
Impact appraisal of regional innovation policy measures on automotive industry competitiveness: a search after better practices

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Abstract: The present paper reports on a search after better practices in policy support to enhance the competitiveness of automotive activities on a regional level.

Based on a Europe-wide inventory of such initiatives, an initial long list was drawn up. This long list was reduced on the basis of a number of 'filter criteria', such as preliminary success signals, the presumed causal relationship of the measure *vis-à-vis* industrial competitiveness and the specificity of the measure. The resulting short list was subjected to a more severe evaluation. This consisted notably of gathering verifiable proof of performance and of positive effects sorted by the measures.

In the end, a number of remarkable success cases were identified. However, on the whole, it appeared that only with regard to very few initiatives was it possible to establish a proven track record and/or contrast its positive causal effect on the health and dynamics of regional automotive activities. An important conclusion and implication of the research results is that there is a strong need for more systematic evaluation of the performance of regional initiatives that aim to support the automotive industry.

Keywords: R&D and innovation policies; regional economies; automotive industry; benchmarking; good practices; impact assessment.

Reference to this paper should be made as follows: Kamp, B. (2008) 'Impact appraisal of regional innovation policy measures on automotive industry competitiveness: a search after better practices', *Int. J. Automotive Technology and Management*, Vol. 8, No. 4, pp.401–430.

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1 Introduction

The automotive industry is big business. According to Eurostat, on a European level, the automotive industry employs some 2.1 million workers in its direct core sectors. If the indirect sectors are included as well, it turns out that – depending on the source and method of estimation – some 6.5 million jobs (CLEPA, 2006) or 12 million workers (EMF, 2005) are dependent on the automotive industry. Moreover, the sector output totals some EUR 700 billion (CLEPA, 2006), which represents approximately 7% of the total manufacturing output in Europe (European Commission, 2005). The automotive industry is also an important export motor within the European economy, making a positive contribution to the European Union (EU)'s trade balance of EUR 33.4 billion in 2003 (ACEA, 2006). Finally, almost 20% of all Research and Development (R&D) in manufacturing is undertaken by the sector (European Commission, 2005). In absolute figures, this means roughly EUR 24 billion, of which half is spent by automotive suppliers (CLEPA, 2006).

But not only from a business perspective is the automotive sector an important industrial sector. It is likewise a sector of immense economic and social importance. Consider, for instance, the large amount of jobs it secures. The sector represents a considerable share of Europe's industrial employment: 7% if one were to take the above-indicated 2.1 million workers and 43% if one were to take the above-indicated 12 million workers as points of reference (ACEA, 2006).

If one would go to the level of specific regions and metropolitan areas within Europe, one sees even more striking indicators for the importance of the sector. For example, in the case of the city region of Stuttgart, the automotive industry represents some 50% of the economic turnover that is generated in the area and its role as an employment provider corresponds to it (IMU & IAW, 2005). Other striking examples of regions with a high dependence on the automotive industry include the area of Alsace-Franche Comté, where 30% of industrial labour is encountered in the automotive industry (INSEE, 2005), the Province of Turin in Northern Italy, where no less than 80 000 persons are employed in the automotive industry (Province of Turin, 2006) and the autonomous communities of Galicia and Castilla y Leon, Spain, where the automotive sector is responsible for some 20% of the industrial Gross Domestic Product (GDP) (Xunta de Galicia, 2006; ADE, 2006).

Hence, policy-makers, certainly those from regions where the automotive industry has a strong presence, have a clear interest in safeguarding the sanity of the automotive industry.

2 Inventorising automotive support initiatives

A supportive policy measure on behalf of regional actors (public ones or representative bodies like federations, clusters and education and research centres) towards the automotive sector is understood as an action or initiative that aims to maintain, sustain or strengthen the automotive industry at the regional level. Such a measure can aim at the improvement of a variety of business functions, like human resources management, logistics, finance, R&D, supplier development, *etc.*

To establish a database on this kind of measures, a quick scan among the European regions that shelter automotive activities was carried out. In particular, the following sources were used to come up with an inventory of automotive support initiatives:

- a survey under the members of the Network of Automotive Regions¹
- a survey under the members of similar automotive network initiatives²
- a survey under the regions that are affiliated with the European Association of Regional Development Agencies (EURADA)
- an examination of an additional number of regions in Europe with a powerful automotive industry base, which are supposedly among in supporting the automotive industry³
- research on the automotive support initiatives throughout Europe that are initiated or running at the regional level (under the responsibility of administrations, industry associations/clusters, EU Framework Programmes or Interregional cooperation programmes of DG Regio of the European Commission (INTERREG) programmes).

This resulted in a broad overview of support measures undertaken throughout Europe by regional actors to support the automotive industry. In total, a long list of some 60 distinctive support initiatives was drawn up, with the measures coming notably from the following thematic areas:

- R&D
- education, training and labour issues
- market access and internationalisation
- logistics/supply chain management
- quality management
- supplier development
- infrastructure
- strategic development
- business intelligence
- investment attraction and incentives.

2.1 Focus on research and development initiatives

In the remainder of the paper we focus on support initiatives that aim to improve the R&D or innovation capacity and potential of automotive business on a regional level.

In the first place, many initiatives from the established long list focus primarily or at least considerably on R&D. No less than 17 out of the 60 detected initiatives had a clear R&D or innovation vocation.

A further reason for focusing on R&D support initiatives is the fact that R&D is seen as an area where public support is indicated and justified. There is now enough consensus on the fact that R&D is one of those activities that cannot be left entirely to the private

sector (Mani, 2002) due to the existence of market failures. This consensus is based on Arrow's argument (1962) that if R&D activities are left entirely to the private market, it will soon lead to underinvestments. The latter is arguably the consequence of the fact that private sector firms fail to recoup the full returns from their investments in R&D owing to difficulties in the appropriation of results, even in spite of the existence of institutional mechanisms, such as patenting, that bestow (temporary) monopolies to technology generators. Economists have attempted to capture this problem by computing the spillover gap of innovations, or in other words the gap between the private and social rates of innovation-related returns. The available empirical estimates of the spillover gap indicate that the desire to underinvest in R&D exists in free market economies such as the USA, Western Europe and Japan (Mani, 2002).

In a similar vein, public interference in R&D activity is justified due to the establishment that enterprises – especially small- and medium-sized ones – cannot follow and keep up with all technological developments. They are often too small to set up and finance economically viable R&D on the level of the individual firm. Additional problems for firms can include a lack of technological capabilities and insufficient technology management.

Furthermore, this is a thematic area that appears to be key to the successful development of companies active in the automotive industry. This applies especially to the supplier segment, where a devolvement of the overall responsibilities from car constructors to suppliers also involves a shift in investments in R&D. The following data serve to illustrate this transfer. For the year 2004, investment in R&D by the top 20 suppliers averaged 4.11% on turnover, which is equal to the average of 4% to 5% spent by the top car manufacturers.⁴ Evidently, if a region wants to support its supplier base in view of increased R&D responsibility, the availability of R&D support measures and facilities are of paramount importance, especially to automotive SMEs that are highly locally based and oriented, and who – contrary to the larger first-tier suppliers who have a more global reach with better possibilities to tap into R&D and education structures anywhere in the world – thrive and depend strongly on regional back-up.

In addition, in today's industry, where a lot is outsourced and – consequently – must be achieved in a network-wise way, R&D and innovation are less and less an individual affair. Instead, it is increasingly becoming a multiparty matter requiring inputs from multiple actors and fine-tuning between them. Therefore, the possibilities with which interorganisational efforts can be coordinated and bundled in a synergetic way matter a lot. Especially since the complexity of many products calls for regular interactions between partners, the ability to articulate such interactions with partners within a reduced perimeter implies clear agglomeration advantages. Proximity makes contact and coordination of competencies and knowledge between partners easier. This means that the relational environment a region can offer is of vital importance for developing, attracting and retaining R&D activities. Consequently, the measures and facilities that underpin multiparty innovation efforts and the interaction dimension of R&D is an area where regions can provide valuable support.

Therefore, it is important that regional engineering services, technology centres and other R&D facilities with high sunk costs can be used on a *quid pro quo* basis and can be shared by multiple users, *i.e.*, because the disposal of such facilities on a 'rent-per-time' basis enables private firms to save on fixed costs and increases their working scope and performance. That way, it offers value to companies – who are not able to carry the corresponding investments individually – at an accessible price. Also, they serve as

cooperation platforms that enhance interaction and coordination between specialised actors to master complex processes. R&D support facilities and services should, therefore, not merely be used to attend individual assignments from separate companies. Especially if they serve multiparty R&D and innovation tasks, they can strengthen the industrial texture and technological potential of a region and, therefore, the competitiveness of the local actors.

In addition, attention for regional R&D support initiatives follows from the recognition that innovation capacity is important for the sanity of regional economies and that R&D policies have a positive influence on this causality (Pedrosa Sanz, 1997).

A final consideration that contributes to a justification of the regional focus on public support to private R&D is that, since the mid-1980s, technology policies have focused strongly on technology transfer for the dissemination of new productive technologies and on eliminating innovation bottlenecks (Heijs, 1999). As a result, technology policy has undergone decentralisation dynamics and obtained a more grassroots character, coming closer to the level of individual firms. This also brings regional technology policy and R&D initiatives more into the picture. In fact, regional technology policy is generally recognised as an indispensable instrument for the support of local industry (Heijs, 1999).

All in all, then, there is sufficient reason to focus on R&D initiatives that aim to underpin the innovation and research capacity of regional automotive complexes. In the following, we assess the efficacy of a number of regional instruments that aim to stimulate R&D activities and to capitalise on R&D results.

3 Identification of better practice candidates

In furtherance to the long listing of the supportive initiatives for the automotive industry, this study focused on identifying true good practices. For this, a selection ('short list') of support measures was established, which was subsequently submitted to critical evaluation and deeper analysis. The eventual aim of this exercise was to detect the regional practices that set standards or can serve as benchmarks for other regions that want to provide support for automotive R&D ventures as well.

As such, the search after better practices can be categorised as a 'benchmarking exercise'.⁵

Benchmarking envisages the systematic comparison of an organisation's⁶ business practices and standards against the best in its class in order to create new and improved business practices and standards that lead to a better product or service.

Benchmarking typically involves a number of steps. The first step is to define on which activities, procedures or action lines an organisation wants to focus. This is typically in areas where the organisation senses a need to improve or in areas where there is a need to offer a specific service or product and the organisation in question currently has nothing on offer. The next step is to find out which comparable organisations excel in these areas and who the leaders are. Usually, there are one or two organisations that set the standard in the field of action under consideration. Once it has been possible to define which organisations are leaders in their area, it is necessary to study and evaluate their practices in comparison to the practices of the own organisation procedures, activities and results. Afterwards, the necessary changes can be contemplated.

The purpose of benchmarking is not always to adopt the same practices as the leading peer, but to adapt benchmarking findings to the particular needs of the organisation and the audience it services. It is not a one-size-fits-all methodology, but rather, an ongoing process. Indeed, once new and improved systems are in place, it is necessary to re-evaluate them from time to time to ensure that they still produce the best outcomes and services.

Take note that it can also be argued that it is not absolutely necessary to identify a sector's leader in order to come to good or best practices in one's own organisation. Instead, it is also possible to introduce improvements and come to good practices by simply sharing knowledge of and experiences on a specific topic with an arbitrary set of peer organisations. The mere exchange of structured information between equals leads to introspection and, as a result, it allows an organisation to reflect on what can be learned from others for their own benefit.

But what is important under all circumstances when conducting a benchmarking exercise is that the activities and results of the organisations to be compared are in some way measured and registered (in a more or less codified and/or quantitative way) and that these results can be reported or communicated in a comprehensive way. Otherwise, the basis for comparison, learning, evaluation and benchmarking easily becomes ramshackle.

Although its roots lie in the manufacturing industry, benchmarking has become a management tool that is frequently employed in policy circles as well. Here also, the search for and benchmarking of good policy examples is a much-practiced activity. In this regard, myriad policy projects and consortia exist throughout Europe (ACcelerating the Establishment of clusters and company NETworks (ACENET), Innovating Regions in Europe (IRE), STrengthening the Regional INNOvation Profile (STRINNOP), InnoDreiländereck, *etc.*).

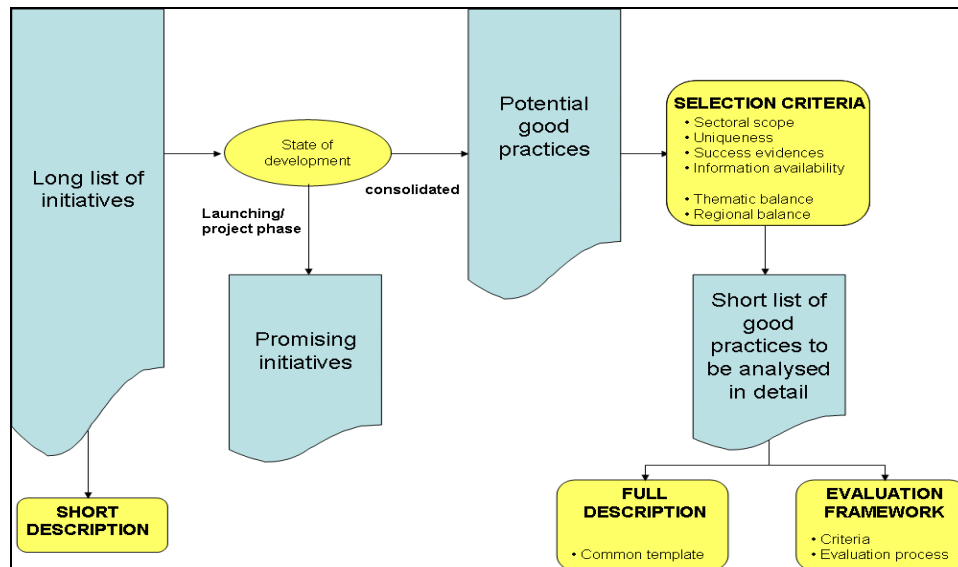
However, in general, the screening of so-called good or best practices is done in a rather superficial way and without too much methodological rigour. This also follows from the fact that policy evaluation is an area that is underdeveloped in Europe (INNO Appraisal, 2008). Moreover, it is also typical to find overviews of so-called best practices without any justification for labelling them as such. In fact, it seems that the mere existence of specific initiatives is sometimes enough for it to be presented as best practices in one area or another (see, *e.g.*, DG Enterprise, 2001; ACENET, 2003; Technologie- und Gründerzentrum Bautzen GmbH, 2004). All in all, it often appears that the ones that market themselves in the best way obtain the highest chance of being spotted and labelled as 'best practices' (Tödting, 2001).

In the present exercise, the attempt was to detect true good practices by means of a more critical and more transparent evaluation process. For this, we went through a number of stages. In the following paragraphs, we go deeper into on each of them and their outcomes.

3.1 Coming from a long list to a short list

The following figure summarises the overall methodology that was applied to come from a long list to a short list of better practices to be analysed in greater detail.

Figure 1 Filtering good practice candidates from a long list of automotive support initiatives (see online version for colours)



3.1.1 First filter: the state of development of the support initiatives

The initial long list included the initiatives with different levels of maturity. As a consequence, the degree of development of the initiatives was used as a first filter, as it influences the evaluation possibilities of a practice. In line with the former, the initiatives were characterised using the following development categories:

- projected initiatives – the initiatives that are still in their definition or launching phase. No practical results are available yet, only expectations
- in process – the initiatives that have recently been launched and, thus, only offer initial and mid-term results. A full assessment of their results is not possible yet
- consolidated initiatives – the well-established initiatives with an ample track record, suitable for a full assessment of value and success. Also, the initiatives that have concluded fall into this category.

In order to be able to evaluate decently whether an initiative is a better practice or not, the emphasis in selecting better practice candidates from the long list is placed on consolidated initiatives. Because only on consolidated initiatives, some sort of “summative or judgmental evaluation” (Parsons, 1999) can be conducted. Summative evaluation attempts to measure how the policy, programme or project has actually impacted on the problems or issues it was supposed to address. In other words, it seeks to arrive at an estimate of the net and gross effects of the intervention. This entails essentially a comparative mode of inquiry: comparing, for example, the situation before and after the project’s implementation.

3.1.2 *Second filter: selection criteria*

To further reduce the short list of better practice candidates, the subsequent group of consolidated support initiatives was screened on the basis of the following 2 sets of criteria.

Preliminary assessment criteria

Preliminary assessment criteria are the standards that help to judge whether the respective measures under consideration seem worth submitting to a more serious test. This step was deemed necessary due to limited research resources. This filtering is necessarily rationality-bound and reliant on expert judgement, as it is done prior to the full investigation of the individual support measures. It is notably based on analyst perception and interpretation of intelligence at hand on each initiative with regard to the following issues:

- uniqueness – the degree of singularity or novelty of a support initiative
- success signals – indications of the successes and achievements of the initiatives according to publicly consultable sources
- information availability – the existence of and access to the necessary intelligence to be able to judge the performance of a measure.

Characterisation criteria

Characterisation criteria are related to the intrinsic features of the support initiatives and the scope or width of the measures and their objectives. They judge support measures notably in terms of the systems and assets underlying the regional automotive industry on which they aim to have a positive impact. *In concreto*, it is assumed that support measures can have an impact on the regional automotive industry through one or more of the following levers:

- improve Original Equipment Manufacturer (OEM) plants' competitiveness (including favourable conditions to keep OEM activities in the region or attract new ones)
- improve the competitiveness of the regional supplier base
- improve the regional supply chain's logistics
- improve market access on behalf of the actors from the region, *e.g.*, the extension and diversification of the geographical and sectoral market scope
- facilitate and improve cooperation and networking between regional automotive agents
- broaden and/or improve the availability of regional automotive support infrastructures
- enhance the region's position in future high added-value areas.

In addition to the characterisation criterion that deals with impact categories, the measures were also screened and selected on their 'sectoral scope', *i.e.*, distinguishing between the support initiatives that specifically target the automotive industry and those with a more horizontal approach (not aimed exclusively at the automotive industry).

In the end, the short list of good practice candidates was notably drawn up on the basis of the following requirements:

- state of development – consolidated projects
- uniqueness – the initiatives that involve innovative approaches and schemes are preferred to those that are commonly used
- success signals – the initiatives that report higher levels of success are the preferred ones
- impact on the regional automotive industry – the initiatives that appear to contribute in a positive and significant way to (an) aspect(s) considered critical for the regional automotive industry's performance and sustainability are favoured
- sectoral scope – the initiatives that address the automotive industry in particular are preferred than those with a multisectoral scope.

3.2 Short-listed automotive support initiatives with regard to research and development

In the end, four different regional support measures in the area of R&D were retained as good practice candidates. For the sake of anonymity, these are presented under the following codified names:

- TechCentre
- EngineeringCentre
- Innovation Projects Programme
- Innovation Centres Programme.

In the following sections, we present the rationale behind the applied assessment framework, as well as in-depth evaluations of all four good practice candidates.

4 Evaluation framework

In order to conduct a thorough examination of the R&D initiatives that were short-listed as good practice candidates, attempts were made to assess and measure their value and degree of success more objectively. For this, contact was established with the responsables of the initiatives in question and considerable efforts were made to obtain relevant intelligence and data in order to draw up a fair judgement on the initiatives at stake.

In this regard, it was especially important to consult various sources of information and documentation that concern the initiatives' performance. Not in the least because a large part of the easily accessible information is material that serves for marketing

purposes and has been elaborated by the promoters of the initiatives themselves. Based on such material, an objective view and judgement on the initiatives' real utility and efficiency is easily blurred.⁷

Although evaluating impacts always involves values and qualitative information and can seldomly be conducted in a completely objective and fully quantitative manner (Parsons, 1999), ample precautions were taken to secure that the evaluations would be as fair as possible.

Apart from the necessity to obtain more accurate information on the initiatives' outcomes, also a coherent evaluation framework is also necessary in order to come to sound judgements on the merits of each initiative and base the evaluation of the respective initiatives on a shared framework for analysis. Therefore, for the present evaluation exercise an evaluation framework was designed that allows the assessment of the better practice candidates in a systematic and uniform way. For the sake of employability of the framework outside the automotive realm, and taking into consideration the diversity of initiatives to be examined, the evaluation criteria used in the framework are necessarily generic.

In addition, we intentionally sought the evaluation framework to align with evaluation schemes in vigour for similar purposes, like *ex post* project assessments. Especially as regards the criteria that are typically applied for project evaluations, because this enhances the comparability of appraisals between different projects and initiatives. Therefore, the proposed evaluation framework aligns with EU guidelines for project and programme evaluation.⁸ In the spirit of the EU guidelines, a support initiative *vis-à-vis* the automotive industry can be seen as a system intervention and the impacts of such an intervention should be assessed and measured according to the following parameters:

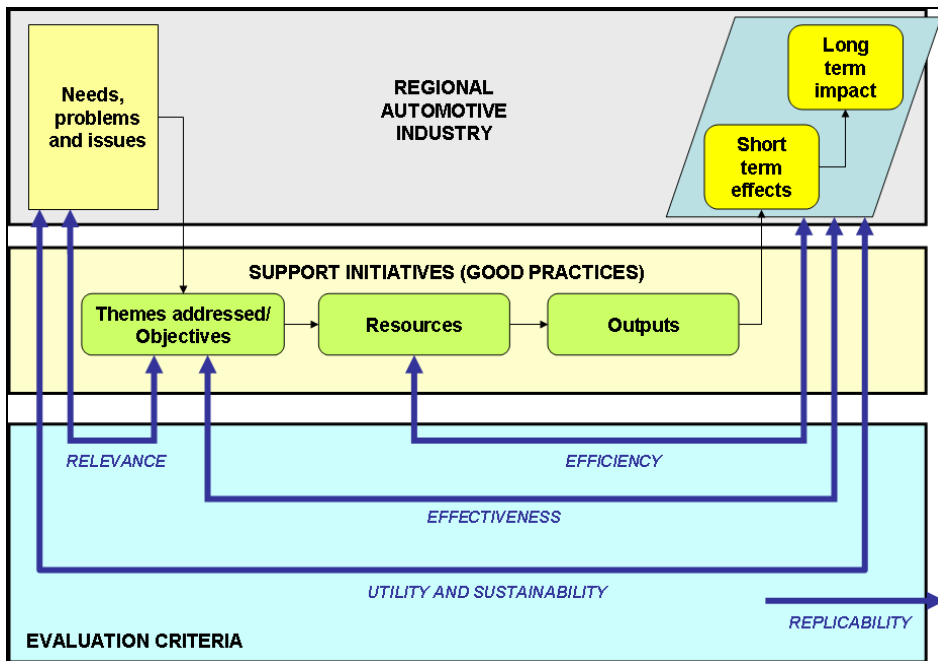
- 1 *relevance* – to what extent is the intervention relevant in view of the needs and problems of the targeted system?⁹
- 2 *effectiveness* – efficacy in terms of the progress made towards the attainment of predetermined objectives (output rationality), including a causality assessment
- 3 *efficiency* – in addition to ascertaining whether an intervention has attained its objectives or not, it must also be assessed on the basis of how much it has cost to attain them
- 4 *wider impacts* – this refers to the side-effects, positive or negative, which an intervention produces apart from the (non-)attainment of the presupposed goals, either for the targeted system or society at large. It also entails aspects of 'behavioural additionality': differences in firm behaviour resulting from government intervention (Georghiou, 2003)
- 5 *sustainability*:
 - to what extent can the positive changes that result from the intervention be expected to last after the initiative concludes or when beneficiaries are no longer supported? A longevity assessment provides the basis for evaluating how sustainable the effects of an intervention are

- to what extent can the intervention be upheld without public funding? Whereas many support initiatives depend on public money, the benefits are supposed to end up largely in private hands. Therefore, an assessment of the willingness to pay on behalf of private beneficiaries (stated or revealed) is a complementary manner of evaluating the sustainability of an intervention.¹⁰

6 *replicability* – can the initiative be rehearsed and imitated with ease in another setting and/or locality?

Figure 2 portrays in a synthesised way the framework for analysis that follows from the above-exposed examination rationale and the corresponding evaluation criteria.

Figure 2 The building blocks of the evaluation framework to assess good practice candidates (see online version for colours)



As can be seen in Figure 2, the overall needs on the level of the automotive industry in a particular region to which a support initiative should contribute serve as the starting point of the evaluations (see the upper layer). The second layer corresponds to the initiatives themselves and deals with their design (thematic focus and objectives) and implementation (resources and outputs). The third layer refers to the operational evaluation criteria presented previously. This allows to relate the elements from the two layers above and to assess the performance of their interrelations.

In the following tables, we present the support measure-specific assessments according to the criteria outlined before.

Table 1 The evaluation of good practice candidates

Name of initiative	Innovation centres programme	Innovation projects programme	TechCentre	Engineering Centre
Objectives of initiative	<p>Regarding the objectives, a distinction should be made between the Programme as such and the Centres that follow from it.</p> <p>As for the Programme, its main aim is to set up and develop Centres that help bundle regional competencies (support network formation) with regard to technologies that are relevant for the regional economy's future, such as: fuel cell technology, mechatronics, technical textiles, telematics and mobile computing network, virtual reality/dimension, etc.</p> <p>As for the individual Centres that are mounted, they have the following objectives:</p> <p>In a more generic sense, they serve as a platform where companies, universities and research facilities can meet and exchange ideas on selected topics and technologies. That way, they enhance the building up of expertise and competitiveness, and of economic development in the region as a whole. Also, they should contribute to the maintenance and increase of the region's appeal as a business location.</p> <p>In more operational terms and in terms of service targets, the Centres' objectives are as follows:</p> <ul style="list-style-type: none"> • offer scientific expertise as a paid service at preferred terms for members, associates and participating firms • canvass services for all participants • provide shared public relations work • shorten innovation cycles • increase the number of marketable products that are created by cutting-edge research • mediate for members in international cooperative actions and generate (inter)national cooperation projects. 	<p>The key objectives of the Innovation Projects Programme are to facilitate:</p> <ul style="list-style-type: none"> • the exchange and sharing of knowledge, facilities and resources between universities and companies • career development for graduates via company-based experience • interaction between businesses and universities or research organisations. <p>On behalf of the participants, the goals are similar and can be summarised as follows:</p> <ul style="list-style-type: none"> • for companies: increase profits and gain market position • for academic institutions: increase relevance to business • for graduates: acquire work experience and employment opportunities. 	<p>The main objective is to increase the competitiveness of the regional automotive sector via the provision of advanced technological solutions, the appropriation and transfer of related technologies and the strengthening of companies' orientation towards technological development and research and innovation.</p> <p>TechCentre's mission can be further broken down into four basic goals:</p> <ol style="list-style-type: none"> 1 to provide automotive companies with efficient services that respond to their (present/future) requirements 2 to develop the necessary in-house capabilities in view of the user population's needs 3 to serve as a point of reference and guide regarding state-of-the-art technological development and innovation 4 to improve the technological capacity of the integrants of the host region's automotive sector. 	<p>The goal of the engineering and testing facilities of the Centre is to strengthen the innovation and product development potential of the automotive suppliers in the host region.</p> <p>It also aims to contribute to the formation of technology-specific or component-specific clusters and their (commercial) perspectives.</p> <p>On a more strategic level, the EngineeringCentre attempts to enable firms to cope with the following trends:</p> <ul style="list-style-type: none"> • the transfer of product development tasks and responsibilities from vehicle constructors to their suppliers • the shortening of the development time of a vehicle (and, thus, of their underlying parts and functions) • the increasing complexity of product development and the exposure to ever-increasing demands in terms of ecology, quality, reliability, safety, cost and weight <p>and thereby enhance the competitive position of the vehicle supplier industry in its host region on a European and global level.</p>

Table 1 The evaluation of good practice candidates (continued)

Name of initiative	Innovation centres programme	Innovation projects programme	TechCentre	EngineeringCentre
(Support) services, facilities and or 'products' offered	<p>The Innovation Centres, 13 in total, function as integrated business networks and, as such, provide a bridge between business and scientific programmes/research institutes. They act as the 'headquarters' of networks and serve to orchestrate and support the networks' actions. They all have a cross-sectoral vocation, although some of them are of particular interest to the automotive industry, like the fuel cells, mechatronics, technical textiles, telematics and virtual reality/dimension Centres.</p> <p>In general, the Innovation Centres do not set up their own technical infrastructure. If technical infrastructure is needed for specific projects or research activities, the network manager gets in touch with indicated network members and involves them in the assessment of the need to foresee technical infrastructure or putting theirs at the disposal of others.</p> <p>As such, instead of creating new infrastructure, members engage as much as possible in 'facility sharing'. On many occasions, this is advantageous for the facility owner as well. Because facility-sharing improves the occupation degree of the available equipment and thereby enhances cost recovery possibilities.</p> <p>Nevertheless, certain Centres do house some highly advanced physical equipment and a demonstration means allowing SMEs to get access to a specific technology, test it or rent it for a specific time period.</p>	<p>In the innovation projects programme, universities act as administrative hub for each innovation project (taking on the administrative burden of the partnership) and provide expert knowledge in the demanded field. A senior academic is committed to spend time on the project, working at or with the participating company for half a day per week and acting as a mentor for the graduate ('associate'), who the university allocates full time at the company. In addition, the associate and the senior academic provide a conduit into the greater research resources and facilities of the university.</p> <p>The project partnership, accompanied by the associate assigned to a company, can last up to three years. The associate works and is located at the company, providing vital translation between business and university.</p> <p>Meanwhile, the associate receives management training and may register for a higher degree in business or management.</p>	<p>The services that TechCentre provides cover all aspects that are related to new product development, from their design and conception, manufacture of prototypes and preseries, to the carrying out of validation tests and industrial development.</p> <p>For this, it disposes of an engineering department, a testing department (consisting of various specialised laboratories, e.g., with regard to climate, acoustics, virtual reality, impact assessment, durability, etc.) and a technical office.</p> <p>TechCentre also works on fostering knowledge. To this end, it organises seminars in collaboration with universities and (international) technology Centres, to which it invites recognised experts in the fields that are being covered.</p> <p>Moreover, it participates in international (European) research projects and/or introduces member companies into such projects and schemes.</p>	<p>EngineeringCentre supports its user community's innovation and product development capacity via calculation and testing facilities and via physical infrastructure for integrated design and engineering activities.</p> <p>In <i>concrete</i>, the Centre disposes of:</p> <ul style="list-style-type: none"> • CAD/CAE hardware and software • Testing hardware and measuring equipment. <p>EngineeringCentre also offers an extensive training, workshop and seminar programme.</p> <p>Furthermore, in terms of knowledge dissemination, the Centre provides independent technological advice and is active in getting clusters of organisations together around projects in which these have a shared interest: 'cluster projects' and 'knowledge transfer projects'. For the latter, EngineeringCentre takes care of the partner search and finding the right expert for a project's needs.</p> <p>In the event that specific expertise or test equipment cannot be offered from among regional or national resources, EngineeringCentre calls on its research capacity and/or knowledge sources from abroad.</p>

Table 1 The evaluation of good practice candidates (continued)

Name of initiative	Innovation centres programme	Innovation projects programme	TechCentre	EngineeringCentre
<p>Costs of initiative in EUR, possibly split into:</p> <ul style="list-style-type: none"> • annual budgets for operational costs (ongoing expenses) • startup investments in base assets (once-only expenditures) 	<p>In terms of service provision, the Centres assist their members in all aspects of product and technology development: R&D, production and marketing, as well as commercialisation. This also entails supporting access to (European, national, <i>etc.</i>) funding and programmes, enhancing participation in (EU) research programmes and liaisons with other network initiatives.</p> <p>Alongside technology or product-specific activities, there is a number of other ongoing services that the Centres offer to their affiliates, like organisation of events, education and training.</p>	<p>The innovation projects programme has a working budget of €2.25 million and there are currently some 52 innovation projects in progress.</p>	<p>Since its foundation at the start of the 21st century, roughly EUR 25 million have been invested in the Centre (including the construction of the building and site development).</p> <p>The number of technical personnel and engineers has grown to 200 persons.</p> <p>Annual operational expenses: no first-line information disclosed.¹</p>	<p>For the period of 2002–2007 (six years), the following budget was available:</p> <p>EUR 6 million for operational expenses and EUR 15.5 million to cover investment costs.</p> <p>The operational cost of the EngineeringCentre is approximately EUR 1 million annually, half of which is covered via private contributions (payments for services, rent of installations, <i>etc.</i>).</p>
	<p>To get into the saddle, the successfully assessed Innovation Centres were supported with a 2 million euros of funding programme as a financial base for the first three years.</p> <p>In order to support the sustainability of the initiated networks, a formal institutionalisation of the networks was demanded. This included financial commitments of the participating partner institutions (<i>e.g.</i>, annual membership fee), as well as a general network management that focuses on the needs and demands of the network members. Consequently, the 2 million euros initial public funding was followed by about 20 million euros private investments in the Innovation Centres during the next years.</p> <p>After an evaluation of the funding phase at the end of 2002/beginning of 2003, a project-oriented allowance phase was started in the second quarter of 2003, granting a total sum of €250,000 a year for cooperation projects (between 2003 and 2006, there were 60 that applied for regional funding). As of 2007, the available public support increases to €500,000 per year.</p>			

