

STOCKHOLM UNIVERSITY  
DEPARTMENT OF POLITICAL SCIENCE  
State Strategies in a Changing European Order -  
Swedish Participation in the European RTD Cooperation EUREKA

Ulrika Mörth  
Fellow in European Politics

Paper presented at the Fourth Biennial International Conference, European Community Studies  
Association May 11-14 1995, Charleston, South Carolina

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## 1. Introduction

This paper analyzes how Sweden responded to the microelectronic revolution from the late 1970's to the middle of the 1980's. In what ways did Sweden confront this "strategic threat"? Sweden is not, however, conceived as a unitary actor. It is argued that the cabinet's political responses were a result of a complex domestic political process in which both state and societal actors participated. This domestic political process was closely linked to changes in international environment, especially changes within the European integration process.

The Swedish political handling of the strategic threat from microelectronic developments had both a domestic and an important European component. As in many other European countries the Swedish cabinet initiated "National Programs" in the beginning of the 1980's. These Programs were also linked to the European RTD-cooperation and there was a striking parallelism between the Swedish initiatives and the development of the European RTD cooperation. In the beginning of the 1980's different RTD-projects were initiated within the European Union. As a non-EU member Sweden could not participate in those cooperations, for instance ESPRIT within in the Framework Program. How did the Swedish cabinet cope with the dilemma of being a non-EU member and the emergence of a European Technology Community?

The intensified European integration process during the 1980's and the early 1990's has raised a debate about the structure and role of the state in a changed European order. One central issue concerns the legitimacy of the state and its ability to pursue a national foreign policy ... "If the state no longer effectively represents the society to which it lays claim or if it can no longer intervene effectively in relations between citizens of Europe, what can we then say about the credentials both of state action and the analysis which focuses upon it?" [1] The international cooperation system is transnational and the governments face complex steering and coordination problems. The border between domestic and foreign policy is blurred and it is difficult to separate between different political arenas.

One way forward in the analysis of states and the European integration process is to focus on the strategies of adjustment. The interplay between a state's domestic structures and processes, on the one hand, and changes in the international environment, on the other, can be studied as different strategies. Strategy is here defined as a long-term and comprehensive political direction which entails various decisions and policies. The decision to join EUREKA was one important component in a broader political orientation towards the European cooperation. Strategies will also affect different policy areas. Issues within the microelectronic area concern economic growth issues and the competitiveness of industry. It is also an important component of a state's security policy.

In this study Sweden is not equated with the Swedish cabinet, although the cabinet acts formally for Sweden in international relations. A state-centric perspective can't be upheld in an international setting characterized by interdependence and transnationalization. The Swedish government is here analyzed as two actors, namely the cabinet (the politicians) and the central state apparatus (the bureaucrats). The main focus is on the Swedish cabinet, but also on its interaction with state agencies and industry. The Swedish ministries are, in comparison with other European countries, small. It is therefore also important to study the state agencies within the research and technological development area. The Swedish corporatist structure and the Swedish Model, with its consensus-oriented policy making,

imply a close dialogue between the government and various societal interests. The study will therefore include industry, especially organized business interests.

The focus is not upon individual decision-makers and their calculus. The strategies were a result of a political process and international and domestic structures provided the frame for the strategies. The strategies are thus constructed by the analyst. An important domestic factor for developing a technology strategy was the state's administrative capacity within this area and the relationship between state and industry. State-society relations are traditionally studied as a power struggle between the government's interests and societal interests. In this study this relationship is analyzed from a corporatist perspective, that is a consensus-oriented political arrangement where state and societal actors have a historical record of a close cooperation, especially concerning the labor market. Structures provide possibilities and constraints but cannot by themselves explain how strategies are formed. In a study by Wayne Sandholtz structural approaches to explain European collaboration in telematics are criticized. "Their utility is limited to the most obvious parts of the phenomena; they leave a great deal unexplained...The structural argument implies that there are no viable choices for the weak other than cooperation. I argue, in contrast, that even the weak have options, and structure falls short of explaining why they select one option and not the others"[2] . In this paper the strategies to confront the microelectronic revolution are studied as a function of an interaction between a domestic political process and changes in the international environment and not as a function of deterministic structural factors.

It is argued that the Swedish cabinets decision to join EUREKA - the European Research Coordinating Agency - in 1985 was an important component in a more European oriented strategy towards a more transnational RTD policy. It was also a complementary path for Sweden's participation in the Luxembourg process, i.e. the EEA negotiation between the EFTA and the EC countries, and a way of establishing good relations with the EU. Sweden's involvement can therefore be analyzed as a 'prelude to a Swedish EC membership'. EUREKA was initiated by France in 1985 and is closely linked to the EC but is formally outside the community. 21 European countries and the EC are participating. EUREKA was one of the few technological research and development programs open to non-EC members, at least if we consider the programs initiated in the early and mid-1980's.

The Swedish domestic process towards an RTD policy can be analyzed as a national mobilization and cooperation strategy. This process started in the middle of the 1970's and can be characterized as a traditional Swedish state strategy. A traditional strategy, in this context, can be defined as a strategy directed domestically, that is to adjust to changes in the international environment. In the security literature this adjustment strategy has been suggested to as the only realistic option for a small state. This reasoning assumes that there is a sharp distinction between domestic and international politics and that the latter is determined by a rather static anarchic structure. In a transnational and interdependent political framework there are, it is argued, possibilities for more innovative strategies for a small state like Sweden.

The first part of the paper presents a framework of analysis concerning the concept of state strategy. The second section analyzes the domestic process towards a nationally oriented strategy. The third and last part, which dominates the paper, analyzes the Swedish decision to join EUREKA and the initial domestic decision-making process.

## 2. State strategies

### 2.1 Introduction

A classic approach in international politics is system analysis. "Changes in the behavior of nationstates, and in system outcomes, are explained by systemic theorists in terms of changes not in the internal characteristics of nation-states but in the system itself or in the relative position of particular nation-states." [3]. This tradition of analysis has focused on the international environment and its structural composition, i.e. an anarchic structure, in order to explain states' behavior. In the Second-Image Reversed literature, which is focusing on comparative foreign economic studies, the argument is that the structural constraints and possibilities are domestic rather than international. An Important part of these studies have consisted of trying to explain flexible adjustment strategies as a function of a complex interaction between international changes and the domestic structures and processes. "Strategies may be suggested by a state's structural position, but the nature of its political system,

bureaucratic politics, the influence of special interests, and public opinion may ultimately determine which strategies states can pursue internationally".[4]

Strategies can be analyzed both from an actor perspective and by way of a structural approach. An actor analysis focuses upon motives, preferences, emotions etc and the study aims to reconstruct these motives and preferences. A common actor approach in the security literature is the rational actor-model with its focus on "objective" rationality, i.e. there exists a "optimal option" (Buzan 1990). A structural analysis is not focused on the actor's interests or motives but on the underlying structural factors that determine these interests in the first place. This approach can entail both an international system analysis and an analysis of the domestic structures which will determine the outcome. There is also an approach which combines an actor and voluntaristic perspective with a more structural and deterministic perspective.[5] In these studies the structures give the framework for possible strategy options which will be pursued by actors.

The actor approach usually means a state-centric perspective. The state is not, however, equivalent to the cabinet but it also includes civil servants and the bureaucracy. This is of course a more diversified state perspective than to equate the state with its cabinet, but it still does not include societal actors and their interests and political actions. In John Ikenberry's study of the oil crises during the 1970's he partly explains the government's (politicians and bureaucrats) strategies as a function of the state-industry relationship within this issue-area. But he only focused upon the governments's interests and the state's capacity to pursue those interests.

Peter Katzenstein's classic studies of the small corporatist West European countries, and their domestic oriented strategy to handle economic changes in the international environment, are examples of structural analysis. In these studies domestic structures determine the government's policies and how it is to respond to international changes.. Katzenstein's analysis was focused upon the structural factors behind a political decision and not on the decision-makers or the decision-making process. "In analyzing these choices I do not include the element of conscious intention that scholars normally assume to be an essential part of the concept of strategy." The structures are therefore constructed by Katzenstein. This did not, according to Katzenstein, exclude that individuals could think in terms of strategies. "Most of the people I interviewed were interested in discussing individual decisions; few of them thought of bundles of decisions as 'policy': and only a handful grouped bundles of policies together as 'industrial strategy' ".[6]

The studies, however, included a broader state-societal perspective than in Ikenberry's studies. In Katzenstein's works interests were a function of the structures and interests would only change if the structures changed. This was a rather static view on how interests are formed. John Zysman has labeled this corporatist strategy 'negotiated adjustment'. "Their economic circumstances and political arrangements constrained the ways their governments could deal with economic crises. Domestic adjustment to international market changes could not be avoided, and the costs of that change were distributed through explicit negotiation".[7]

An important methodological problem in the state strategy literature is whether strategies are derived inductively or deductively. Another problem, connected to the first problem, concerns who is formulating the strategy - the decision-makers or the analysts. A common approach in the literature is a combination of an inductive and a deductive method. In a study by Gourevitch he is deriving the strategies both from a logical combination of strategies and from the empirical material. Although his empirical material concerned political debates it illustrates that strategies can be derived deductively and inductively. "Defining policy packages by deduction (the logical combination of policy alternatives) thus will not work for our purposes here. We need to supplement deduction by induction, by looking at actual debates to find the limited number of combinations around which activity focuses. The clustering of options into policy packages, we find, derives from political circumstances. From the historical record, we can identify policy packages of a general sort which appear to form the focuses of political and intellectual debate".[8]

The "actor-problem" in the strategy-literature is usually 'solved' by using a rational-actor model. This type of study can either focus upon explicit statements by the actors or construct a strategy from more implicit statements and material. A rational-actor model implies that there exists goals and interests and that the relationship between goals and means is unproblematic.[9] This reasoning assumes that actors can control politics and the political process. A more critical rationalistic view on politics implies that actors are not "isolated islands" but part of and formed by political processes and organizational structures. In the field of international politics this criticism of the rational-actor model

is evident within the tradition of complex interdependence. "All international actors participating in an interdependent, international system face similar situations of dependence on the external environment, which can be controlled only to a limited extent".[10]

A third approach to study state strategies, which can be seen as complementary to the actor- and structurally oriented studies, is to pursue a process-seeking analysis which focuses on the decision-making process, especially with interests, ideas, norms etc. This approach combines an actor-orientated and a structural analysis of state's strategies. Ideas and norms are intervening factors between international/domestic structures and various actors. The challenge in this approach is to "search for the connections between policy ideas, their carriers, and underlying forces of power and interests".[11] "Norms are not themselves the sole determinants of the interests that shape actors' political choices and political outcomes. At a minimum any comprehensive analysis must include the structural conditions that shape interests, choices and outcomes".[12] A state's industrial policy and its R&D policy concerns the role of the state vis-à-vis the industry and the research community. This relationship differs between various countries and is based on different norms and ideas of how to organize the relationship between the state and the society. These norms affects the state's administrative capacity and the institutional set up within an issue area.

In a study by Risse-Kappen of how the détente policies changed the politics in the U.S., Germany and former Soviet Union during the 1980' s, the author links transnational norms and ideas to domestic state-society relations. "Ideas, however, do not float freely...I argue that access to the political system as well as the ability to build winning coalitions are determined by the domestic structure of the target state, that is the nature of its political institutions, state-society relationship, and the values and norms embedded in its political culture".[13] The détente policies did not get an immediate response in Germany, as in the U.S., due to different state-society relations. The state-society relations in the U.S. is characterized by a strong society which penetrates the state. This pluralistic state-society relationship implies that new ideas can get immediate responses in the U.S. whereas the corporatist structure in Germany will slow down the process.

The microelectronic revolution can be analyzed as a transnational phenomenon. The West European countries faced the same challenge, i.e. they had to respond to the new technology. They launched initiatives which were similar to each other but there were also differences between the various initiatives. These differences could be explained by reference to different state-society relations, especially concerning various governments' industrial policies and the relationship with the industry.

## 2.2 A framework of analysis

According to Ikenberry's scheme of adjustment strategies these can be offensive/defensive and international/domestic. An offensive strategy aims to change or create a policy, a regime, institutions etc. A defensive strategy is more focused upon the protection and maintenance of the existing order (1986). This distinction between offensive/defensive and international/national strategies is also an important approach in the security policy literature. A classic approach has been to separate between strategies that reduce the enemy's motive for conflict and strategies that aim to increase the enemy's conflict cost.[14]

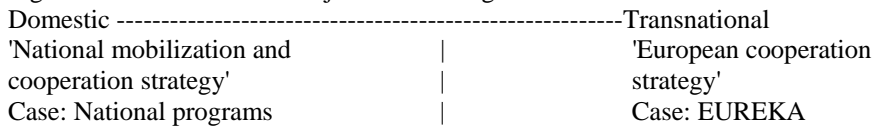
Bengt Sundelius has developed this basic approach and developed a strategy scheme which is focused upon strategies of small states, with a presumed limited influence on international politics, and international changes characterized by interdependence.[15] A complex dependence and cooperation structure creates coordination and steering problems for the government. An interdependent international environment also has consequences for the kinds of changes and so-called strategic threats that the government has to respond to. One of the hallmarks of interdependence is the vulnerability of the society. This strategic threat lacks a clear 'enemy- image' and concerns the state level as well as the societal level. This security aspect concerns a broader security concept and the concept of civilian power, for instance the power of economic strength and technological knowledge.[16] This is clearly the case concerning the 'microelectronic challenge'.

A classic analysis of international politics departs from the logic of the anarchic international system. Small states have, according to this logic, a very limited influence on international politics. A more traditional and interdependent policy structure, however, enables small states as well as larger states to pursue a more international and offensive strategy. In an interdependent world the borders between domestic and international politics are diffuse. This also has consequences for the actor perspective.

The actors that are internationally active are not only governments but state agencies, organized interests and representatives from the business communities. States have become more 'porous' and transnational.

A strategy scheme is presented in figure 1. These strategies have been derived from Ikenberry's adjustment strategies, Katzenstein's so called 'negotiated adjustment' and from the security literature.[17] They are also a function of the empirical material, that is official sources from the Swedish cabinet, Parliament and state agencies. The construction of the two strategies is thus a result of a reading of the state strategy literature and the empirical material.

Figure 1 "Swedish flexible adjustment strategies"



There are two important differences between this figure and the strategies mentioned above. The first difference concerns how to separate between strategies. The strategies in the figure are ideal-types and the distinction between the two strategies serves the purpose of focusing upon important features in the political handling of the matter. In practice, the two strategies were pursued almost at the same time. The strategies run partly parallel with each other which is indicated in the figure by dotting the lines. The other difference concerns the political levels. The border between different political arenas are diffuse and it is more relevant to speak of a transnational strategy than of an international strategy. The first strategy is, however, called a domestic-oriented strategy and this is due to the fact that the strategy's main components were directed inwards. The difficulty of making the distinction between the domestic and the transnational levels is indicated by dotting the lines.

In the figure there is no separation between so-called defensive or offensive strategies. It is, I believe, a rather crude instrument for a strategy analysis. There exists no clear difference between an offensive and a defensive strategy but a distinction can of course be motivated for analytical reasons. Both strategies in the figure are, however, directed towards change and not so much at protecting or maintaining the existing order.

The empirical presentation consists of two case studies. The first case study concerns the domestic process towards a National strategy to confront the microelectronic revolution. The main focus is on two nationally oriented programs - the National Microelectronic Program and the Information-Technology program. The second case study, which dominates the paper, is the Swedish government's decision to join EUREKA, i.e. a transnational strategy to confront the microelectronic revolution.

### 3. The National mobilization and cooperation strategy

#### 3.1 The 'challenge of the Microelectronic revolution'

In the late 1970's and the early 1980's microelectronic technology and information-technology was under discussion in several state reports and in reports from more independent organizations. The new technology was assumed to pose principally two 'threats': a 'threat' to the Swedish economy and industry and that the technology entailed a strategic and a security 'threat'. The issues concerned both low politics and high politics. The most delicate and politically sensitive matter was the security aspect of the technology, especially the dependence on American high technology (see below).

The various 'threats' in different reports are summarized in a report which presented the National Microelectronic Program in 1983/84:

"The image of a wave of technology that is being created and that threatens to splash over Sweden in a few years does not seem to be very much off the mark. What is threatening is partly that Swedish industry, both concerning those companies who produce and those who consume, may have a hard time keeping their competitive position, and partly that the rest of Swedish society may lack the capacity to evaluate, develop and amend available technology in accordance with the specific values and other societal factors that exist in Sweden. An excessive dependence on foreign technological capacity may also bring consequences for our possibilities to pursue an independent defense

policy...The country that places itself outside the development of technology and science loses the possibility to take part in future developments. This means that a dependence on foreign countries in the IT-area on the one hand makes the development and increased competitiveness of many industrial branches more difficult, and, on the other, it is a risk factor for Swedish security policy." [18]

In these reports there was a general demand for an increased political responsibility. A national strategy in this area required a rather large coordination task due to the number of policy areas affected. The Swedish R&D policy area is characterized by the so-called 'sectoral principle.' This means that every Ministry is responsible for the R&D within this particular area. The Ministries are rather small which means that much of R&D policy is implemented and handled by state agencies. In contrast to other countries Sweden does not have a R & D Ministry or a R & D minister. The political responsibility has been divided between various ministries, especially the Ministry of Education and the Ministry of Industry.

In contrast to many other countries the Swedish industrial and technologically oriented R & D is market-based. Industry accounts for about 60 % of the funding of the total Swedish R & D expenditure and nearly 70 % of the activities. Nearly all government financing of industrial R & D relates to military procurement.

The activities on the part of state agencies and the Royal Swedish Academy of Engineering Sciences and other more independent organizations were intense in the late 1970's and the beginning of the 1980's. On the high political level these questions were officially taken seriously in 1982 when the Deputy Prime Minister was also politically responsible for R&D issues. This was clearly an innovation and reflected the need for more comprehensive R&D policy. The Deputy Prime Minister, Ingvar Carlsson, was however only part-time R & D Minister. A special group - the so-called "Futures group" - was created within the Prime Minister's Office with the aim of coordinating R&D questions and of developing a more long-range R&D policy. It is difficult to say how this group affected technology policy, but it certainly placed these issues on the political agenda. In 1982, when the Social Democratic party had regained political power after several years in opposition, there were forces in the party who felt a need for a new industrial policy. The industrial policy during the 1970's had been focused upon various industrial sectors in crisis, for instance the steel sector. The information technology and the 'knowledge society' offered an opportunity for a new and progressive policy.

### 3.2 National Programs

In October 1983 the Swedish government presented a component technology development program under the name National Microelectronic Program - MP (1983-1987). The Program was mainly focused on Sweden's independence and competition in integrated circuits. The proposal for a National Microelectronic Program was made in close collaboration with industry and with a number of public agencies: the Swedish Defense Material Administration (FMV), the Swedish National Defense Research Institute (FOA), the Swedish Telecommunications Administration, the Department of Higher Education and Universities (UHÄ), the Swedish Natural Science Research Council (NFR) and others (altogether 15 state agencies were involved). The Swedish National Board for Technical Development and the Swedish Defense Material Administration, with parts of Swedish Electronics industry, played a crucial role in the process towards developing a Swedish Technology Policy. A special state-managed agency was created to administer the microelectronic program.

Figure 2. National Programs

STU-Framework Program 1977/78 | NMP 1983/84 | IT 1986/87

The National Microelectronic Program was only a first step, limited to the basic foundations of a more broadly planned program, the so-called IT-program which was presented in 1987 and which was run from 1987/88 until 1992 (Figure 2). NMP could be regarded as the first step towards a national technology policy which paved the way for Sweden's participation in the European RTD-programs. This process towards a Swedish Technology Policy began as early as the late 1970's. In 1977/78 the Swedish National Board for Technical Development (STU) presented a Framework program. This program was a 'prelude' to the National Microelectronic Program.

It is argued that these agencies, especially the Swedish National Board for Technical Development, (STU) were a crucial domestic factor for the evolution of a Swedish RTD-policy. In 1967 the Ministry of Industry was established and in 1968 the government created the Swedish National Board for Technical Development. This state agency was the prime agency to strengthen the RTD in Sweden. This period in Swedish industry policy has been characterized as offensive and state-led. This active state-led industry policy also affected issues within research in the technological development area. These issues became part of the government's active industry policy and the aim was to stimulate research and the so-called process of innovation.

### 3.3 The IT4 -Program

The aim of the Information Technology Program in 1986 was "to maintain and improve IT expertise in Sweden, and thereby to reduce our dependence in this field on other countries, and also to promote the good use of Information Technology. The goal is to sustain an internationally competitive capability in selected key areas and thereby to maintain a base from which to take advantage of technological development in other fields in the rest of the world"[19].

An interesting and unique innovation was the IT4 which formed a major part of the Information Technology program. "IT4 was the Swedish national program of pre-competitive, collaborative research and development in industrial Information Technology".[20] IT4 was set up as a partnership between the state and industry to fund and to collaborate on R&D projects in IT. The aim of IT4 was, according to the Governmental bill, to promote and strengthen industrial capability to develop and produce IT systems and methods, and to secure access to international developments in this area. In areas where conditions are particularly favorable, the ambition should be to create and maintain international competitiveness ...The needs and resources of the state will be used as the driving force...Thanks to part-financing by the state, it should...be attractive to companies to locate R&D units within the country'[21]. In an evaluation report in 1992 of the IT4 program it was stated that IT4 proved an adequate mechanism to connect Swedish IT with European R&D programs...'[22]

The state's driving force was to be provided by three agencies - FMV, Swedish Telecom and STU. The idea was to promote a close collaboration between these agencies and the Swedish industry in order to strengthen Swedish capability. The Program was run by a government-industry committee - the IT delegation. It consisted of 5 state agencies and 5 companies.[23] This delegation has been described as an 'authoritative voice of the IT community in Sweden'. The Delegation began to function as a lobby-group for Swedish interests, advising the Industry Ministry on future policy requirements. The close dialog between the state and industry followed the Swedish consensus oriented way of policy-making but it was a unique construction to set up an agency in which industry was part of the formal decision-making.

Two of the projects within IT4 were European RTD-projects. The initiative for this linkage to the European RTD programs came from industry, especially from the telecommunications company Ericsson and Swedish Telecom. The first was PROMETHEUS, within the EUREKA cooperation, which started in 1986 and aimed at defining automotive and road transport infrastructure systems and standards. IT4 was an important Swedish source of funding for European R & D collaboration. When the EUREKA initiative was presented in 1985, the Swedish government announced that it did not plan for any special EUREKA funding, especially not for the large companies. Despite this, VOLVO the large Swedish car company, received financial support for its participation in PROMETHEUS. The government's policy was a function of an industrial policy, that is that a project like EUREKA should be market-oriented and not dependent on financial support from the government. But it was also a function of a rather inflexible R & D system.[24] The Swedish RTD funds are tightly linked to their specific purposes and it's difficult to move financial resources to other activities. IT4 offered a way out of this dilemma and enabled the government to support VOLVO in an important European project. The other European R & D collaboration that was also connected to the Swedish IT-program was RACE (Research and Development in Advanced Communications Technologies for Europe). RACE was launched in 1987 and was part of the EU Framework program. From 1988 the cooperation was opened up for Swedish participants. The Swedish Telecom was, however, part of the RACE Definition Phase in 1986. In the evaluation report of IT4 the authors concluded that "The most important success of RACE for Sweden was the ability to take part in the program. This was a strategic necessity...IT4 provided a mechanism for Swedish firms to join these programs."[25]

The National programs, especially IT4, cut across many of the existing boundaries of institutional responsibility: civil and defense, academic and industrial. It also meant that the border between private and public actors was blurred. The programs' linkages with the European RTD programs made them not just nationally-oriented but transnational. This transnationalization process and the domestic cooperation between various state sectors and between state agencies and industry had already begun in the middle of the 1970's - almost seven years before the Deputy Prime Minister created the "Futures Group". The start for this process was the establishment of the National Board for Technical Development which created an environment for experts and representatives for the industry to develop a Swedish RTD policy.

The Swedish programs were, in an international comparative perspective, launched rather late. In the United Kingdom, France and Germany broader programs, similar to the Swedish IT-program, were launched in the beginning of the 1980's.[26] One reason for this difference was the Swedish R&D decentralized structure with its many agencies and the so-called sectoral principle. In United Kingdom, for instance, issues concerning R&D are handled at the Ministerial level and the policy-making process is rather quick. In Sweden, it took a fairly long time to coordinate between various sectors and actors. Swedish industry policy within the R&D area is also characterized by a "polarization", that is there is a sharp line between the R&D activities in industry and in the universities. The Swedish model, that is the consensus seeking policy-making, could also be an explanation for the rather late Swedish initiative.

#### 4. The European Cooperation Strategy - the case of EUREKA

##### 4.1 Introduction.

In 1985 Sweden joined EUREKA. This was one of the first RTD-projects in Europe during the early 1980's which gave the EFTA countries the same status as EU countries. The Swedish political interest in the ongoing European process within the RTD-area started in the beginning of the 1980's. The domestic oriented strategy became more and more European-oriented and this was reflected in the activities and official statements from politicians and various state investigations. The activities of then-Prime minister Olof Palme and his closest staff was intense. This interest in and need of a more European oriented-strategy and the fact that Sweden was a non-EU member was of course problematic. The European RTD collaborations did not only affect issues within the RTD-area but also had important economic and security implications. The European Technology Community was a vital part of the creation of the Single European Market.

At that time, during the "new cold war", a Swedish EU membership was not on the political agenda. EU issues were in general rather controversial, especially questions concerning foreign- and security issues and economic and monetary issues. The EUREKA initiative was therefore, from a Swedish political perspective, "sent from heaven" in that the cooperation was transnational and without any supranational components. It gave the Swedish cabinet an opportunity to participate in the revitalized European integration in a rather uncontroversial issue-area. The participation would not raise questions about Swedish neutrality policy which required a cautious foreign policy to make it credible that Sweden could be neutral in case of war. The EUREKA cooperation would not either raise any questions about sovereignty, here defined as the formal and constitutional rights of decision-making.

##### 4.2 Political interest

The seriousness of the Swedish commitment to the EUREKA program is illustrated by the fact that the then-Minister for the Future Ingvar Carlsson, was politically responsible and that Ulf Dinkelspiel at the Foreign Ministry was the high-level diplomat in charge. Ulf Dinkelspiel was subsequently named the Swedish negotiator for the EEA negotiations and he became Minister for Europe in 1991 and was responsible for Sweden's negotiations concerning membership in the EU that were concluded in March 1994. Sweden also took its period of Chairmanship in EUREKA during the second half of 1986 seriously. It is interesting to note that Sweden became the country that chaired EUREKA meetings just after the 'heavy' EUREKA countries France, Germany and Great Britain. The cabinet wanted to show that Sweden was a good European.[27]



There is an apparent difference between the initial mild interest shown by Swedish business for the EUREKA program and the strong commitment by the politicians. The level of interest by the two parties seems to have risen and fallen at differing times. When Swedish business became interested in EUREKA, political interest diminished. This turn of events was mirrored in the political-administrative handling of the EUREKA issues.

The motives for the political interest do not primarily seem to have been the economic gains that the EUREKA project may have generated, at least when seen from the short-time perspective. A very important motive was instead Swedish participation in the European integration process as a whole. EUREKA was an interesting route to European cooperation.[28] Sweden also seems to have played an active role in the EUREKA project..."Sweden was very active when it came to the rapid establishment of the cooperation within the whole EUREKA project... Because we see a clear interest here, we will continue to show a strong commitment to this issue. We believe that it is important that Sweden gets and actively uses this opportunity to cooperate with primarily the most technologically advanced countries."[29] The EUREKA cooperation was 'uncontroversial' and gave Sweden a 'golden opportunity' to participate on equal terms with the EU countries.[30]

The participation in EUREKA could be seen as a way for Sweden to enter the EU, without being a member of the Community. "Sweden has taken advantage of EUREKA to involve itself in the network of European R&D collaboration. EUREKA has also been an important mechanism for helping to bring companies from EFTA countries into the fold of other European programs and has encouraged the Commission to open its programs to non-EU companies."[31] In 1985 it was difficult for a non-EU country to take part in for example the EU project ESPRIT, that is within the EU Framework program. In 1986 a bilateral agreement was entered between Sweden and the EU concerning a deepening cooperation in research and development. The agreement was characterized as a 'statement of intent'. [32] In 1987 Sweden and other EFTA countries were able to take part in the EU's framework programs on a project-countries on the creation of an internal market were of course important for the cooperation between the EFTA and the EU.

For Sweden there was thus a link between EUREKA and the EEA-process and the opening of a channel into the EC.[33] "Within the limits of our policy of non-alignment, we are prepared to further develop our relations with the EC. This is particularly important now that the West European Community prepares to complete an internal market with an open movement of goods and services, with a system of laws and regulations that is adapted to this in the most diverse fields. It is in the Swedish interest to take part in this development...It was with this conviction that Sweden joined the EUREKA initiative..."[34] Sweden's government took active part in initiating the Luxembourg process, that is the negotiating process between the EC and the EFTA countries. "The Swedish Minister of Trade, Mats Hellström, suggested the idea to Claude Cheysson, the French Foreign minister, during a routine meeting in 1984 but was quite surprised by Cheysson's response." [35]

EUREKA meant that Sweden got access to at least two important resources in a complex Western European cooperation and dependency structure: information and a network of contacts. Participation in EUREKA "is viewed as a method of developing the international links needed to exploit the internal market." [36] Ulf Dinkelspiel at the Foreign Ministry stated that... "EUREKA would strengthen the contacts between governments and industry concerning technological cooperation in Europe." [37] This possibility for contacts was also noticed by some representatives of Swedish industry (see next section). The decision to join EUREKA was in line with the more European oriented strategy to confront the microelectronic revolution. The emergence of a European Technological Community and a more transnational RTD-policy entailed an opportunity for a more active Swedish participation in the European integration process. The Swedish strategy to participate in the European cooperation was of course an effect of the revitalized European integration process and its emphasis on the creation of a single European Market. This integration process was characterized by a loose and transnational cooperation structure and blurred the border between domestic and international politics. This transnational structure created new political conditions for a small state, with a rather hesitant and reluctant policy towards the EU, and with a limited influence on international politics.

#### 4.3 Neutrality and EUREKA

An important security and foreign policy component of Sweden's participation in the EUREKA project was the possibility to reduce the difficult dependency on American high technology. This security issue was part of the Swedish consideration over EUREKA.[38] At the Ministerial meeting in Hannover in 1985, Ingvar Carlsson said that "[A]s a small country, we are dependent not only on the free exchange of goods and services but also on international cooperation in research and development." [39] This possibility, to build up national competence through international cooperation, was an important reason for the very initiation of the EUREKA project by France. The West European countries had failed in their national efforts to develop high technology and out of this 'crisis' the West European cooperation project was born.[40] "They were not interested in collaboration in telematics until they realized that these national-champion strategies were inadequate." [41] For Sweden, an important background for this "European way" may be found in the U.S. technology export control offensive of the 1980's.

During the early part of that decade, the U.S. brought the issue of the transfer of technology to the East Bloc to the fore, especially concerning the Soviet Union. The American 'offensive' also meant that an effort was made to reinvigorate the multilateral system of rules within the organization COCOM that concerned the transfer of technology to Eastern Europe. It was especially important to the Americans to control technology transfer through so-called third countries, that is highly developed industrial countries in the West who didn't belong to COCOM. Swedish dependence on U.S. high technology thereby appeared problematical. Sweden was put in a difficult position because it, like the other neutral and non-aligned countries of Europe, did not take part in the common work of COCOM in Paris.

During the first half of the 1980's, the international regime for the control of the transfer of technology was changed in a direction that wasn't beneficial for neutral Sweden. Apart from these changes in the multilateral system of rules, there were also more specific, bilateral approaches made to Sweden, among other countries. Throughout the decade, the Swedish government and its industry received American 'demands' to adhere more closely to the U.S. and to the rules for technology control adopted by COCOM. Sweden's dependence on U.S. high technology was very high. Interruptions in the flow of this technology into the country could mean serious difficulties for Swedish industry and for the country's defense. The Swedish government tried to balance between, on the one hand, U.S. demands for adaption and, on the other hand, a public image of credible neutrality.[42]

Ingvar Carlsson stated at the EUREKA Ministerial Conference in Stockholm in 1986 that Europe had considerable research resources but had failed to combine them in a fruitful way. "This is what EUREKA is all about. If we don't do this, we will be totally dependent on the U.S. and Japan." [43] Without international cooperation... "we face the risk that Swedish industry will have a slower technological development in comparison to the other countries and that our dependence on foreign technology will increase." [44] "It was with this conviction that Sweden joined the EUREKA initiative to develop European know-how and competitiveness within high technology. In this endeavor, Sweden takes part as both recipient and as giver." [45] The reasoning seems to have been that dependence on high technology could be spread among several countries and, thereby, the risk of bilateral pressure would be reduced.

One precondition for Swedish participation in EUREKA, as seen from the perspective of neutrality policy, was that it only concerned civilian technology. The civilian purpose of EUREKA had been made part of the declaration of principle that was accepted at the first Ministerial Conference in Paris in 1985. The Swedish position was to exclude itself from participation in projects that might have military components. "If we should find that there are military applications in any of these projects...then Sweden will not take part in that project." [46] This statement by the Swedish government contains clear traces of the traditional Swedish foreign policy line to exclude itself from situations that may be difficult in the sense of neutrality policy.

Participation in EUREKA was, in contrast to other Swedish international commitments, not connected to any significant political costs in the form of loss of sovereignty. The Swedish statement in connection with joining the EUREKA project may be compared to a similar statement preceding the joining of the IEA - the International Energy Agency. Before joining the IEA in the mid-1970's, the Swedish government issued a 'declaration of neutrality' to the effect that if the situation should arise where there was a conflict between membership and the policy of neutrality, the Swedish government reserved the right to take... "unilateral steps including the possibility of leaving the organization." [47] The Swedish 'declarations of neutrality' are not only aimed at international actors, but also at domestic ones. The EUREKA program was hardly controversial, but in the beginning of the project there was

some international debate concerning whether EUREKA would be geared toward civilian or military technology, as well as about the links between EUREKA and the SDI. This was also discussed in the Swedish Parliament.[48] By declaring that Sweden could choose 'the path of neutrality' the government managed above all to dampen domestic criticism against Swedish participation in EUREKA. The "declaration of neutrality", prior to the participation in EUREKA, is illustrative of a cautious Swedish EU policy and the political sensitive issue concerning the neutrality policy. The Swedish side was very positive to the organization of EUREKA as close to the market and flexible and as lacking supranational components... "we wish to support the desire to attain flexible and nonbureaucratic solutions without supranational elements." [49] "There is unanimity on the point that EUREKA should not result in a new international bureaucracy...The government will not mingle in the process of choosing the suitable partners for cooperation...On the other hand, governments have a role to play in finding the most efficient ways of spreading information about projects to different participating countries...In this work, the national points of contacts will prove to be important." [50] This support for a nonsupranational cooperation was not typical for the small states within EUREKA. The Swedish attitude was in line with the general Swedish policy concerning the European integration process, that is a minimum of federalist components within the EU. The support for the loose and transnational cooperation structure within EUREKA was also a 'wise' policy. If EUREKA had been part of EU's Framework Program, Sweden, as a non-EU member, would not have had equal status as the EU member states.

#### 4.4 Political and administrative handling

Swedish participation in EUREKA was, as we have seen, regarded as an important political component in Sweden's joining the whole West European sphere of cooperation. The importance that this cooperation had for Swedish foreign policy can be seen from the perspective of the role played by the Foreign Ministry in the handling of EUREKA matters. The role of the Foreign Ministry, and in particular its Trade section, seems to have been significant at an early stage in the EUREKA program, when it was important to establish contacts and to finalize negotiations on the formal cooperative structure of EUREKA and on the focus of EUREKA. The role of the Foreign Ministry in the initial stage of the EUREKA program should be seen from the perspective of the foreign policy importance of the program and from the possible consequences that Swedish participation could have for neutrality policy. The role of the Foreign Ministry in international negotiations is also sanctioned by the Swedish constitution: RF [Swedish: Regeringsformen] 10:8: "The head of the department to which foreign policy issues are allocated should be kept informed when a question of importance for the relationship with another country or with an international organization is raised within another governmental agency." (Translation by the author.)

An important channel of information for the Swedish handling of EUREKA matters seems to have been the different embassies in above all Paris, Bonn and London. The reports from the embassies gave the Foreign Ministry and the government information about for instance the French government's views on the cooperation in preparing for different formal meetings, such as Ministerial Conferences. Embassy personnel have had various meetings with important officials in the EUREKA program and have subsequently reported on this to Stockholm.[51] Swedish ambassadors also seem to have taken part regularly in Ministerial Conferences held in their respective countries.

When the EUREKA program had found its form, the handling of the matter seems to have undergone an important change. The role of the Foreign Ministry diminished and the Ministry of Industry took over responsibility for the EUREKA issues. The role of the Ministry of Industry gradually became larger and larger when the EUREKA issues were regarded as questions of "pure industrial policy". This corresponded in time with the start of the negotiations concerning the EEA. This political change of emphasis can be contrasted with the newly raised interest of Swedish industry for EUREKA during the second half of the 1980's. Swedish participation in EUREKA can consequently be divided into different phases that are mirrored in the way these issues were handled politically and administratively.

Apart from the work at the Trade section of the Foreign Ministry, several political-administrative groups were established to handle EUREKA matters: There was a so-called ministerial group that consisted of the Minister for Industry, the Education Minister and the Minister for Foreign Trade. This group met two to three times a year "to decide important policy issues." [52] At the level of the

bureaucrats a so-called staff group was formed, which had representatives from the Trade section of the Foreign Ministry, the Ministry of Industry and of Education, the Office of the Prime Minister, the STU - the Swedish Board of Technology, (now called Nutek,) the Royal Swedish Academy of Engineering Sciences plus the Federation of Swedish Industries. This group had executive responsibility and it met 6-8 times a year and was responsible for "the monitoring of EUREKA affairs, preparations for EUREKA meetings etc." [53] This group was led by the EUREKA coordinator, that is the person who is the High Level Representative.

The total number of people who have been involved in EUREKA matters one way or the other is relatively small. In practice, even fewer people handled these issues. Among the politicians, the Minister for the Future, the Minister for Foreign Trade and the Minister for Industry were most important. They took part in various groups. The number of meetings between politicians was not particularly high either. This information certainly only covers formal meetings but one may assume that informal contacts are mirrored in formal meetings.

The Swedish civil servants who were interviewed confirmed that it was among them that the most intensive contacts took place both formally and informally. The number of civil servants involved is much larger and it is among them that the day-to-day work on EUREKA issues is carried out. The work is made at a central level, within Ministries and above all at central government bureaucracies. In my material I have found no evidence of involvement at the local level. This indicates that questions concerning EUREKA were handled at the elite level.

Among the civil servants there are very few who have worked on EUREKA or other R&D issues full time, perhaps five to 10 people. A delegation to a Ministerial Conference consisted of about five civil servants and at a High Level Group meeting of about 10. The only people who have been directly named to represent Sweden in EUREKA matters are the High Level Representative and the National Project Coordinator. It is these bureaucrats and other employees at governmental offices who stand out as the main Swedish state actors within EUREKA. As in the case of the National Programs, it was the civil servants who took active part in the process towards a Swedish participation in EUREKA. In the EUREKA case, however, it was bureaucrats on the ministerial level that were involved rather than bureaucrats from various state agencies.

Even though the number of bureaucrats was small it is not possible to argue that EUREKA matters were not considered important. The number of persons involved, as well as the number of units, must also be interpreted qualitatively, that is the type of actors and units that were involved. My material indicates that these persons and units were elite personnel in the government apparatus.

The issues regarding EUREKA may be said to concern both so-called high as well as low politics. What decided the character of the specific issue seems to have been the perception of the persons involved and the fact that the Foreign Ministry has a right based in the Constitution to take part in issues with foreign and security policy implications. The EUREKA program initially had a rather problematic link to security policy, that is SDI and the technological direction of EUREKA. Apart from this, the EUREKA program seems to have retained similar implications. The politically sensitive part for Sweden, that is neutrality policy, was of course substantially diminished in importance by the collapse of the Soviet Union and of the Eastern European bloc. The cooperation within EUREKA has been influenced by this political change. The increased role of the Ministry of Industry in the handling of EUREKA seems to have taken place before this change in Sweden's external environment, that is before the Cold War finally ended. My archival materials instead imply that there is a sort of 'division of labor' within the government and that the Foreign Ministry had a kind of 'first choice' to handle these issues.

## 5. Business interests

### 5.1 Introduction

Although the Swedish business community, especially the electronics industry and the organized business organizations, had been part of the National Programs and had claimed that there was a need for closer links between Sweden and EU, the reactions over EUREKA were rather hesitant. The mild interest on the part of industry was also obvious in other countries. In France, for instance, the president held several so-called breakfast meetings with various businessmen in the summer of 1985 in order to increase their interest in participating. [54] This mild interest, however, had probably more to

do with the loose cooperation structure, and the fact that the EUREKA governments did not have any clear policy of how to finance the projects, than with the European cooperation idea per se. The European business community was indeed very active in the revitalized European integration process. These transnational actors, which also included Swedish international companies, were in close contact with the EU commission and had an important impact in the creation of the Single European Act (Sandholtz & Zysman 1989, Pedersen 1992). The importance of the business community and its participation in the European cooperation was also reflected in the domestic Swedish political handling of EUREKA matters.

## 5.2 "Better than nothing"

In 1985 the Swedish Government established the so-called Industrial Contact Group, consisting of state officials and representatives from the Swedish business community. The purpose of the group seems to have been above all to 'inform' industry about the EUREKA cooperation and get the companies interested in joining the cooperative projects. In this group, there were high representatives from the Trade section of the Foreign Ministry, from the Ministry of Industry and from the Office of the Prime Minister. In addition, there were representatives from large Swedish companies, such as Ericsson, VOLVO, Atlas Copco etc. Together, about 20 people participated. The industrial contact group, which met regularly, only seems to have existed during the early years of EUREKA.[55] These contacts followed a Swedish consensus oriented policy-making model, to seek consensus between the state and various societal interests. A close dialog between the government and industry and between the actors on the labor market has been one of the hallmarks of the Swedish consensus oriented 'model' of how to make politics.[56]

The participation of Swedish labor unions in the handling of EUREKA was very limited. The state invited the bigger unions for 'information' about EUREKA but the unions did not play a more independent role in the cooperation structure. This arrangement was, however, rather unique among the EUREKA countries and was in line with Swedish consensus oriented policy-making.. Several countries, for instance the Netherlands and the United Kingdom, had no contact at all with the unions concerning EUREKA.

Another interpretation of the establishment of the Industrial contact group, which is not necessarily in conflict with the consensus-oriented policy-making, was that the government's initiative reflected a deep concern over the rather hesitant interest that parts of the business community had shown for EUREKA. In 1986 the Minister for Education, for instance, regretted the initial hesitant attitude from the business community.[57] Several companies, especially the telecommunications company Ericsson, stated that they believed that EU's Framework Program was 'enough' and more important for the companies.[58]

The hesitant attitude on the part of the companies was probably due to the Swedish policy regarding financing of the projects, which meant that the EUREKA projects must be commercially viable. The Swedish government's policy was to refrain from allocating specific funds for EUREKA projects. Representatives of the Swedish government stated that no special arrangements would be made to support companies within EUREKA. "At present, the Swedish government has no plans to allocate specific funds to EUREKA projects. If projects, with the purpose of being commercially marketed, can't draw enough funding from the companies participating, the viability of the projects must be questioned." [59] At a later stage, in 1991, 6-7 million ECU was allocated to EUREKA projects for Swedish small and medium-sized enterprises. A similar amount was given the following year.[60] An important exception in this policy concerned the Swedish companies which participated in the EUREKA project PROMETHEUS. The car company VOLVO received financial support through the national IT4-program (see above). This project was considered to be important and vital for one of Sweden's largest employers.[61] The telecommunications company Ericsson applied for financial support for their participation in the project JESSI but the Government gave its policy that only small- and medium-sized enterprises could be supported as a motivation for its negative answer.

The link between financial support and participation in EUREKA is difficult to study. One reason is of course that we don't know how many companies which would have joined EUREKA if there had been a comprehensive financial program. Among those companies that joined EUREKA in 1986 there is not any clear pattern. The majority of the companies did not receive any support. We can, however, conclude that there were rather few Swedish companies that joined in any EUREKA projects in 1986.

Of those 12-15 companies that participated in the Industrial Contact Group only 5 joined a project during 1986-88. In 1987-8 more companies joined and in 1988 6 new companies joined a EUREKA project.[62]

Another reason for the cautiousness shown by business interests appears to have been the large international Swedish companies and their contacts with European companies. EUREKA did not appear to be a program that would be economically important for Swedish big business. A majority of Swedish companies that joined EUREKA in 1986 stated that EUREKA was a political initiative.[63] A majority of the companies also answered that they believed that they had found their partners without the EUREKA cooperation. "Contacts between companies for common development projects still exist." [64] There were more diverse answers concerning the question if the project had existed without EUREKA. The contact person at VOLVO, which participated in PROMETHEUS, answered that this was most unlikely because it was a unique cooperation between car companies, research institutes and universities. The foundation for these results is rather limited but it can give an indication of how the companies looked at EUREKA, at least during the early years.

There were also positive relations to the Swedish participation in EUREKA. The lobby organization for the Swedish industry, the Federation of Swedish Industries stated in 1985 that ... "EUREKA gives us a place in the European discussion club with possibilities to participate in important future technological choices." [65] This argument was similar to the political argumentation for a Swedish participation in EUREKA. EUREKA was part of the broader integration process and in the process of the creation of the internal market. This positive attitude, by the lobby organization, for a Swedish EUREKA-participation could be described 'as better than nothing'. When the EUREKA initiative was launched the Swedish non-EU membership was perceived to be more and more of a problem. [66] A Swedish EU membership did not seem very realistic and EUREKA was therefore considered as a 'Poor man's alternative' (Ibid.).

The fact that the EFTA countries were equal to EC countries was very important. Therefore EUREKA is important to EFTA. It was the first time that the EFTA countries and their industrial enterprises was invited to participate on an equal footing in the planning and execution of R&D schemes with a 'strategic aim' (Memo 1985 by Erik Braunerhielm who also worked with EUREKA matters at the Federation of Swedish Industries). This linkage between participation in EUREKA and the broader issue of Sweden's relationship with EU is also similar to the political argumentation. There were also advantages, according to the Federation of Swedish Industries, with EUREKA compared to for instance ESPRIT within the EU Framework Program. EUREKA's loose and non-hierarchical cooperation structure entailed that companies did not in any extensive ways have to share so called 'company secrets'. A 'price' for this loose cooperation conditions was the lack of a EUREKA budget.

## 6. Conclusions

The Swedish government responded to the microelectronic revolution by launching national programs. The driving force behind this more comprehensive strategy was the National Board for Technological Development (STU) and its close dialog with the industry. The creation of the board in 1968 was the starting point for a Swedish strategy in the RTD area. The process of a Swedish national strategy involved interactions between experts and industrialists who developed a common perspective on the policy dimensions.

On the central political level RTD questions were highly politicized at the beginning of the 1980's. The new technology posed not only an economic and industrial threat but also a security threat, especially the dependence of American technology. The American High Technology Offensive in the beginning of the 1980's was a crucial factor behind a political interest for RTD issues. The new technology also posed an opportunity for a progressive industrial policy which was in stark contrast to the Swedish industrial policy during the 1970's. There were thus international as well as domestic factors behind the cabinets national strategy.

The Swedish program, the Information Technology Program, was launched several years after its equivalent in France, Germany and United Kingdom. It is argued that the Swedish domestic structure can explain this slower political process. The Swedish consensus-oriented policy-making model enabled a close dialog between the state and industry. But the decentralized RTD structure and the many actors involved in the policy-making also constrained the policy process. There was a tension in

the Swedish R&D policy between the market-based R&D policy and the recognized need for intervention in certain high technology fields. The national programs were exceptions from that policy. The nationally oriented programs can be characterized as a typical state strategy within a traditional anarchic international system, especially for those countries with a limited possibility to influence international politics. The strategy was aimed at strengthening the domestic RTD competitiveness. The programs also had important transnational components. The IT4-program was directly linked to EUREKA and EU's Framework programme. This linkage was initiated by Swedish industry but it also gave the Swedish cabinet an opportunity to finance Swedish participants in important EUREKA and other European RTD projects.

The EUREKA initiative enabled Sweden to join the European process to a European Technology Community and the creation of a single European market. The political priority was focused on EUREKA and not on the EU's Framework Programme. It is argued that EUREKA was an important path in the initial phase of the Luxembourg process. EUREKA did not entail any political costs for the government in terms of sovereignty or questions concerning the credibility of the neutrality policy. An active participation in EUREKA offered the Swedish cabinet and the state apparatus an opportunity to show that they were good Europeans and a possibility to reduce the problematic dependence of American high technology.

The Swedish industry was hesitant about EUREKA and was more interested in EU's Framework program but EUREKA was considered to be 'better than nothing' in a political situation where EU membership was not on the political agenda. In addition, industry was not used to this kind of R&D cooperation between industries and other participants.

In a Swedish context the National mobilization and cooperation strategy was a traditional way of coping with changes in the international environment. It is, however, difficult to argue to what extent this kind of domestic-oriented strategy is a typical small-state strategy, that is states with a limited influence on international politics. With some differences, for instance size, the National Champion strategy was also launched in France and other big European countries. There is a striking similarity in political responses between so-called small states and bigger states.

The transnational European cooperation strategy was not a typical Swedish state strategy. The more European oriented-strategy was enabled by the emergence of a new cooperation structure which was not based on the logic of an anarchic international system but on interdependence and transnationalism. This European and transnational strategy was in a Swedish context an innovative strategy. But this more offensive strategy can be characterized as a traditional strategy in for instance small states like Denmark and the Netherlands. These states are also characterized by a corporatist structure. One way of explaining these Swedish "traditional" and "innovative" strategies is the country's different EU policies due to their various security policies. Sweden has had a rather complex and ambiguous EU policy whereas Denmark and the Netherlands have been EU members. It is possible that the emergence of a more transnational European cooperation structure was more important for a small country outside the community than for countries within the EU.

Sweden's participation in EUREKA can be seen as an indication of how the Swedish cabinet and state apparatus may work within the wider European integration process. The Swedish political administrative handling of EUREKA initially followed a traditional interstate negotiation culture. The Foreign Ministry coordinated and led the Swedish participants. The cooperation within EUREKA over time became less politically important and the handling of these issues was spread both horizontally and vertically within the cabinet and the bureaucracy. Swedish civil servants also took part in a transnational network with their counterparts in other EUREKA countries. The driving force in EUREKA, as in the national programs, were between the bureaucrats from primarily state agencies and industry. The role of the politicians was marginal, both versus the domestic actors (bureaucrats and industry) as well as externally, in the international cooperation context. It was only during EUREKA's initial phase that political actors and the Ministries were strongly involved.

The contacts between the state and industry followed, as in the national programs, a Swedish consensus-oriented policy-making model. In Sweden there were also contacts between the government and the unions which also followed a Swedish corporatist tradition. In EUREKA, as in the national programs, it was important to negotiate and to solidify the cooperation between important interested parties. There were few conflicts of interest. The most controversial issue concerned the participation in the EU Framework program and in extension a Swedish EU membership. The IT4 program did not provide any solution to that problem but it linked the program to projects within the EU Framework

program. Swedish companies, like Ericsson, also participated in ESPRIT as early as 1983 through its Italian subsidiary company.

The link between domestic process and international cooperation is clearly an important field of study when one aims to understand the dynamics behind international cooperation. This linkage is even more relevant when the cooperation structure is transnational and an extension of domestic politics. In this paper state strategies have been studied as a function of a complex interaction between domestic structures and processes and changes in the international environment. The Swedish cabinet's strategies cannot be explained without an analysis of the domestic process. The European integration process and the reorientation of the American High Technology Policy can be characterized as "triggers" for the Swedish political initiatives but the strategies were a result of a rather long and complex domestic process which involved state as well as societal actors.

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Dan Andréé - Head of the Swedish EC - R&D Council

Ulf Dinkelspiel - Diplomat at the Foreign Ministry, (At present Head of the Swedish Export Council).

Eva Grönlund - Head of Section at The Ministry of Industry

Johan Martin-Löf- Head of Section at the Ministry of Industry (from 1985 he is Head of Section at Swedish Telecom).

Sven Malmberg - Head of Section at the Trade Section of the Foreign Ministry

Ulf Svidén - Head of Section at the Ministry of Environment

Carl-Johan Åberg - Under Secretary at the Trade section of the Foreign Ministry (At present, Head of Swedish Pension System's Trust Fund)