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Siemens: a multinational's strategy to investment in the Central-East European transformation countries

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**Siemens — A Multinational's Strategy
to Investment in the Central-East European
Transformation Countries**

by
Birgit Sander

October 1995



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Abstract

The Central East European economies are competing for international investment capital, especially for FDI in order to support transformation. The paper explores how the Siemens AG, one of the world's largest MNCs, allocates investments towards and within Central East Europe and how they fit into its overall corporate strategy. They display strategic asset features, are targeted to cheap resources, meant to serve either national or international markets and rely on different degrees of functional integration (D21, F21, F23, L22).

I Introduction¹

Globalisation of markets and internationalization of production are among the most salient features of world economic development during the last decades, especially since the early 1980s. As world-wide integration proceeds, traditional trade links are increasingly supplemented by capital links. The main driving forces behind this development are:

- Growing competitive pressures to which enterprises, namely multinational companies (MNCs), respond by optimizing their structure of production and sales on a global scale. Besides undertaking trade, they are establishing strategic alliances and co-operation schemes as well as initiating portfolio and foreign direct investment.

- A virtual renaissance of the market system as liberalization and transformation took hold of many former rather closed economies. Numerous countries have liberalized their foreign economic regime, including policies towards

¹ The research for this paper was undertaken with support from the European Commission's Phare ACE Programme 1994 „Joint Ventures in Transformation Countries in the Context of Overall Investment Strategies of Their Partners“, project no. 92-0123-R.

inward FDI,² and over the past five years nearly all former socialist economies have abandoned central planning.

A considerable part of international capital linkages is constituted by means of foreign direct investment (FDI), i.e. the acquisition of foreign assets with the intention to control their use in production. Investors design their approach to FDI such as to maximize the value added to be generated by combining foreign resources with firm specific ones. As they are following different intentions four types of FDI can be distinguished [Dunning 1995, p. 138]:

- Resource seeking FDI is meant to economize on the natural resource inputs and/or labour cost;
- market seeking FDI is meant to serve the market in which the foreign production is established or to serve as a bridgehead for entering other markets;
- efficiency seeking FDI is meant to realize productivity gains by implementing advanced — lean, flexible, integrated — concepts of production;

² Many countries also have abandoned tariffs and other trade barriers. With respect to FDI, liberalisation and deregulation work in the opposite direction as they discourage foreign production as a vehicle to enter trade protected markets. Deregulation makes markets work more efficient and may regain them an edge relative to co-ordination via intra-firm hierarchies.

- strategic asset seeking FDI is meant to set the stage for long term competitiveness, namely to underpin existing or to create new competitive advantages.

MNCs can pursue different strategies to establish functional links between corporate and affiliate activities [UNCTAD 1993, p. 118ff.]. In stand-alone strategies, the parent company mostly concentrates on acquiring ownership, providing finance and/or transferring technology while the affiliate is performing along the other parts value chain and is able to operate largely independently within the host economy. In simple integration strategies affiliates' activities in the host country are linked to and dependent on the parent company's activities in the home country. Mostly, affiliates cover only a smaller part of the value chain such that they would not be able to stand alone. The parent company closely controls the affiliate and remains with most of the corporate functions. Outsourced international production typically represents simple integration strategies. In complex integration strategies any affiliate may perform functions for the company as a whole. Functional activities — not only manufacturing but similarly research and development, procurement, finance, accounting, staff training, legal activities and corporate planning — are located wherever they can be performed best.

Corporate strategies of international integration have a regional dimension, too [UNCTAD 1993, p. 128ff.]. In multi-country strategies each affiliate primarily serves its host country market while the parent company controls several affiliates in different countries. In regional strategies affiliates are located in various host countries within a certain region and the major market for their product is this region. Often affiliates are co-operating and establishing networks with non-affiliated companies acting as local suppliers and subcontractors. In global strategies affiliates are similarly located within a certain region and similarly may establish relations to non-affiliated companies but primarily they are producing to serve global markets.

The transforming economies of Central East Europe have a vital interest in integrating into the world economy with respect to both trade relations and capital links. They consider the inflow of foreign capital to be crucially important to promote enterprise restructuring triggered by transformation and to firmly root the newly established market system. More specifically, they expect foreign investors to generate income and employment. Without neglecting transformation specific obstacles and notwithstanding individual countries' profile of comparative advantages the former socialist economies in Central East Europe are offering international investors

- a large industrial base,
- a well qualified labour force at relatively low cost,
- a sizeable domestic market with pent-up demand for both consumer and investment goods,
- a favourable regulatory framework in terms of taxes as well as environmental or social norms and
- proximity to the European Union.

Large MNCs are playing a leading role in the process of globalization — in trading as well as in allocating capital, moving human resources and installing new technologies. According to UNCTAD, the world's largest hundred MNCs, ranked by foreign assets, control about one-third of the world FDI stock [UNCTAD 1994, p. xxi]. This paper examines how one of them — Siemens AG is ranking number 17 [UNCTAD 1994, p. 6] — proceeds in order to reach the best possible match between the company's strengths and a specific region's locational profile.³ First, the paper considers the historical and global context of Siemens' inter-

³ Further studies in this field refer to theoretical consideration and empirical assessment [Sander 1992; Sander, Schmidt 1993; Schmidt 1994; Schmidt 1995] as well as to the case of Volkswagen AG [Sander 1994].

national activities. Then it gives attention to the company's activities in Central East Europe. It sketches the general features with respect to this region, looks at the country-specific activities and describes how enterprise restructuring is carried through. Finally, it draws conclusions on how this company's approach to FDI appears in the general context of globalization and internationalization.

II Foreign Activities --- The Historical and Global Context

- The Siemens group with its core business in electrical and electronics is a typical multinational enterprise. It is represented in more than 150 countries on all five continents and employs some 380 000 people. Presently, about 60 percent of its global business are generated outside of Germany. Since the beginning of political and economic liberalisation Central Eastern Europe again represents a region of special interest in the group's international strategy. Siemens' international activities are dating back into the last century. In 1851 — only four years after its foundation in 1847 — the company started to operate abroad. The first basis of its international activities was in eastern Europe, in Russia. Delivering some dozen telegraph devices and building a telegraph line linking the Baltic Ocean with the Black Sea established Siemens as one of the first players on the international market scene. In 1855 Siemens opened its first foreign branch office in St. Petersburg and

since then international activities based on presence in foreign countries have been an integral part of Siemens' overall investment and business strategy.

- Word War II cut off most of the economic links to eastern Europe the company had developed so far. However, the network of business relations has already been as dense as to facilitate new beginnings after abolishment of the iron curtain.⁴ Several decades of socialist planning have left public infrastructure and communication systems in eastern Europe in a deplorable state. They prove to be most serious bottlenecks in establishing market structures. Public infrastructure and telecommunications constitute corner stones of economic development and transformation on the one hand and offer promising business opportunities on the other hand. Hence easterners and westerners equally have strong interest in joint undertakings. Usually expectations are running high on both sides and often only large western investors are considered competent and strong enough to tackle the enormous tasks which go along with market creation and knowledge transfer. Siemens has taken this challenge and built up a considerable commitment to the economies of Central East Europe.

⁴ A first resurgence occurred in the political thaw period of the early 1970s.

- In continuing what begun in the late 19th century Siemens pursues a comprehensive global strategy. Local co-operative ventures, technology transfer and world-market manufacturing with transregional marketing concepts are of high importance. Usually, the early stage of a market is considered the optimal point of time to establish the company's presence [Siemens 1994, p. 21]. The main strategic devices are first, expanding sales, i.e. growing via trade links and second, expanding foreign direct investment, i.e. growing via equity links. With respect to sales Siemens strives for expansion wherever it can possibly capture market share. With respect to foreign direct investment Siemens basically watches the entire global market place for opportunities to allocate its commitments.
- All international activities of Siemens are instrumental to the company's general growth target, namely the aspiration to grow faster than the respective market. For all activities strategic goals are defined by competitive bench-marking, either referring to the growth of the respective market segment or measuring a division's expansion against the growth of the whole company. It is this very growth orientation which makes Siemens look for strong partners in its international activities, mostly choosing them among national market leaders.

- Among the regions of the world, present growth leader is South East Asia, while future growth performance is expected to characterize Central East Europe which is actually considered as a region of emerging markets. Yet growth market orientation leaves unaffected the group's commitment to its already well established businesses in other regions. Rather, new growth oriented businesses are considered to be supplementary to those which have been developed earlier on and consolidated then: in South America in the 1960s, in North America and in India in the 1970s. As a result, the group appears to be firmly based on its German and Western European home markets while at the same time explicitly committing to both present and future growth markets.
- According to its philosophy and corporate identity Siemens considers international activities from a long-term perspective. In exploring foreign markets it relies on a deliberately designed developmental approach.⁵ Aiming to optimize both trade flows and production structures it permanently looks for growing markets and favourable locations. In the past, Siemens used to start in emerging markets with small scale operations and a low degree of commitment which was to be increased according to the market development.

⁵ This is in sharp contrast to the Japanese strategy of „laser beaming“. Japanese investors usually wait until a market has reached a certain degree of maturation. Then they make a huge, powerful attempt to capture it and to take a leading position.

- Siemens used to establish a first foothold by founding joint venture companies in which it held a minority share and which later on was to be transformed into a majority holding. Nowadays, in order to speed up settlements in the new markets of South East Asia and Central East Europe Siemens has revised its strategy and mainly relies on acquiring companies for production and establishing sales and services organisations. In mature markets acquiring existing companies or founding subsidiaries typically prevails.
- The Siemens AG encompasses 16 product groups and two separate legal units which all are operated under the guidance of the Siemens AG managing board (Chart 1).⁶ Product groups are organized as profit centers and managed nearly like individual companies. This entails that each group is responsible both to design and implement its own global strategy according to the specific features of its markets.⁷ Usually, several groups are developing activities in a certain country. This entails that group specific strategies have to be co-ordinated on the company level. The corporate executive committee has to approve each foreign investment and to consolidate individual group activities so as to ensure that in each country or region Siemens as a whole

⁶ Beyond the public limited company (AG), Siemens further accounts for five German subsidiaries, 56 international subsidiaries, three German and three internationally associated companies and numerous joint ventures in different countries [Siemens 1994c, pp. 58, 59].

⁷ For illustration see Appendix.

proceeds with a consistent strategy. Within a certain country, co-ordination of Siemens' multiple activities is achieved by a key-account manager. In the national framework, he is in charge of representing the company as a whole, especially in negotiations with large customers. Each country concept — on the individual group level as well as on the overall company level — is scheduled for fundamental scrutiny every three to five years. This serves to check group concepts against market developments, especially to explore new opportunities and to re-adjust co-ordination on the company level. The main issue of co-ordination is to realize synergies with respect to peripheral resources and services, i.e. to pool those resources and services which are not specific to group production but which can best be rendered on the company level, like sales distribution or research and development.

Chart 1- Siemens' Organizational Structure

Steering Committees
Managing Board
Corporate Executive Committee

Groups			
Power Generation (KWU)	Power Transmission and Distribution	Industrial and Building Systems	Drives and Standard Products
Automation	Private Communication Systems	Public Communication Networks	Defense Electronics
Transportation Systems	Automotive Systems	Medical Engineering	Semiconductors
Passive Components and Electron Tubes		Electromechanical Components	
Special Divisions			
Network Systems		Audio and Video Systems	
Separate Legal Units			
Siemens Nixdorf Informationssysteme AG		Osram GmbH	

Corporate Departments				
Finance	Research and Development	Human Resources	Production and Logistics	Planning and Development
Corporate Offices				
Corporate Communications		Economics and Corporate Relations		
Services				
Infrastructure Services	Personnel Services		Corporate Computer and Network Services	
Regional Organization				
Regional Offices	International Siemens Companies	Sales Companies	Representative Offices	Agencies

Source: Siemens 1994b, pp. 42, 43.

- Siemens' basic guideline for international activities is to rely on locally generated value added, irrespectively of regions' and businesses' peculiarities. In a foreign country Siemens generally pursues two kinds of activities, one is targeting the host country market, the other is targeting the international market. Targeting host country markets mainly represents a multi-country approach in which functional linkages between parent and affiliate are usually established by stand-alone arrangements or by simple integration. Targeting international markets essentially represents a global approach in which functional linkages may be established by stand-alone arrangements as well as by simple or complex integration.
- Activities assigned to the local market usually comprise assembly of parts, marketing activities and projects in public infrastructure. They are mainly initiated to participate in emerging markets from the very beginning, they often rely on orders by state organizations submitted by public tender, they are mainly pursued by newly founded companies or joint ventures and — on purpose to secure employment — they are often carried out by subcontracting with local companies. As far as inputs like technological and market know-how are required, they have to be provided by Siemens as the western investor.

- In contrast, activities targeting at international markets, i.e. export markets, usually comprise large-scale production and are initiated to realize wage cost advantages and economies of scale. Mostly, they are set up by acquiring an existing company, thus relying on technologies which are already available in the host country. Siemens as the western investor in the first instance has to transfer the know-how needed for restructuring and modernization and to provide finance.
- The relative importance of targeting local resp. international markets is determined first, by the relative size of a country's domestic market and second, by the level of a country's economic development. The share of production for international markets tends to be the higher, the smaller the domestic market of the foreign country and the higher its level of economic development. Thus, in the east European transformation countries, the share of production for international markets in Siemens' activities tends to be higher than in South East Asia where domestic markets are relatively large.
- The degree of market development determines both kind and intensity of Siemens' commitment towards a region. In the global context, Siemens distinguishes three types of regions. First, regions where Siemens' market presence is well established like Germany, Western Europe, North and South

America; second, regions which are currently realizing their growth potential and display high dynamics like South East Asia and third, regions where markets are only emerging but promise considerable future growth like Central Eastern Europe. Generally, established markets account for the largest stock of equity and absorb the largest part of flows while emerging markets only play a minor role both with respect to stocks and flows.

- Global presence and growth are not considered as a purpose on their own but as means to cope with global competitive pressure. Maintaining one's competitive position requires a permanent process of optimization and reorganization: production processes have to be restructured, production sites have to be relocated, existing products have to be adapted to changing market requirements and new products have to be developed. As far as possible, Siemens intends to maintain the competitiveness of existing productions by improving processes and enhancing product quality. Only when the potential for improvements on the spot is exhausted, production will be switched to another, more favourable location or will possibly be discontinued. Siemens responds to competitive pressures by letting locational competition work also among its own companies, especially among those committed to international production.

- Similar to investments in South East Asia, Siemens' commitment to the former socialist economies is motivated by growth perspectives. The process of transition from plan to market may be long and stony but it unequivocally sets the stage for future growth dynamics and is considered the very proper time to establish a firm foothold.⁸ The activities Siemens displays in eastern Germany, e.g., can be seen as a blueprint for its approach to Central East Europe:⁹ once confronted with enlarged national markets due to unification Siemens defined its target for eastern Germany as to reach a market position similar to that in western Germany. Promising fields of activity were identified both in modernizing infrastructure and in enterprise restructuring. In eastern Germany, even before unification was realized, Siemens started out with establishing comprehensive sales and service networks which were characterized by proximity to markets and high content of local value added. Later on, the scope of activities was enlarged so as to include assembly lines and licensed production. Siemens established joint ventures or subsidiaries, and entered co-operations concerning licensed production of data processing. Also, it participated in the privatization process acquiring businesses in communication, automation and automotive systems. Siemens contributes to

⁸ Although Siemens does not „anticipate a substantial expansion of business over the near and medium term“ [Siemens 1994a, p. 8] it intends to at least double its international market share in Central and Eastern Europe over the medium term [Siemens 1994c, p. 5].

⁹ Siemens 1990, p. 7.

its partnerships in terms of injecting capital, transferring technology and facilitating world market entry.

- On the whole, Siemens considers its global activities to be very successful. As a rule, Siemens proceeds from the presumption that — guaranteed by its experience and competence — each investment will be profitable. Within a period of normally three, eventually five years each new venture is scheduled to pass the break-even point and to start generating returns. Basically, divestitures are not part of Siemens' global strategy. Anyway, there is a basic asymmetry between existing, potentially declining activities and those which are to be set up newly: for social reasons it is much harder to discontinue any activity, even if unprofitable, than to identify new market opportunities and to set up new ventures.

III Activities in Central East Europe

Siemens' Approach to Central East Europe

- Since the fall of the iron curtain Siemens has continuously intensified its activities in Central East Europe and meanwhile has build up a considerable commitment. The transitional period of economic transformation from plan to market is considered the best time to establish a firm foothold in the re-

gion. Initiating activities in emerging markets is reflecting Siemens' long-term approach to international investment. They serve to acquire intimate knowledge of the economic framework there in order to tap future growth potentials. According to reform progress Siemens identifies different groups of transformation countries. Siemens' interest centres in the so-called core countries Hungary, the Czech Republic and Poland where reforms started early and already yielded tangible results. The core countries are followed by Slovakia and Slovenia, and these five together constitute the group of reform countries.¹⁰ In contrast, Russia and the other successor states of the Soviet Union are considered as cases of their own as their commitment to market oriented reforms is much weaker and their markets are assessed to be much riskier than those in the reform countries.¹¹

- Presently, Siemens participates in about 70 enterprises in Central East Europe and employs more than 22 000 people there.¹² According to the size of the equity share Siemens holds a commitment is considered either as joint

¹⁰ Central East Europe is conceived as additionally including the Baltic Republics, Bulgaria, Romania and Albania.

¹¹ In power generation Siemens has established several joint ventures in Russia. To the Ukrainian government Siemens has presented a concept to switch off the Chernobyl nuclear power plant and to build a center for closing down and disposing of outdated nuclear installations [Frankfurter Allgemeine Zeitung 1995].

¹² In east Germany Siemens employs about 18 000 people. Figures in this paragraph refer to April 1995.

venture (equity share of Siemens below 50 p.c.) or as majority holding (equity share of Siemens above 50 p.c.). According to employment, majority holdings (16 600 people) account for a considerably higher share than joint ventures (5 400 people). The regional distribution of employment nearly replicates the pattern of equity involvement. While the three core countries account for a workforce of about 15 500 people (3 200 in Poland, 4 100 in Hungary and 8 200 in the Czech Republic) the two other reform countries account for about 3 000 people. This indicates that Siemens allocates both capital and labour according to reform commitment and reform results.

- Siemens displays its activities in Central East Europe both in the public and in the private sector. Businesses are developed primarily in four fields:
 - medical systems and automation,
 - power generation, transmission and distribution, mainly upgrading nuclear facilities,
 - telecommunication systems with both communication networks and information systems, and
 - transportation and automotive systems.

Furthermore, a wholesale network in electrical installations — which rests upon so-called installation centers covering the full line of electrical supplies and a complete range of services — has been set up and shall be expanded further. A large part of businesses, namely in power generation, telecommunication and railway systems, rests upon public orders.

- Projects in the public sector usually benefit to a certain degree from public finance which may come from national authorities as well as from international financial institutions like the International Monetary Fund, the European Bank for Regional Development or the European Investment Bank. Then Siemens' main tasks are to transfer know-how and to assume management responsibility. However, if funds from international sources are not available, finance proves to be a serious bottleneck to many projects. In the private sector, anyway, Siemens is the partner mainly responsible for providing finance.
- In every country the settlement of activities exhibits a certain locational pattern according to the kind of production and its target markets. Service and marketing units are usually centred in the capital cities while production and assembly lines are mostly located peripherally to the center. In contrast, large production entities in charge of serving export markets are located

where production costs are the lowest, i.e. far from the capital center in the country side. Often they are established at traditional production sites.

- Besides trading, there are two main modes to enter an emerging market. The first is to set up new ventures by founding 100 percent subsidiary companies, the second is to start co-operation with existing local companies by acquiring part of their equity. In the strategy of Siemens, founding new companies mainly serves to attend the national market, especially to win orders for projects in public infrastructure which are submitted by public tender. In such tenders the required performance — in terms of services to be rendered and goods to be delivered — is usually fixed and the crucial parameter to win the bid is the price at which the required performance is offered. Additionally and as a device to reduce unemployment public bodies tend to impose the obligation to subcontract primarily with domestic companies. Such newly founded subsidiaries heavily rely on the know-how transferred by the mother company while co-operations — irrespective of minority or majority holdings — mainly benefit from combining existing local know-how — upgraded by the western partner — with low local labour costs. This makes them internationally competitive and allows them to build up large-scale export oriented productions. Yet such ventures will only succeed if the western

partners masters the intricate task to restructure an organization which formerly was a socialist enterprise.

- Establishing joint ventures or majority holdings with local enterprises is preceded by a complex process of information, negotiation and contract design. In the reform countries interest in co-operation with western enterprises is generally very high and the eastern market for mergers and acquisitions seems to be a buyer's market. For western investors like Siemens preparing the choice often requires a comprehensive process of gathering information, filtering and sorting out the many proposals submitted by local enterprises. Main source of information is the potential partner company itself. Public bodies like national property funds or ministries are only involved as far as privatization is concerned. The choice Siemens finally makes is based on assessing the company's know-how, its production profile and its market prospects. Once a partner has been chosen the terms of the contract have to be negotiated. Easterners prove to be very tough in negotiating and sometimes it appears to be quite difficult or even impossible to achieve mutual understanding, like in the case of Škoda, Pilsen. Between Siemens and a future partner basically all aspects of the acquisition itself and the design of the partnership are negotiable and have to be fixed by contract: consensus has to be reached on the purchasing price for the operational unit as well as on the

price for real estate, on the investment volume, on management responsibility, on employment, wages, old debts and on coverage for possible losses.

- In fixing the terms of acquisition and co-operation Siemens attempts to make a clean cut with the past and to set the conditions for a new start. From its perspective the best deal is to shed off old debts — both financial and ecological — and to acquire only productive assets (fixed and current assets, necessary real estate) and resources, namely staff people which incorporate the company's future potential. Only in second preference, Siemens is ready to accept price reduction for taking over old debts or redundant staff. With respect to operating results each venture is meant to be both independent and responsible: independent as how to use profits and responsible for covering losses. Only during the take-off period of usually three, maximally five years Siemens AG as the mother company is willing to take over losses.

Siemens' Activities in Individual Countries

- Siemens has defined some basic rules which constitute the group's corporate strategy towards international business. Although they are valid for all markets, countries and operations, Siemens' approach towards each specific country or region takes a different shape according to the level of economic

development, the length and history of economic relations and the number and kind of markets in which Siemens intends to set up businesses.

- In Hungary, Siemens entered the market place in 1890 when opening an office there which took part in building and installing the underpavement train in Budapest which at that time was the first in Europe. This as a starting point Siemens continued to develop businesses in Hungary mainly in the agglomeration area of the capital city. Near Budapest Siemens established a cable, a motor and a transformer factory as well as low-voltage production facilities for radio equipment and other products. By the end of World War II Siemens' staff in Hungary had grown to more than 2 000 people. Although under communism business contacts were reduced to a minimum they never ceased completely. At the end of the 1960s they were revitalized as Hungarians — for reasons of know-how and the historical record of relations — opted to co-operate with Siemens when installing the first computer mainframe in Hungary. In 1974 Siemens established a sales and service joint venture which at that time was the only co-operative venture between an eastern state trading company and a privately held West German company. At the end of the 1980s Siemens realized a sales volume of 100 million DM

in Hungary and today it is the leading electrical engineering company with annual sales of about 500 million DM sales and about 4 100 employees.

- Over the course of time Siemens has built up a considerable number of quite independent, relatively small business units. At the beginning of the 1990s, Siemens set out to restructure them, moulding them into one larger unit, and made this new body responsible for most of the business activities in Hungary, namely to satisfy all customer demands — consultation, installation, service — from one single source. Two other big production companies — one for telecommunication, the other for cable activities — are producing for the national market, the latter for the international market, too. Siemens is optimistic about the dynamic development in Hungary to continue and underscores its commitment with investing about 300 million DM into renewal and expansion of its local ventures.
- In Poland, Siemens results to be the biggest German investor although only ranking 22nd if compared internationally. Siemens entered the Polish market in the 1950s with operations in medical engineering and now leads the national market in this field. Furthermore, Siemens made large commitments to Poland in public communications with establishing its only manufacturing facility in the country. In 1991 Siemens GmbH, Warsaw, was founded for

the purpose of sales, service, installation and administration. Nowadays, it represents the entire scope of Siemens' operations in Poland.¹³ Employment in this company increased from 20 people in 1991 to 210 in 1994, sales lately reached a volume of annually 200 million DM and the installed volume of medical devices accounts for a volume of 450 million DM. Six branch offices in major cities (Gdansk, Posnan, Breslau, Kattovice, Krakow and Lodz) constitute a comprehensive network for sales and service activities. In 1993, when acquiring the Polish ZWUT telephone factory, Siemens had to agree to a package deal and had to acquire the Elwro computer parts maker, too. Actually, with approximately 1 100 people ZWUT accounts for the largest volume of employment under the roof of Siemens in Poland; Elwro employs some 200 people.

- In Poland, sales and services which are related to medical engineering seem to develop fairly well, while acquiring orders in other areas, e.g. automation technology, private communication systems or semiconductors apparently takes a much greater deal of effort. Beyond these activities Siemens is involved in installing or upgrading environmental and control technology, in building components for Polish television manufacturers and in supplying

¹³ Except private communication networks.

sinumerik control devices for Polish machine tool makers. Technologically advanced supplies such as those delivered by Siemens enable Polish manufacturers to compete successfully both in the national and international market place.

- In Czechoslovakia, Siemens entered the market place already in the late 19th century. In 1890, Prague and Brünn were home to Siemens representative offices. By 1919, Siemens had integrated Prague into the European rapid telegraph network. Until World War II Siemens expanded its presence in the country running a considerable number of production sites and sales offices, finally employing some 1 500 people. Today, Siemens' activities in the Czech Republic comprise some 8 200 employees in about 12 companies and joint ventures. This represents Siemens' largest commitment in Eastern Europe.
- When re-entering Czechoslovakia in the post-communist period Siemens could continue to work on the industrial structure which had been developed so far. In the Czech Republic Siemens displays production activities mainly in the fields of telecommunications equipment, automotive electrical systems, electromechanical components, drives and standard products. Siemens' sales activities in the Czech Republic are co-ordinated by Sie-

- mens s.r.o., Prague, founded in 1994 and presently working with some 100 employees. Sales and service activities on the Czech market mainly comprise medical systems, automation, power transmission and transportation systems.
- Referring to production Siemens has established several prominent projects. One of the early co-operations was with Tesla Karlin, the largest Czech manufacturer of telecommunications equipment. In March 1991, Siemens and Tesla Karlin founded the Tescom joint venture: Siemens took a minority share but was already planning to make Tescom a wholly-owned Siemens subsidiary. Tescom succeeded in winning important public customers: first, the Czech as well as the Slovak government commissioned Tescom to expand the telephone network relying on Siemens EWSD switching systems and second, the Czech SPT Telecom repeatedly commissioned Siemens to install subscriber lines. At the end of 1994, Siemens raised its equity share to 100 percent and Tescom was renamed in Siemens Telekomunikace.
 - In 1992, Siemens acquired the former state enterprise ZPA, Trutnov, with 650 employees and made it a wholly-owned subsidiary. ZPA produces electromechanical components and under the auspices of Siemens production and sales took a considerable upswing. Sales were doubled with the acqui-

sition alone and tripled again within the first year. Production was converted from labour-intensive relay production to semi and fully automated processes. The key to success has been the restructuring process initiated by the new owner: adopting the principles of continuous improvement ZPA sought to qualify according to the ISO 9002 standard and achieved this goal already in May 1993 — even seven months earlier than initially scheduled.

- In September 1994, the Siemens group Drives and Standard Products acquired three plants for producing industrial engines from the Czech state manufacturer MEZ (Moravske Elektrotechnicke Zavody). In October 1994, all three production sites were integrated into the newly founded Siemens Elektromotory s.r.o., employing some 5 000 people and reporting annual sales of about 150 million DM. Siemens negotiated a sales price of 78 million DM for the three companies, agreed to invest about 80 million DM in the five years to come and promised to continue employment approximately on the given level. Siemens felt motivated to this acquisition as the production facilities appeared quite suitable to complement Siemens' product range of drives and standard products and as the technological level was so high that it would have made them serious competitors, at least with respect to product quality. Major shortcomings, though, have been identified with respect to productivity and sales distribution. To remove them, the companies

- are subject to internal restructuring as well as to improving distribution both by establishing sales networks for their own products and by integrating them into the sales network for Siemens' products.
- In the beginning of its activities in the transformation economies of eastern Europe, Siemens has been intending to establish a joint venture with Škoda, Pilsen, the largest Czech plant and equipment maker and to develop it into the main pillar of its operations in Central East Europe. Siemens and Škoda negotiated for setting up two joint ventures: one for transportation systems, the other to operate a power plant. To the latter, Siemens was motivated as the plant was located quite closely to the customers and enjoyed a favourable cost structure, mainly thanks to low labour costs. Negotiations with Škoda consumed a lot of time and manpower and induced Siemens to transfer some important know-how in advance. Nevertheless, they finally failed. The Czechs have gained the reputation to be utmost tough negotiators and, possibly, in the case of Škoda they went too far. Confronted with ever higher demands Siemens finally decided to abstain from the whole project, writing off the costs of negotiation. Although these direct costs have obviously been considerable, opportunity costs must have been at least equally important: for the duration of the negotiations Siemens was bound to Škoda

and had to refrain from initiating alternative projects while its competitors have been free to develop their activities.

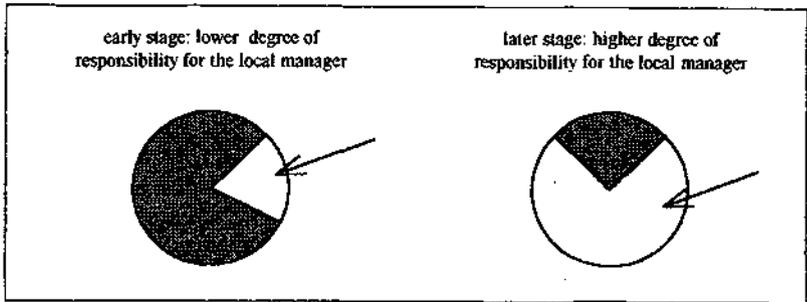
Siemens' Approach to Enterprise Restructuring

- Acquiring equity stakes in formerly socialist enterprises entails the task to fundamentally restructure the entire scope of operations. In this, Siemens usually gives priority to setting up or improving distributional networks as market presence is key to any success, for consolidation as well as for future growth. Internal tasks are ranking next: first enhancing product quality and adapting the product range, then raising efficiency of production via both modernizing physical capital, i.e. investing, and upgrading human capital by education and training.
- In adapting an enterprise's products and production processes Siemens applies a so-called zebra-approach which basically represents a gradual concept of restructuring and modernization. Given that at the beginning of restructuring the whole production unit runs a set of identical, old and cost-intensive machines with which it produces one single product A. Then it may be favourable to release part of the machines from producing the old product A and use them to produce other products B and C. Each production line

or „stripe“ of machines is vertically defined and able to produce pieces of final output. Thus the enterprise offers a greater range of products which makes it less vulnerable to changes in demand as it can swiftly change among the different lines of production. Besides restructuring the production program, the zebra-approach is similarly applied to „stripewise“ restructuring the production process, i.e. to gradually modernize the machinery.

- The approach Siemens applies to management training in its eastern European ventures basically relies on job sharing. German expatriates are delegated and entrusted with tutoring local employees to the most important jobs of the middle management. Each of the respective jobs is filled with both a German and a national. They are working jointly in this job for a certain period of time. In the first stage, the tutor assumes the major, his national partner a minor share of tasks and responsibility (Chart 2). As learning effects materialize the assignment of responsibility between the two partners is shifted so as to reduce the role of the German and to increase the role of the national manager. Finally, the national manager assumes full responsibility while the German withdraws completely from the job. Only in the top management are jobs permanently filled with German expatriates.

Chart 2 – Management Training in Siemens' Foreign Subsidiaries



- The availability of skilled local labour at relatively low wages — in the Czech Republic, e.g., a worker's manhour only costs 2 or 3 DM on average — is one of the important advantages with which the transforming economies of eastern Europe are competing for international investment capital. However, employment matters are strongly interwoven with social concerns. Employment policies represent a potential field of conflict between a western investor and his local joint venture partner as enterprise restructuring often entails workforce reduction and mostly comes along with increased requirements to working effort and discipline. Apparently, Siemens is quite successful in reconciling efficiency requirements with social concerns. With implementing modern working time schedules, e.g. four-shift operations, which allow to increase capacity utilization without extending personal working time, paying wages above national average, offering social

benefits and providing a modern working environment, Siemens has acquired the reputation of both a technologically and socially competent partner.

IV Summary and Conclusions

Siemens has a long historical record in international activities, dating back to the 19th century. After the fall of the iron curtain and the re-opening of the Central East European economies Siemens revived and intensified its activities in this region and initiated a considerable number of ventures. They are inspired by growth orientation, based on long-term commitment and guided by the principle of creating local value added. They are based on a multi-country or an overall global approach and employ different modes of functional integration. Either way is meant to fully include the region into Siemens' global network of activities. Presently, it appears too early for a final evaluation as most undertakings are still in their period of probation. Results reported so far indicate that the approach Siemens applies to international activities will work out in Central East Europe, too. The funds assigned to further investment in the region do confirm this assessment.

Appendix

International Activities of Osram GmbH¹⁴

- Osram GmbH is a wholly-owned Siemens affiliate. It was founded in Berlin in 1919 by three German firms — AEG, Siemens and Halske AG, Deutsche Gasglühlicht AG — which merged their production of incandescent lamps. Today, next to Philips and General Electric, Osram belongs to the world's top three manufacturers of lamps and operates on a global scale. It employs about 27 000 people world-wide and has associated companies, sales offices and local representatives in 80 countries, thereof 45 production plants located in 15 countries. In 1993/94 international markets accounted for 85 percent of all sales. This share shall be increased further to 90 or 95 percent in the years to come. Osram's home market base comprises both Europe and the US. Asia results to be important for its growth market potential and Eastern Europe is considered as a favourable low-cost production place.
- Osram's investment strategy assigns a major role to the US. Commitments there are considered crucially important to any international success. In 1994, Osram invested roughly 1 bill. DM to acquire Sylvania, a US lamp

¹⁴ Siemens 1994a; Siemens 1994c; Handelsblatt 1994a, 1994b.

manufacturer, and merged it with Osram North America into Osram Sylvania Inc. (OSI). This deal allowed Osram to considerably lift both sales and profits — which are said to have been nearly doubling from 3 bill. DM in 1992/93 to around 5.5 bill. DM in 1993/94 resp. from 180 mill. DM to some 360 mill. DM — and put the company on equal footing with its main competitors Philips and General Electric. Sylvania was in urgent need of restructuring but nevertheless offered promising perspectives, namely the huge potential of the internal US-market and considerable synergies with Osram from sharing overhead facilities and distributional networks as well as from jointly undertaking research and development. Beyond this, the venture benefited from the upswing of the US-business cycle at that time.

- The Siemens AG corporate executive committee approved the acquisition of Sylvania and provided financial support to Osram in terms of increasing OSI's equity capital to nearly fourfold from 260 mill. DM to 1.07 bill. DM. These funds have been made available under the condition that OSI shall not draw further on Siemens' resources and shall sustain itself after a transition period of approximately two years. For further investments in the years to come Osram assigned 220–230 mill. DM to its US-affiliate which account for more than half of its overall investment budget (400 mill. DM).

- At OSI a tough restructuring program was carried through: the company had to reduce the number of hierarchical levels, close down five out of 29 manufacturing plants as well as three administration offices and had to dismiss 1 700 out of 14 200 employees. Osram decided to leave the former Sylvania management in place as this made it easier to achieve the consent of the staff. So far, OSI has developed successfully and has passed the break-even point even one year earlier than initially planned.
- The US is an attractive market place to expand a company's operational base and also assumes an important role for relocating production lines which became unprofitable at their former site, like e.g. manufacturing of intermediate products in Germany (Berlin, Schwabmünchen). In the US, labour costs — incl. non-wage labour costs — are only half of those in western Germany. Thus, OSI can profitably operate with machines of 22-year-average — in contrast to its mother company, Osram, whose machines are only five years old on average and whose higher productivity has to make up for higher German labour costs.
- Restructuring success and consolidation in the US gained Osram the necessary edge to continue expansion in Asia. So far Osram's sales in that region, including India, have amounted to only 350 to 400 mill. DM annually. Os-

ram defines its goal for the Asian markets as to let sales in this region grow faster than average sales of the Siemens AG. Within the five years to come, sales in the Asian market shall be raised fivefold.

- Expansion in Asia is obviously well under way. A first production joint venture in China has been set up, with Osram holding the majority while the largest Chinese lamp manufacturer, together with a Chinese trading house holding minority shares. In India, Osram is running a joint venture with the second largest lamp manufacturer while in South Korea the company is even acting as the market leader. Vietnam is the next market envisaged for further expanding Osram's presence in Asia.
- In Eastern Europe Osram had reflections to set up a production joint venture together with or by acquiring Tesla Holesovice, the largest Czech manufacturer of lightning equipment. Osram considers the east European market place a suitable place for those productions which are too cost-intensive elsewhere. Beyond production, Osram's sales activities, too, seem to be developing quite well in Central East Europe.

References

- DUNNING, John (1995), „The Role of Foreign Direct Investment in a Globalizing Economy“, in: Banca Nazionale del Lavoro, Vol. 48, No. 193, p. 125–144.
- FRANKFURTER ALLGEMEINE ZEITUNG (1995), „Kraftwerksbauer gehen den beschwerlichen Weg nach Osteuropa“. Frankfurt am Main, 11 September.
- HANDELSBLATT (1994a), „Rücken frei für die Expansion in Asien“. Düsseldorf, 22 March.
- (1994b), „Joint Venture mit chinesischem Lampenhersteller“. Düsseldorf, 11 November.
- SANDER, Birgit (1992), „Foreign Investors' Activities in Eastern Germany: Motivations and Strategies“. Kiel Working Paper No. 550.
- (1994), „Škoda Automobilová, Mlada Boleslav — A Czech-German Joint Venture in the Automotive Industry“. Kiel Working Paper No. 641.
- , Klaus-Dieter SCHMIDT (1993), „Explaining Foreign Direct Investment (FDI) in Central East European Countries — What Should We Know?“, in: Entrepreneurship in East European Countries in the Framework of Increasing East-West Economic Compatibility, p. 1–18, Grup d'Estudis dels Països d'Europa Central i Oriental, Universitat de Barcelona (ed.), Selected Discussion Papers, Hurka and Barcelona.
- SCHMIDT, Klaus-Dieter (1994), „Foreign Direct Investment in Central and East European Countries: State of Affairs, Prospects and Policy Implications“. Kiel Working Paper No. 633.
- (1995), „Motives of Large Multinationals Investing in Small Transition Countries: A Literature Review“. Kiel Working Paper No. 668.
- SIEMENS AG (1991), Annual Report 1990. Munich.
- (1994a), Annual Report '93. Munich.

SIEMENS AG (1994b), Annual Report '94. Munich.

-- (1994c), „From Prague to Vladivostok“, in: SiemensWelt. A Publication for Employees, No. 7-8, p. 5-16.

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD) (1993), World Investment Report 1993. Transnational Corporations and Integrated International Production, New York.

-- (1994), World Investment Report 1994. Transnational Corporations, Employment and the Workplace, New York and Geneva.