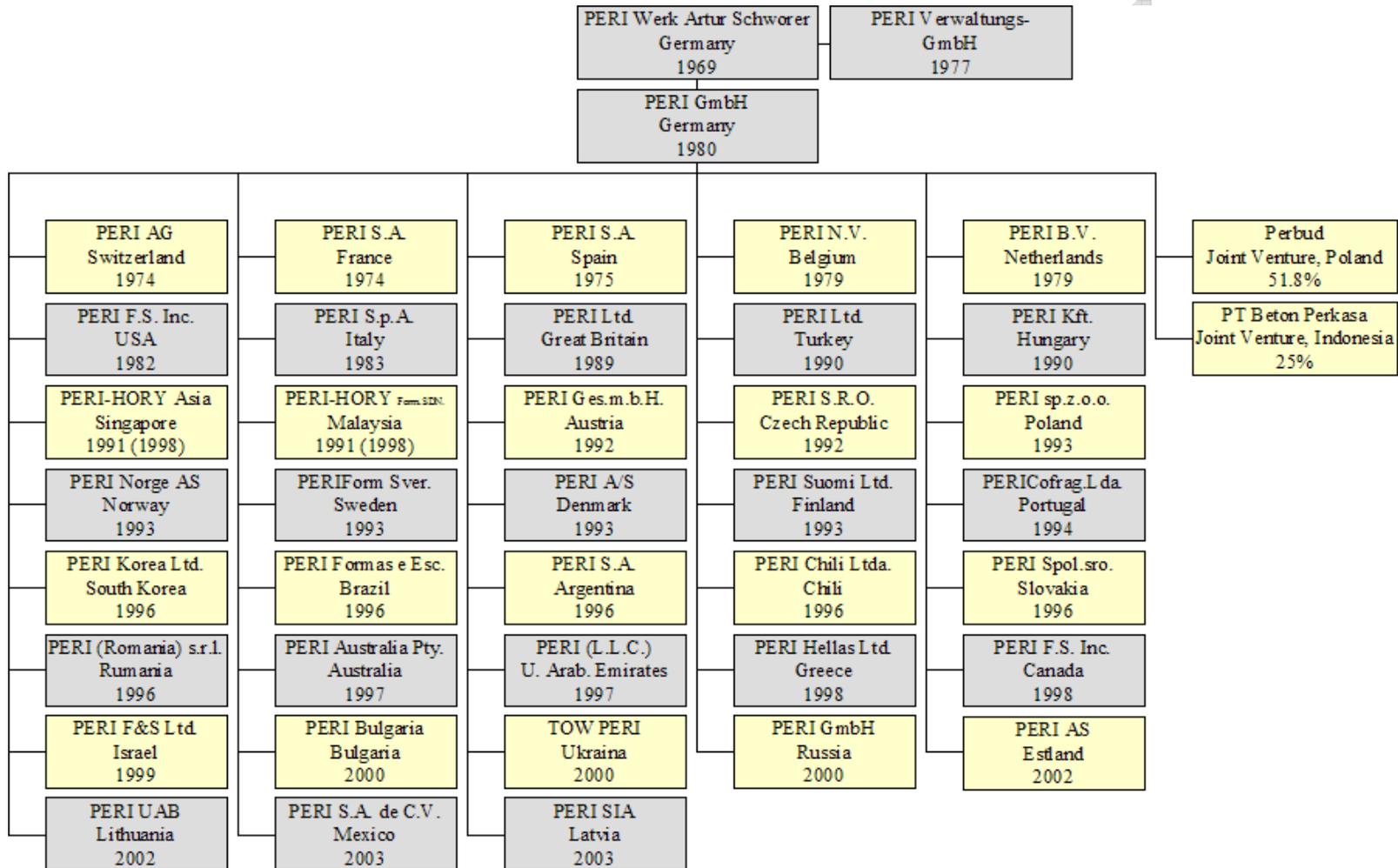


Exhibit D

# PERI's Growth



## Worldwide Turnover by Development

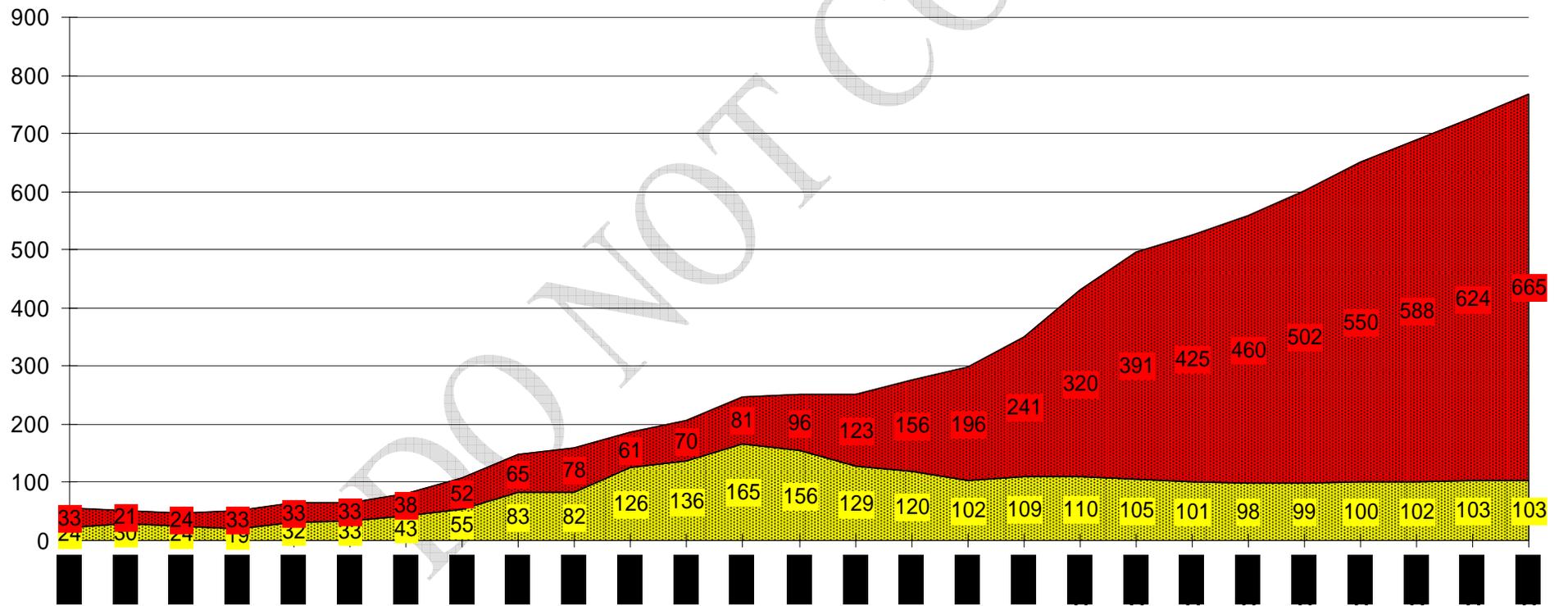


Exhibit E

# Sales by Region



## Regional Share of Total Turnover in %

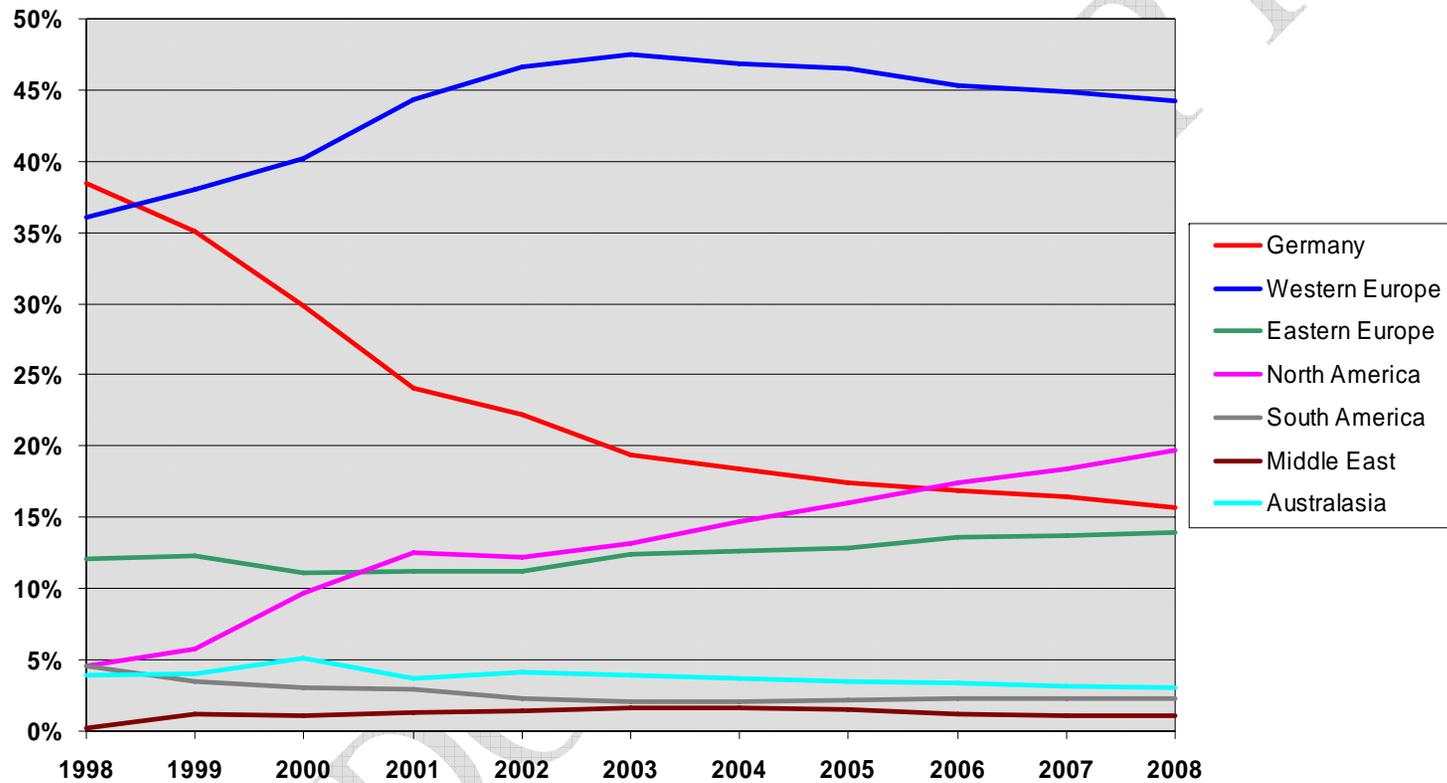


Exhibit F

# Sales by Country



## ■ Total Turnover

in -TEUR-

Rank	Country	2002	Rank	Country	2002
1	Germany	116,773	19	Singapore	6,978
2	Spain	80,854	20	Australia	6,361
3	USA	51,009	21	Greece	4,234
4	Portugal	29,648	22	Turkey	4,162
5	Italy	28,100	23	UAE	3,719
6	France	23,249	24	Belgium	3,679
7	Poland	22,407	25	Israel	3,586
8	Great Britain	15,796	26	Romania	3,196
9	Canada	13,162	27	Netherlands	2,748
10	Sweden	12,720	28	Bulgaria	2,700
11	Czech Republic	11,959	29	Slovakia	2,551
12	Norway	11,938	30	Finland	2,441
13	Switzerland	11,390	31	Ukraine	2,139
14	Denmark	10,559	32	Brazil	1,767
15	Chile	9,951	33	Estland 1)	902
16	Hungary	8,853	34	Argentina	338
17	Korea	8,526			
18	Austria	7,630			
				<b>World</b>	<b>526,021</b>

1) Fiscal year only 1.7.02 - 31.12.02

## Exhibit G

# Example of Formwork Equipment



Exhibit H

## Example of Shoring Equipment



Exhibit H (continued)

## Example of Scaffolding Equipment



Exhibit H (continued)

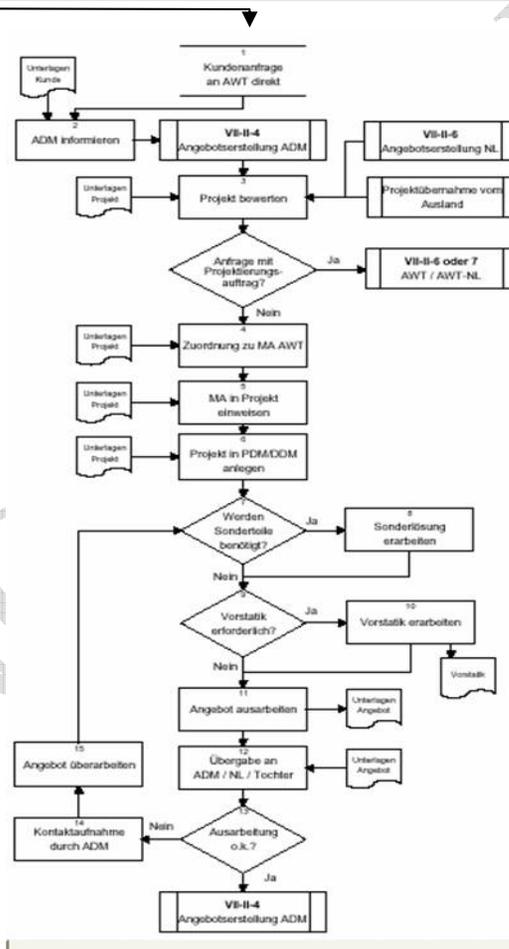
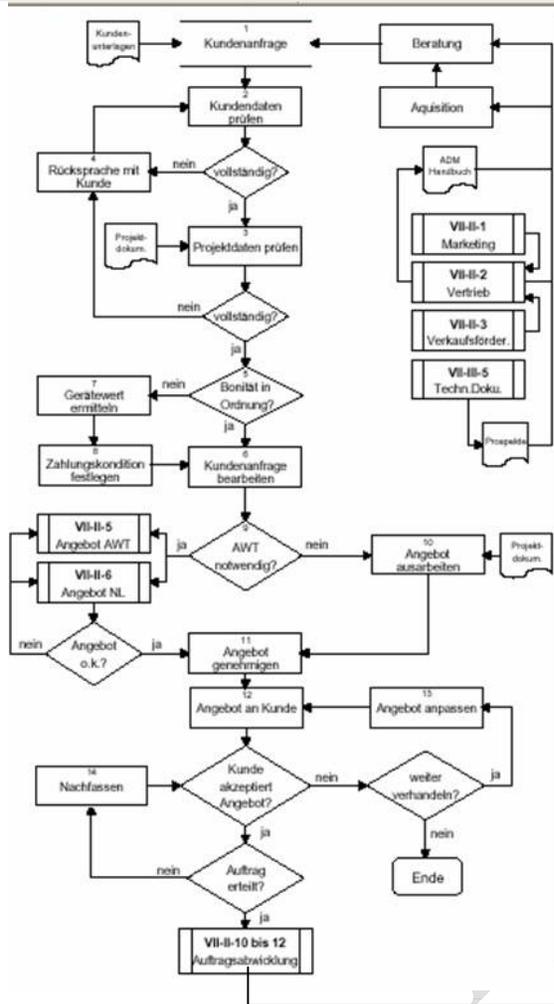
## Sample Metrics



- Turnover vs. planned turnover
- Personnel costs: 17-25% of expenses is OK
- Profit before tax: 10% is OK
- Cash flow: Target = 30%
- Turnover/employee: 300K Euro is good; CH is tops at 414K Euro
- Rental rate (% of list price/month): Good would be 4.5%
- Production: Hours/square meter of formwork
- Production: Hours/linear meter of XXXX
- Logistics: Tons/hour

### Exhibit I

# From client inquiry to sending out the invoice part 1



Next page →

## Exhibit J

# From client inquiry to sending out the invoice part 2

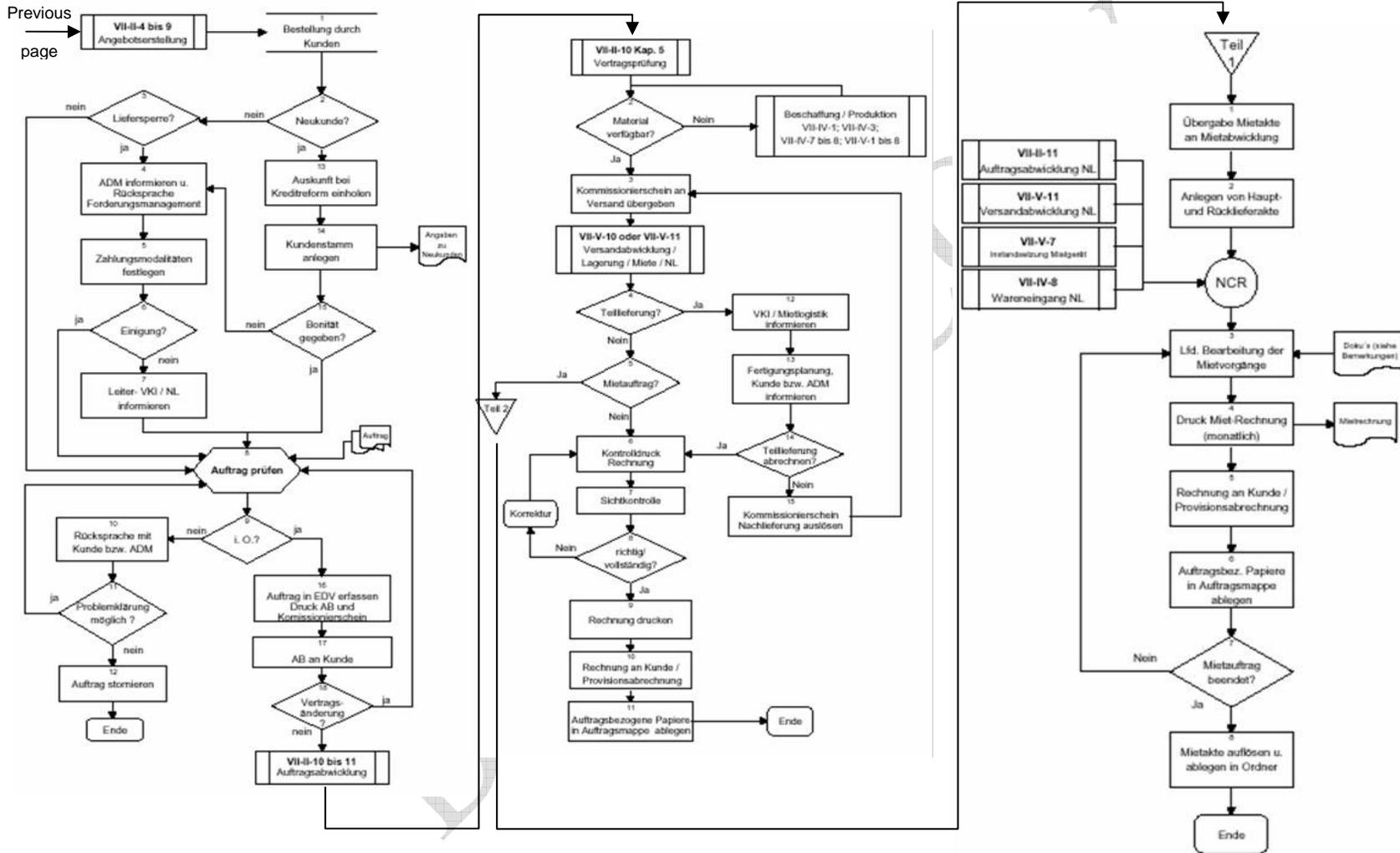


Exhibit J (continued)