

# Automobile Industry Cluster: Driving Styria Forward

**Major Cluster Concepts:** dynamic supplier/value added chain, active/emergent governance, privatized/post-1989+1992 European restructuring environment, university support/involvement, shifting markets/technologies, globally competitive industries

## Description

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Styria, one of the nine Austrian "Bundesländer," has until recently been somewhat isolated because of the iron curtain along its southeastern border. It was also saddled with several uncompetitive state enterprises in its old industrial areas. The Automobile Cluster Styria (ACStyria) is a new and ambitious program now being carried out by the Styrian Economic Development Agency. The cluster's development is an excellent illustration of how regional and industrial development policies can help stimulate the successful restructuring of a regional economy following Austria's entry to the EU and the opening of Styria's eastern borders to market competition. The exceptional governance and structure of ACStyria is likely to be its most interesting feature.

## Product Market Scope

The newly emergent ACStyria now comprises about 100 companies with some 10,000 people working mainly in firms that directly contribute to the production of motor vehicles. Most of these firms are small and medium-size suppliers of basic materials, parts, and subassemblies to the larger original equipment manufacturers (OEMs). Large key firms, however, are additionally both generators and suppliers of high quality research and development in key technologies (e.g., internal combustion engine design, 4-wheel drive design and production, design and installation of vehicle production plants) in the international automobile market.

Where only a few firms actually manufacture vehicles (Eurostar, Steyr Daimler Puch among a few others), about half of all cluster firms can be found in the field of metalworking (e.g. light-alloy casting or general metal-cutting operations), machinery production, and toolmaking. Here the product scope is wide, covering everything from special tools for casting, stamping, bending, and drawing to complete machine parks. Production ranges from simple metal parts to bodies-in-white to sophisticated surface technologies (surface tempering). Another strong field of the cluster is the development and production of precise measuring devices. Several firms that produce tools and machinery are also active in the development and production of measuring devices, particularly where research and development is strongly involved. Several other products of major importance are important components of this cluster. About 10 firms plastic and rubber parts for the automobile manufacturer, some 6 firms supply textile and leather products to the cluster, and another 6 supply electronic products. A few specialized firms can be found in the area of software engineering, the recycling business (recycling of

metals and car parts), and the production of seats, cable harnesses and glass. Thus, the product market scope is a wide one and is representative of the full value-added-chain of the automobile industry. In addition, several other firms supply specialized services and consulting to core cluster firms.

## Performance

Decline of Styria's state owned steel industry in the 80's resulted in a strong need for restructuring the region's economic base. By building upon the strongest remnants of another state-owned firm that had retained its 4-wheel drive technology just as this international market segment boomed, Styria and Austria together help propel the vehicles and transport cluster (defined in Fabris et al., 1995<sup>1</sup>) to the top industrial position in Styria. The study done by Fabris et al. counts 37 firms employing 7,800 persons and achieving a turnover of 13 millions Austrian Schillings in 1992. The production of automobiles accounts for over three quarters of the total cluster turnover, although total value added is doubtless more widely dispersed over the full set of cluster firms. Recent dynamic developments in final markets, increasing competition, and associated pressures to reduce costs and enhance productivity have led to new strategies among automobile cluster firms (see below).

## Organization Fehler! Textmarke nicht definiert.

### 1. Entrepreneurial Firm Fehler! Textmarke nicht definiert.

The numerous small and medium size firms of ACStyria supply parts and subassemblies to the regional key firms, but also to the international automobile industry. The picture for the key firms is a different one. Two key firms - Steyr Daimler Puch Fahrzeugtechnik (SFT) and AVL List – offer internationally recognized competence in research and development. SFT is specialized in the design and production of high-value system components, while AVL List offers globally recognized excellence in design and development of advanced internal combustion engines. The third key firm – Eurostar – engages mainly in the production of the Chrysler Voyager and is thus heavily dependent on high quality system suppliers; many of its inputs are still imported from North America. Magna, a Canadian firm owned by a native Austrian, is firmly established as key global player in the automobile industry and is the single biggest single cluster supplier to ACStyria's OEMs. There remains the possibility that Magna and SFT may merge, although this is unclear in early 1998. In addition, the cluster comprises some specialized suppliers of key business services.

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<sup>1</sup> Fabris, W., Hohl, N., Mazdra, M., and Schick, M. (1995) Wirtschaftsleitbild Steiermark. IWI-Studie Bd. XXV, Wien: Industriewissenschaftliches Institut

**Key Firms:**

- **AVL List** [Fehler! Textmarke nicht definiert.](#) : AVL List is the outstanding research and development center of the ACStyria. AVL List is a post-WWII entrepreneurial spin-off by Professor Hans List, a University of Graz faculty member, that has become highly specialized in the research and development of combustion engines, control engineering and acoustics. AVL List employs a regional staff of 1200 in Graz, has branches in the U.S. and elsewhere, and is heavily export-oriented. Key  
Contact: Dr Affenzeller
- **Steyr Daimler Puch Fahrzeugtechnik (SFT) Fehler! Textmarke nicht definiert.**: The oldest Austrian motor vehicle factory possesses know-how in core sectors of automotive engineering, with unique capabilities in drive-lines and gearing for automobiles, light utility vehicles, cross-country and four wheel drive vehicles. SFT as an Original Equipment Manufacturer (OEM) acts on the one hand as a worldwide buyer and seller of key inputs, and on the other hand develops and produces vehicles under contract as a partner for OEM's (Jeep Grand Cherokee is assembled under Chrysler contract by SFT). Key contact: DI Heckel
- **Eurostar**: Under a joint venture with SFT, Chrysler Eurostar produces the Voyager. Chrysler imports through the Port of Rotterdam the largest volume of containers of any European company to meet its principal input requirements; it supplies finished products to European, Japanese, South African, Australian, and New Zealand markets.
- **Magna Fehler! Textmarke nicht definiert.**: The Magna group is enhancing its already far-reaching commitment in Styria and thus is becoming a key player in the cluster. Magna designs, engineers and manufacturers a complete range of exterior and interior vehicle systems. At the two production sites in Styria Magna produces metal and plastic parts as well as exterior mirrors for automobiles.

## 2. Relationship between Firms

About 100 small and medium sized firms serve as closely-linked suppliers for the leading firms. There are numerous ACStyria firms that could supply additional inputs to "Eurostar" as well, since it now relies less on cluster suppliers than on its continuing North American supplier chain. Fostering cooperation among small firms through the ACStyria should enable them to act more as a system supplier to OEM's rather than as individual sub-suppliers. This could easily arise as a consequence of global competition and cost pressures on the industry.

The need for improved development, manufacturing, and reduced-cost logistics is clear. The main challenges now facing ACStyria are gaining improved productivity in the value-added chain, implementation of new supply strategies, and altering the supplier structure. That means OEMs would concentrate more

on core functions (product design, assembly and distribution), thereby reducing OEM manufacturing depth. This would be accomplished by proven Japanese and U.S. methods of sourcing more and larger component systems from a reduced number of cluster suppliers; it also implies sharing the component design and production engineering costs with such suppliers as development partners in the automotive value added chain. Individual parts manufacturers thereby assume more of the total manufacturing depth within the supplier system, although specialist suppliers of unique parts would continue to supply inputs to automotive cluster. A key immediate challenge for ACStyria is to alter its current structure of numerous small single parts suppliers to a few large system suppliers.

### **3. Support Services**

The core OEMs and their suppliers are connected with several institutions and associations which together play an important role in the development and governance of the cluster. The Styrian Government, the Styrian Economic Development Agency (SFG) assisted by the private partner Agiplan (a consulting and planning company), and the Industrial Association Steiermark (IV) are the main initiators and organizers of the cluster. Styria contracts for technical support on regional policies with Joanneum Research/InTeReg (Institute of Technology and Regional Policy). Industry and university engineering research centers and think tanks are mainly connected with the firms operating in the cluster. The Institute for Economic Development Steiermark (WIFI) provides companies with technical assistance in several fields, while the "Büro für internationale Forschungs- und Technologie-kooperationen" (BIT) assists with international cooperation in research and technology initiatives. Financial support of the cluster is decentralized among different institutions, and funds have assisted various phases of the cluster's development. National policies set requirements for qualification to much of the funds, and therefore, act indirectly in supporting the one or other industry structure. Styria supplies funds on a two year basis to the SFG which are not earmarked. Thus, the SFG acts not only as an initiator and organizer of the cluster but also as a financial support institution to the cluster. In addition, the different EU programs – especially the 4<sup>th</sup> and 5<sup>th</sup> framework programs – often provide financial support to the programs.

Graz, the capital of Styria, lies at the intersection of two highways, the "Südautobahn" from Vienna via Graz to Italy, and the "Phyrn-Autobahn" from Germany via Austria to Southern Europe. The location thus provides easy access to the highway network. In addition, is Graz connected to the railroad network allowing container trains to deliver directly to the production sites or end markets. The airport Graz-Thalerhof integrates the location into the international air traffic system.

## Governance

Background. Although two indigenous companies, Steyr Daimler Puch Fahrzeugtechnik and AVL List, have a long tradition in the automobile industry, the emergence of the ACStyria did not occur prior the early 90's. At this time, the combined efforts of the Austrian national government, the province of Styria, and the city of Graz led to the establishment of Eurostar (a part of the American Chrysler Corporation) in the region. Many suppliers to the Eurostar works later settled down around Graz, creating the critical mass for development of the automobile cluster. At about the same time, the President of the Styrian Industrial Association (IV), Tessmar Pfohl, was introduced to new concepts of competitive industry clusters while participating in Vienna's "Föhrenberg" circle (a discussion circle compromised of business leaders, politicians, and scientists).

Launch. Interested in these new ideas, Pfohl joined with the "Industriewissenschaftliches Institut" (IWI) to help launch the "Wirtschaftsleitbild Steiermark" (a study which analyses regional economic development prospects). Parallel to this Joanneum Research, a non-university research institute owned by Styria, was commissioned to work on the Styrian Technology Policy Concept. This concept identifies the setting up of clusters as a main development strategy. Based on early studies, the "Sondierungsprojekt Automobilcluster" was initiated by the Styrian Industrial Association, in co-operation with the Styrian Economic Development Agency, which was itself founded in 1991 as a independent regional development agency owned, controlled and financed by the province of Styria. The "Sondierungsprojekt Automobilcluster" - launched in April 1996 - investigated more rigorously than the IWI study the structure of the automobile industry. The private regional development consultant Agiplan was contracted to assist SFG in the realization of the AC Styria.

Guidance. The resulting ACStyria organization relies heavily upon its most important body, the Advisory Board, which is composed of high-ranking delegates from manufacturer, leading companies, and SME's, politicians, scientists, and representatives of other institutions. The broad basis forming the Advisory Board is regarded as a key requirement to give the cluster strategy its best chances for success. The Advisory Board is confronted with the tasks of suggesting strategies for the cluster, focusing of the work of members, and balancing the different interests. SFG then serves as an important strategic instrument, by providing information and enhancing communication, increasing firms qualification, and setting up and assisting firms. In addition, the SFG provides financial support for the different projects that enhance cooperation among firms and help improve their operations. The vision for the future is that benefits created for firms through cooperation will be such that the ACStyria evolves into a self-supporting network of companies and institutions by the end of 1998.

Strategy. Following the establishment of the ACStyria, various projects in the fields of information, cooperation and qualification have been launched to manage ongoing structural changes in the automobile industry and to maintain

international competitiveness among member firms. These projects include: attracting firms, establishing cooperation among recycling firms, setting up logistic cooperation, providing entrance to the internet for SME's, giving information about product liabilities, educating workers in CAD programs, assisting firms during supplier certification processes, building a measurement center, collecting and governing information about the cluster companies.

## **Institutions**

### **Styrian Economic Development Agency (SFG)**

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The **SFG** is the main institute that provides services to the firms in the cluster. Services include: providing basic know-how for all partners, supporting combined projects, integrating of different interest groups, and assisting by the search for co-operation partners. The SFG is provided with funds from the Land Steiermark on a two years schedule. Mr. Holzschlag from the Styrian Economic Development Agency should be regarded as the key contact person for visiting this cluster. Key Contact: Ing. Holzschlag

### **Industrial Association Styria (IV)**

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The **IV** acts on behalf of 90% of all Styrian industrial firms by: providing services to the industry, lobbying for members and serving as a think tank. As a neutral institution, **IV** was crucial during initiation phases of ACStyria. Dr. Krautzer can offer very useful and interesting insights into the initial development phase of ACStyria. Key Contact: Dr Krautzer

### **Joanneum Research/InTeReg**

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The research institute **Joanneum Research** is owned by the province of Styria and employs 300 persons. As an innovative partner for commercial enterprises and political decision-makers, it provides services and consulting in various fields. Its **Institute of Technology and Regional Policy** (InTeReg) worked as a policy consultant to help formulate the Styrian Technology Policy Concept.

### **Institute for Economic Development Steiermark(WIFI)**

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The **WIFI** provides soft aid to the companies in organizing fairs, providing information, etc..

### **Bureau for International Research and Technology Cooperation (BIT) [Fehler!](#)**

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The **BIT** is the central consulting and coordinating office for Austrian scientists and researchers from universities, independent research facilities, and the private sector who are interested in participating in international research and technology programs and initiatives.

#### **APS**

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The **APS** is the regional office of the BIT, offering information and general consulting in the field of international research and technology cooperation. Its small size limits its role to that of a complement, not regional substitute, to BIT.

#### **Technical University of Graz (TU Graz)**

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The **Technical University of Graz** has intensive contacts to firms in the automobile industry. Various research projects are ordered and financed by automobile firms on the one hand. On the other hand assist these firms numerous students by writing their final thesis.

Key Contact: Rektor Killmann

#### **College (Fachhochschule) for Automotive Engineering**

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The **College for Automotive Engineering (FH)** is a vocationally-oriented, post-high school that was originally established in 1995 to deliver highly skilled technical personnel to automobile manufacturers. The National Government decided to locate **FH** in Graz after strong pressures had been imposed by the Land Government and the leading automobile firms. The **FH** and affiliated automobile firms work closely together to make 4 years of study and practical experience as useful as possible to students and firms. In addition, serves the **FH** as a neutral ground for firms to cooperate in the existing research institute.

Key Contact: DI Dr Gaberscik

#### **Technology Transfer Center Leoben**

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The **Technology Transfer Center (TTZ) Leoben** transfers technology with the goal of increasing the quality of production. In particular, aims the TTZ Leoben to enhance the technology flow from the University of Leoben and the Austrian Research Center of Seibersdorf to the cluster firms. The TTZ Leoben is controlled by a board consisting out of representatives from federal ministries, the Land Styria, the city Leoben and partner organizations. The TTZ finances itself mainly through projects.

#### **Styrian Technology Park**

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The **Styrian Technology Park** supports young firms through services and consulting in various fields (e.g., marketing, design and product development). This network of technology parks provides in different places a common infrastructure for mainly start-up firms. Hereby,

the different technology parks distinguish in their emphasis on certain fields like electronics (Technology Park Graz) or laser technology and new materials (Technology and Training Center Niklasdorf). Thus, different kinds of services and consulting will be offered at every single technology park.

## Funds

Financial support for economic development and innovation is concentrated at the National, although sub-national level grants do play a minor role in various support schemes. Thus, in the following the discussion will mainly be focused on the national financial support programs.

The diverse Austrian and EU grants offered through Styria aim at enhancing private R&D, restructuring, and supporting business start-ups. The allocation of the grants is managed through different funds and institutions. The access to the grants offered by the EU is facilitated through institutions mentioned above. These grants are often combined with national or regional funding. The 4<sup>th</sup> and 5<sup>th</sup> framework of numerous EU programs ([Fehler! Textmarke nicht definiert.](#), [Fehler! Textmarke nicht definiert.](#)) are of major importance to the innovative automobile industry.

### **Innovation and Technology Fund (ITF)**

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The innovation and technology fund (ITF), a strategic instrument for Austrian federal technology policy, was installed with money received by the privatization of energy production enterprises in 1988. A ministerial committee decides on the use of promotion funds for research, development and quick application of new technologies in the Austrian economy. The technological renewal of the Austrian economy shall thus be promoted, priority for applied research intensified, and the competitiveness of Austrian enterprises raised. Beyond the promotion of projects in the fields of research and technological development, ITF also helps diffuse technologies through financial assistance and counseling to stimulate high-tech enterprise formation.

### **Austrian Research Fund (FFF or RPF)**

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The research promotion fund for commercial enterprises (RPF) finances research projects of natural and legal persons in the field of application-oriented and technology-oriented research through contributions or loans. For research projects that result in immediate economic benefits to the applicant, a fair cost contribution will be assessed to the applicant. It is the essential task of the RPF to raise business-related research in Austria to the EU-level. Companies should be motivated to participate in border-crossing cooperation in research and development, in projects that could otherwise not be carried out or only with great difficulty. Since the beginning of 1995, this fund has been supervised by the Ministry of Economic Affairs.

## K-Plus

Program in preparation. This program aims at improving the links between public sector research and the industrial sector. The Austrian Ministry of Science and Transport (BMWF) will promote academic-industrial collaboration through setting up competence centers. As defined by the BMWF, competence centers are collaborative research institutions aimed at high-quality, pre-competitive and industrial basic R&D activities that fulfill the needs of the

industrial sector and preserve high academic standards. It is planned that a maximum of 60% of a competence center's budget will be provided through public funds.

### **ERP-Fund**

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The ERP technology and innovation program was set into place to reduce risks associated with innovative projects and to foster cooperation between firms and research institutes. Support works by granting loans to firms and projects with generally favorable conditions.

### **BÜRGES**

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The BÜRGES defines its goal as supporting the foundation of new businesses. The costs involved in setting up a new business are partly subsidized by the fund and for the equity capital a high interest will be paid. In addition, the BÜRGES development bank provides surety for credits earmarked for investment.

### **Innovation Agency**

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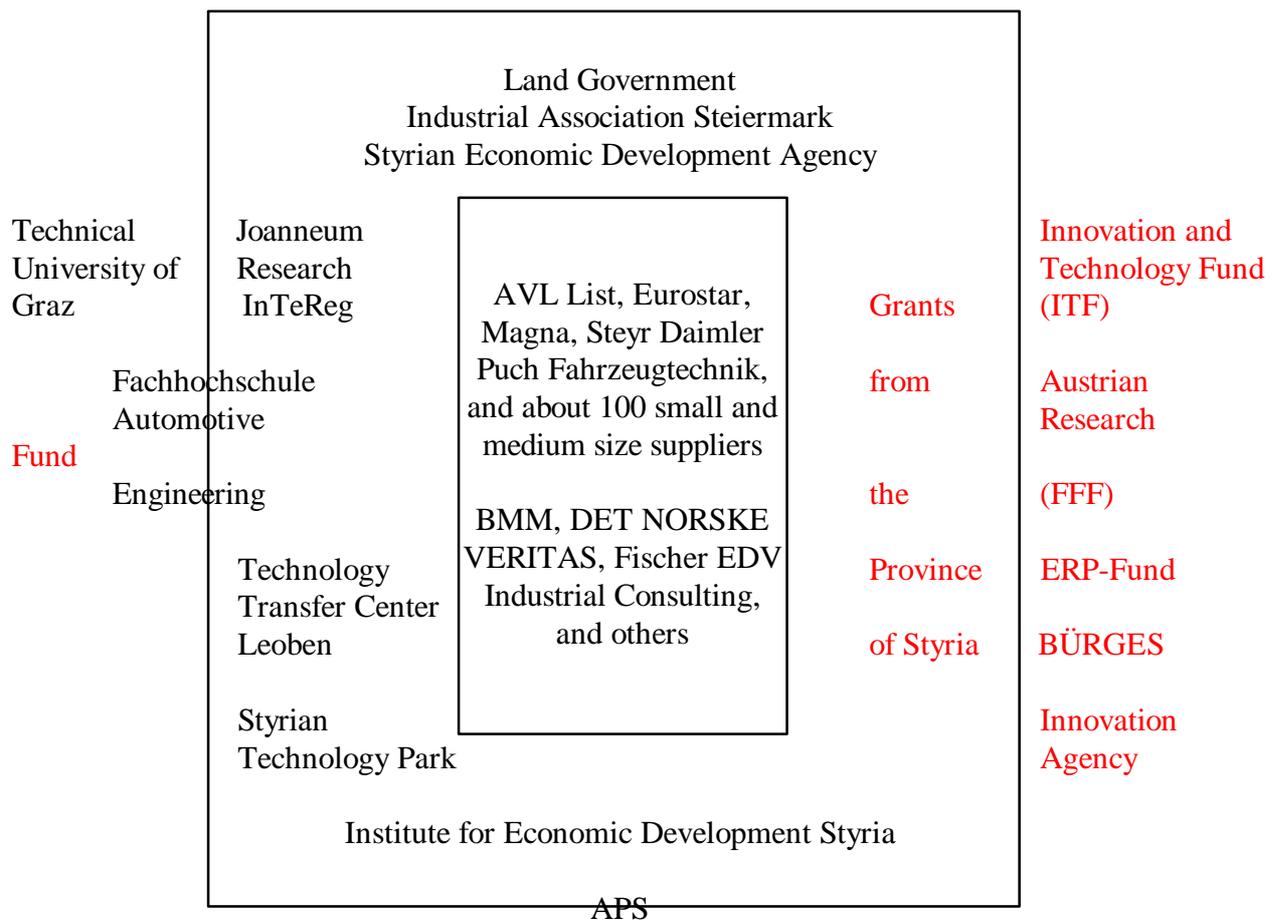
The Innovation Agency was founded in 1984 to support and encourage new ideas. The agency provides assistance to new businesses by offering consulting services and supplying seed capital. Technical feasibility and market studies are supported. The Innovation Agency has installed an internally managed patent loan scheme to help Austrian inventors to finance international patents.

## ACStyria

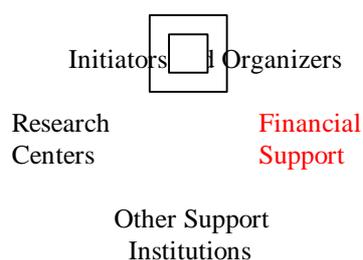
National Government

Federal Ministries ([Fehler! Textmarke nicht definiert.](#), [Fehler! Textmarke nicht definiert.](#))

4<sup>th</sup> and 5<sup>th</sup> framework of the EU ([Fehler! Textmarke nicht definiert.](#), [Fehler! Textmarke nicht definiert.](#))



Bureau for International Research and Technology Cooperation (BIT)



Core: Cluster/Inner circle: Region/Outer Circle:

National/International

## **Extra Materials...not included**

The establishment of the cluster is due to open-minded and ambitious people (Regional Economic Advisor DI Paiarl, Regional Financial Advisor Ing. Ressel, Ing. Holzschlag, and Dr. Krautzer to name only few among the various) trying to enhance the region's competitiveness in the motor vehicle industry

The implementation of the project follows three steps showing different degrees of involvement from developer side. In the first step – the developing phase – the ACStyria is heavily engaged in the search for ideas for potential co-operations and in the succeeding evaluation of these ideas. Following, the ACStyria defines the projects more precisely and calculates the costs and benefits. In the second step – the actual implementation of the project – the ACStyria plays a minor role and it is up to the firms to co-operate under the assistance of the ACStyria. Assistance means that the ACStyria provides a co-operation contract, applies for financial support, helps with the planing and implementation of the project. The last step sees the documentation, presentation and eventual commercialization of the results. During this phase the ACStyria takes up again a major part. Thus, the SFG sees its main tasks in the development of projects and in the marketing of the results of the project after it had been taken out by the partners supported by the SFG and not so much in the actual implementation.

After the implementation the controlling takes place. That means the ACStyria defines whether the goals have been achieved and if the process itself is appropriate. The controlling closes the circle which started off with the diagnosis, went over the definition of the goals and the strategy formation to the implementation.

The existing automobile cluster has profited from policy decisions on the federal and Land level. On the federal level the policy since the 70's has been to promote Austrian subcontracting to the international automobile industry and on the regional level the Land tried to attract international leading firms (Chrysler, Magna) which in turn would serve as the basis for the cluster. Nonetheless, the initiative undertaken by the Styrian Industrial Association and the Styrian Economic Development Agency trying to establish co-operation among companies and thus increasing the competitiveness of the local automobile industry lies at the heart of the cluster strategy and in consequence can be seen as the real engine of the cluster.