ClusterPoliSEE Project
Smarter Cluster Policies for South East Europe

WP 5 – SEE CLUSTER POLICY LEARNING MECHANISMS

Reimagining a regional key industry cluster as a macroregionally positioned hybrid supply chain integrator
Phase I: Feasibility assessment and roadmap preparation

IMPLEMENTATION REPORT

PROJECT PARTNER: MINISTRY FOR NATIONAL ECONOMY, HUNGARY
PILOT IMPLEMENTATION: WEST-PANNON REGIONAL AND ECONOMIC DEVELOPMENT PUBLIC NON-PROFIT LTD

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1 Introduction

1.1 The curious case

The West Transdanubian Region has traditionally been one of the most dynamic, and best developed territories of Hungary, and much of this economic potential centres on Győr. The city has a tradition in industry, especially automotive and related heavy industries – and after 1990 this position was reinforced by the huge amount of FDI-driven investment into both OEM (AUDI) and Tier 1-supplier-level companies settling in the area.

The active co-operation among the region, the Ministry of Economy and key high-level actors in the automotive industry resulted in the foundation of the Pannon Automotive Cluster (PANAC) in December 2000. For 7 years the cluster went from strength to strength, introducing several innovative initiatives and capping at a membership of over 100 organisations from all over the country. The West Transdanubian Regional Development Agency (WTRDA), acting as the management organisation considered macro-regional embedding key to the success of the cluster. Therefore international networking was a priority from the first until PANAC was firmly established as a pioneer brand and best practice in co-operation.

PANAC was even planned to be at the heart of the "Autopolis" competitiveness pole concept for Győr for the 2007-13 EU planning period. Shifts in the financing setup however brought underlying conceptual tensions to the fore, and after the circumstances forced WTRDA to step down from cluster management in 2008, all attempts to reorganise the cluster proved unsuccessful.

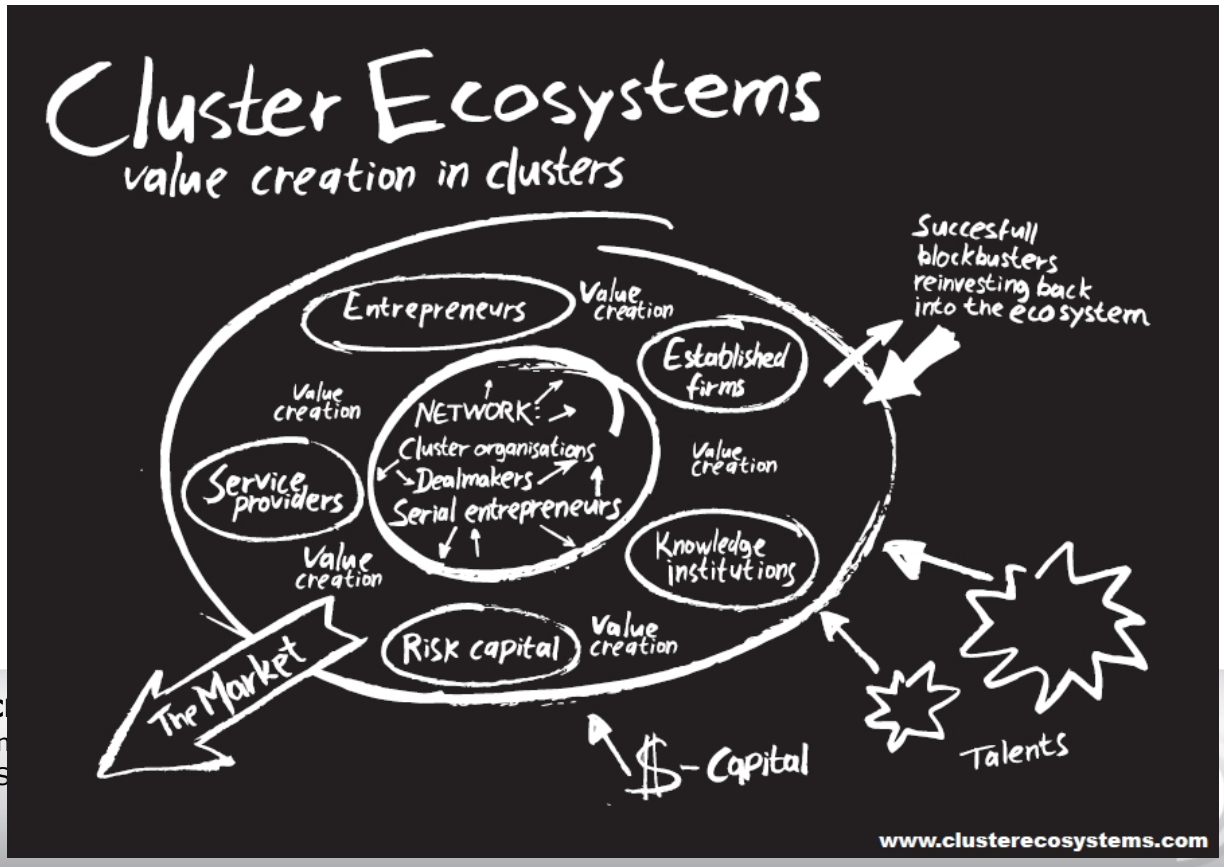
The situation in 2014 is still paradoxical. The automotive industry recuperated from the effects of the economic crisis, and perhaps plays an even more significant role than it used to. Regional R&D and innovation activities of the industry have been constantly intensifying. On the financing side clusters have been a preferred form of strategic co-operation networks for years and in accordance with the Regional Innovation Smart Specialisation Strategies (RIS3s) this is even being reinforced for the 2014-20 programming period. Funding has been ample and relatively easy to obtain.

And yet, the hole left behind with the disappearance of PANAC remains unfilled. The undisputed key industry of the region is without a cluster to coordinate SME development and co-operation, while the brand built up earlier and the funds to re-kickstart it remain unutilised. The situation begs the research of the questions:

What led to the dissolution of a key cluster while apparently all the prerequisites of a dynamic and sustainable development trajectory were in place?
Does there exist a setup able to provide a feasible alternative to the current situation?
What are the policy lessons that can be learned from the case?

1.2 Methodology

The pilot action focused on the practical aspects of the case related to cluster function, cluster dynamics and cluster policy in contrast with the research of the wider macro-economic and cultural dimensions. This approach defined the pilot methodology as well.
Background analysis was done through secondary research, using the most recent materials available. The two main sources of structure and data for this are
The intermediary results of the Győr Automotive Region multidisciplinary research programme conducted by the Széchenyi István University in Győr, with particular attention on the regional economic processes and the definition of a dynamic clusterweight. The results are set in a wider context by the contributions of macroregional experts as well.
The Cluster Ecosystem model developed and tested by the Danish cluster academy RegX. This model aims at defining all key actors in th environment of a dynamic cluster, both within and without, and assesses the development prospects of the cluster accordingly.



The qualitative aspect of the research was implemented with a three-pronged approach. This enabled an active differentiation among key actors both within and outside the cluster and "bulk actors", typically impacted SMEs.

Interviews were conducted at cluster management level, gathering firsthand information about both the different stages in the operation of PANAC and the conditions, activities and strategies of neighbouring clusters in related industries. 10 interviews were scheduled, however in an ongoing process more key stakeholders were approached.

1) PANAC
    a. Ms Tímea Pokornyiné Berki – cluster office manager from beginning to end supplying an invaluable overview of the development arch of the cluster and a very hands-on view on the membership needs and demands.
    b. Mr Tamás Szilasi – 1st manager of the cluster, currently director of the MOBILIS automotive science centre in Győr. The unique contribution from him was the overview of the original strategy and initial objectives of merging the economic/innovation and regional development aspects of the cluster
    c. Mr Zoltán Kabács – 3rd and last manager of the cluster, currently owner of an engineering enterprise and manager of the Hungarian Vehicle Engineering Cluster.
2) Hungarian sister clusters
    a. PANEL Pannon Mechatronics Cluster
    b. Bakony-Balaton Mechatronics and Automotive Cluster
    c. Vértes-Duna Automotive Cluster
    d. NOHAC North Hungarian Automotive Cluster
3) Macroregional sister clusters
    a. ACstyria Steirischer Autocluster
    b. Automobilovy Klaster Slovensko
4) Specific stakeholders
    a. Széchenyi István University

Cooperation and innovation profiles have been prepared for all the PANAC enterprise members to serve as a basis of a competence database in a future Phase 2 of the clustering process.

An anonymous survey has been prepared and sent out to all the one-time members in order to gauge the co-operation potential and

1.3 Key practical conclusions

1) In the current conditions it is not advisable to actively involve OEMs as cluster members, but rather as permanent strategic partners. The regional industry is able to work best with T1-T2 suppliers, at which level an organic, stable network can significantly enhance the innovation potential and international presence of the member SMEs.
2) In such a dominant key industry a non-cooperative cluster[1] setup is not sustainable. Therefore it is considered necessary to obtain buy-in for regional critical mass that is both independently able to sustain a properly staffed and competent management organisation and generate a steady stream of cooperative innovation projects already in the medium term
3) (Macro-)Regional co-operation is a must from day 1. In the fragmented Hungarian cluster scene it is fundamental to cooperate and exploit complementary competences and comparative advantages with all approachable Hungarian partners. Automotive being one of the most globalised industries it is also necessary to position and develop the cluster in tandem with the sister clusters operating in the wider region.

1 Gedai-Kóczy-Zombori: Cluster Games http://www.iit-berlin.de/de/publikationen/cluster-games/at_download/download

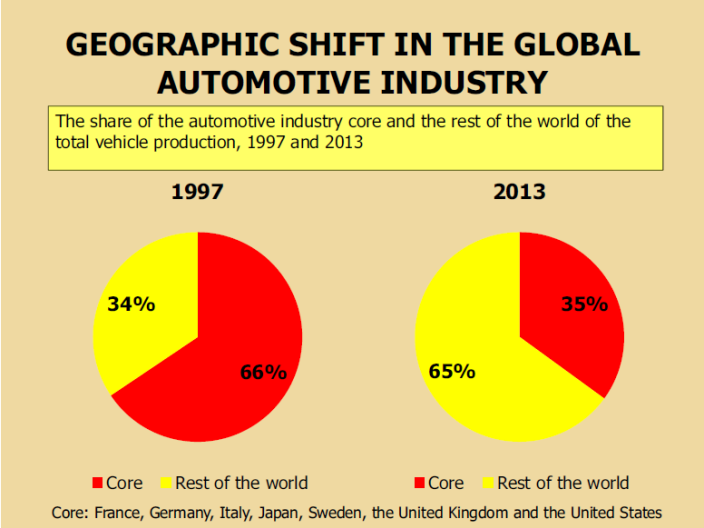
2 Background description

2.1 The automotive industry in the West Transdanubian Region

2.1.1 Macroregional context[2]

Automotive industry is hands down the key industry in the West Transdanubian region, but in order to be able to gauge its significance and to be able to provide meaningful insight into the possibilities of clustering there, the macro-level context needs definition first.

Petr Pavlinek argues that despite the characteristically global nature of the automotive industry, different undercurrent trends need to be taken into consideration. The trend of production dispersion out of the industry core has been well documented (Fig 1) but R&D activities, despite »the »R&D globalization« rhetoric [...] commonplace in the academic and business literature« do not seem to obey that trend.



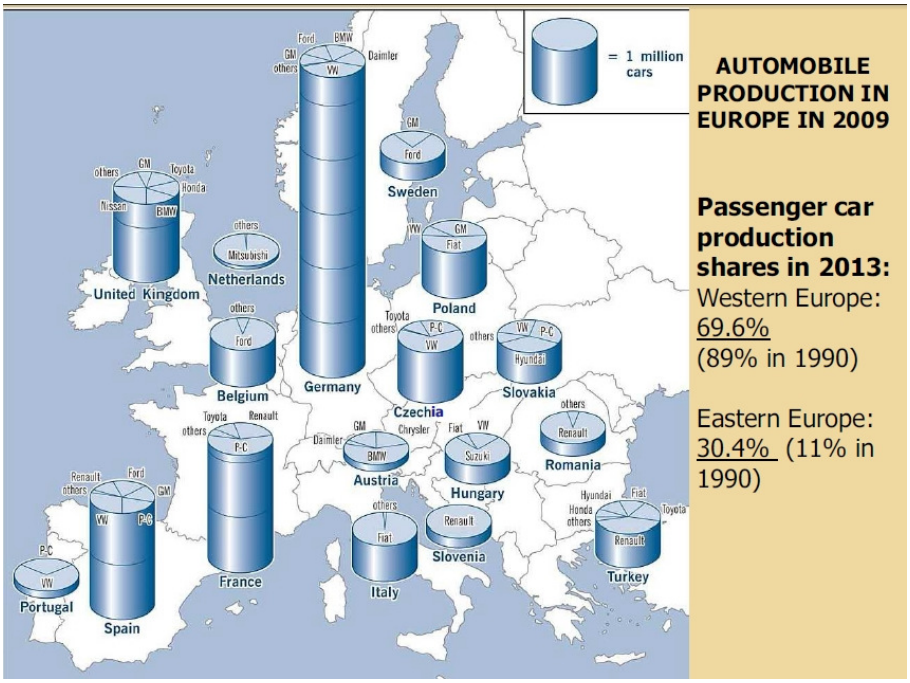
1. Fig. - source Pavlinek

Rather he notices the trend that automotive R&D, classically tied to production hierarchy has remained largely in place, and even more so, it transformed the R&D patterns of T0.5-T1 suppliers. The »Japanese-inspired assembler-supplier relationships« have lead to increased demand for

2 Based on Petr Pavlinek: The Internationalization Of Corporate R&D And The Development Of Automotive R&D In East-Central Europe (presentation in the framework of the macroregional Győr Automotive Region conference http://www.mrtt.hu/konferenciak/GYIK/1_Pavlinek.pdf) and Economic Geography Volume 88, Issue 3, pages 279–310, July 2012

colocation and codesign from their most important suppliers, who in response have been steadily increasing their R&D output since the 1990s up to a point where according to some research it is actually them who provide 60% of total R&D.
These key suppliers have typically »developed a a three-tiered structure of their R&D facilities, which has influenced the geographic distribution of automotive R&D.« Although they still keep their largest R&D centres at home, a network of ancillary centres has been established close to the lead firms' core sites to provide the most efficient research integration possible. The third tier is a series of smaller technical centres that »have been set up for the purpose of technical coordination with lead firms in countries with a large-volume production of components for local assembly.« In many cases this process actually resulted in an apparent R&D centralisation.

Although these trends are more prevalent at global level than within the EU, a distinct production shift towards the inner peripheries is still impossible to miss. (Fig 2) This production shift was driving the automotive FDI boost in the then-called »New Member States« of Central and Eastern Europe after the changes of 1990



2. Fig. - source Pavlinek

Yet, as many of these New Member States complained this manufacturing boom very rarely involved significant R&D movement, leading to the phenomenon of "R&D truncation".

PER CAPITA AUTOMOTIVE DATA OF ECE COUNTRIES EXPRESSED AS A PERCENTAGE OF GERMAN PER CAPITA LEVELS IN 2007

	R&D expenditures	R&D personnel	Vehicle assembly	Automotive employment
Germany	100.0	100.0	100.0	100.0
Czechia	13.1	31.0	123.5	113.9
Hungary	2.3	8.5	39.2	53.4
Poland	0.3	2.9	28.2	34.1
Romania	0.8	4.9	15.2	28.3
Slovakia	0.3	1.3	143.4	60.8
Slovenia	1.6	6.5	134.5	48.4
CE total	*2.7*	*8.1*	*57.5*	*52.2*
ECE total	*2.2*	*7.3*	*47.0*	*46.3*

Pavlinek concludes that despite its apparent advantage the Czech Republic is just as vulnerable as the other countries, and Hungary has a solid position regarding R&D compared to the other neighbours in the macroregion. This bodes well for the future outlook of a prospective new cluster in the area as this validates the competences existing in the area to be built on for cooperative innovation hub visible from a European-level.

2.1.2 Regional background

Automotive is traditionally the defining industry in the West Transdanubian Region. It traditionally provides approximately 60% of the industrial production value of the region[3]. Between 1990-2009 total FDI in the automotive industry in the region reached 1 400 billion HUF – 70% of all automotive FDI in Hungary and 75% of all FDI in the region. The majority of this amount was concentrated in Győr-Moson-Sopron county and was invested by OEMs, however the efforts of smaller enterprises signify a commitment to partnership and supplier status.

Even through the economic crisis 50% of all industrial investment activities were carried out by actors in the automotive industry, showing remarkable resilience.

The long-mourned innovation paradox also appeared to be slowly eroding, and focusing on key industries. More than half, 19 billion HUF worth of all

[3] Section based on KSH: A járműipar helyzete és szerepe a Nyugat-Dunántúlon 2011. május

scientific activity in the region was aimed at goals related to the automotive industry. This amount is highest among the regions, once again reinforcing the indisputable key sector status.
It is also worth noting that the innovation potential of the enterprises in the industry is uncommonly high due to the demand structure. Half of the companies operating in the automotive industry introduced new products, services or activities, which is in striking contrast to the general average of 15%.

In the most recent development, a multi-diciplinary research project, conducted by the Széchenyi István University of Győr is giving detailed insight into the different aspects of the cultural, economic and co-operation possibilities of the so-called »Győr Mobility District«[4]. The programme provides a unique perspective, examining the impact of a dynamic sector on the city and its region.
One particularly fitting study was carried out by Ms Veronika Poreisz, working to determine the dynamic cluster weights for the district. It is important to note that the research defines clusters in the statistical sense, meaning that no permanent organisational framework is necessary if the significance of the industry and the cooperations are strong enough without. Based on an earlier research of András Grosz[5] Poreisz recalculates location quotients in Győr-Moson-Sopron and the surrounding four counties[6]. The results are predictably convincing in all five counties: especially in the case of the mobility industry alone the data show almost "freakish" concentration levels in employment. If all related industries are taken into consideration as well, the results are somewhat more natural, but still definite:

	2008	2009	2010	2011	2012	2013
Győr-Moson-Sopron	3,59	3,52	3,32	3,24	3,16	4,00
Vas	2,64	2,61	2,65	2,49	2,24	2,64
Komárom-Esztergom	3,31	3,08	2,61	2,05	1,77	1,89
Fejér	3,02	3,57	3,16	2,31	2,24	1,78
Veszprém	1,70	1,51	1,62	1,71	1,20	1,76
Észak-Dunántúl összesen	2,94	2,97	2,75	2,43	2,22	2,51

	2008	2009	2010	2011	2012	2013
Győr-Moson-Sopron	1,58	1,51	1,52	1,48	1,59	1,51
Vas	1,51	1,45	1,50	1,41	1,47	1,19
Komárom-Esztergom	2,40	2,22	2,15	2,00	1,92	1,69
Fejér	1,93	1,83	1,92	1,86	1,91	1,49
Veszprém	1,18	1,07	1,23	1,23	1,18	1,04
Észak-Dunántúl összesen	1,74	1,63	1,67	1,61	1,63	1,41

4 Chapter based on interviews with and preliminary works of dr Mihály Lados, and Ms Veronika Poreisz in the framework of the Győr Automotive Cluster programme.
[5] András Grosz: Klaszteresedés és klaszterorientált politika Magyarországon – potenciális autóipari klaszter az észak-dunántúli térségben (Doktori értekezés) (2005)
[6] The natural attraction zone of Győr rather than the artificial West Transdanubian Region is used here, as well as all through the research programme

Similar results are reached through the analysis of industrial weights and even enterprise numbers. All these point intone direction, namely that the industry is even more prevalent than before, and an active concentration process is taking place. Which also gives a strong hint at the opportunity that an efficient cluster can indeed be successful, because one of the most important criteria that has often been missed, a critical mass of willing and innovative enterprises is present – leaving only the possibilities of financial difficulties, inadequate value proposal and insufficient embedding for possible key failure factors.

2.2 A concise history of clustering in the West Transdanubian Region[7]

The West Transdanubian Region has been one of the primary initiators and motivators of the cluster movement in Hungary. Ever since late 2000 there have always been strong and innovative clusters in the region, providing much-needed cohesion and functions missing earlier. Pannon Automotive Cluster has been pioneer in many aspects, its foundation secured the process and persuaded the Economic Ministry to take a more active stance in cluster support and development. Through a call within the Regional Economy Building subprogramme of the Széchenyi Programme nationally 13 more clusters received seed funding for starting up.

Of these 13, three clusters followed PANAC in the region until 2002: PANFA representing the wood and furniture industry, Pannon Thermal Cluster representing thermal spas and health tourism, and PANEL, which originally operated in the electronics field, but after two years conducted a successful de-diversification programme and has been focusing on mechatronics ever since.

During this period the West Transdanubian Regional Development Agency was the primary regional driver of the cluster concept, transferring mainly Austrian know-how and good practices to support and develop the new networks. Cooperating with the cluster organisations and a platform of all organisations having a stake in economic, business and territorial development of the region *Pannon Business Initiative* was launched in 2001. The key task of the PBI was to foster an innovative economic environment, strengthen economic cohesion, increase innovation potential and provide a permanent framework for efficient cooperation among the parties.

7 Chapter based on the results of the study prepared for the West Transdanubian Regional Implementation Plan in the ClusteriX INTERREG4C project

After the accession to the EU the National Development Plan provided a new support framework for cluster foundation and development. Clusters were identified as a preferred means of network building among enterprises, NGOs and innovative institutions. In this period 6 more clusters were formed in the region[8] bringing the total to ten, appr. 20% of all clusters operating in the country. Even though some of the clusters of this second wave remain active still today, it was apparent that the cooperation potential and willingness of the SME sector would prove much too weak to produce and develop clusters competitive at an EU level.

New Hungary Development Plan, the framework structure for the 2007-14 planning period aimed to remedy this through a more specific push for SME cooperations and supplier network formations through clusters. The flagship initiative of this policy was the Pole Programme, which involved several Operational Programmes and priorities, and focused on the dedicated development of innovation, innovative clusters and knowledge-based economy and enterprises. Through the planned regional umbrella clusters the Pole Programme aimed at strengthening single specific key industries in order to generate internationally competitive regional sectors.

It is this period, 2008-2010 that first opened up the 3-tier cluster development funding, and therefore saw the third wave of cluster formations in the country – and the region. As a trend these new clusters proved even smaller, and even more numerous, further away from the ability to make a critical impact even at regional level, although there are some notable exceptions to this rule as well. It was during this time the PANAC fell victim to the circumstances to be discussed in detail later.

The 2010-14 period of the New Széchenyi Plan denoted a definite policy shift toward the business development aspect of the cluster concept. On the one hand the programme of economic development prioritises the formation of supply chain/suplier network clusters to provide better embeddig for the multinational companies and a more attractive environment for FDI.

On the other hand the focus on innovation already prevalent in the NHDP became even more characteristic in the science-innovation programme. The programme states that innovative clusters must receive dedicated support to catalyse cooperation and realise joint product and service development. It is apparent that cluster development has become a staple tool of development policy, clusters of all lifestages are now a familiar concept all

[8] 2005: PANENERG Pannon Renewable Energy Cluster, PANLOG Pannon Logistics Cluster, Pannon Local Product Cluster, PANTEX Pannon Textile Cluster; 2006 SRLC Sopron Region Logistics Cluster; 2007 Pannon Ecocluster,

around the country, and the funding system does its best to support all levels in the most appropriate way.

Currently there are 36 clusters »technically operating« in the West Transdanubian region, with an estimated 25-30% actual activity rate. Out of these 36 one, PANFA has passed the Cluster Accreditation process and two, PANFA and PANEL have received the European Cluster Excellence Bronze Label.

2.3 Pannon Automotive Cluster[9]

Pannon Automotive Cluster – PANAC for short – was the first Hungarian, and indeed Central-Eastern European cluster founded on 20 December 2000.

The idea of the cluster originated from regional development bodies after realising the territorial, business and innovation development potential of stable networks. The concept was clearly based off the Austrian examples, to be used as a tool to synchronise regional and enterprise development. As the cluster concept was novel in the region however, and as the SME sector was critically undercapitalised, the Regional Development Agency opted for a top-down approach.

Key decision-makers at the then Ministry of Economics supported the initiative from the outset and became the one of the most essential actors in the foundation process – both as negotiators and providing the financing to kick-start the cluster.

In the end the negotiations around the foundation lasted for one and a half years and resulted in a "voluntary, mutually beneficial innovative network co-operation of enterprises and organisations with stakes in the automotive industry". The definition is telling from a number of points, which all turned out to play active roles in the specific history of the cluster.

The cluster was styled as a network and never became a separate legal entity. West Transdanubian[10] Regional Development Agency established a

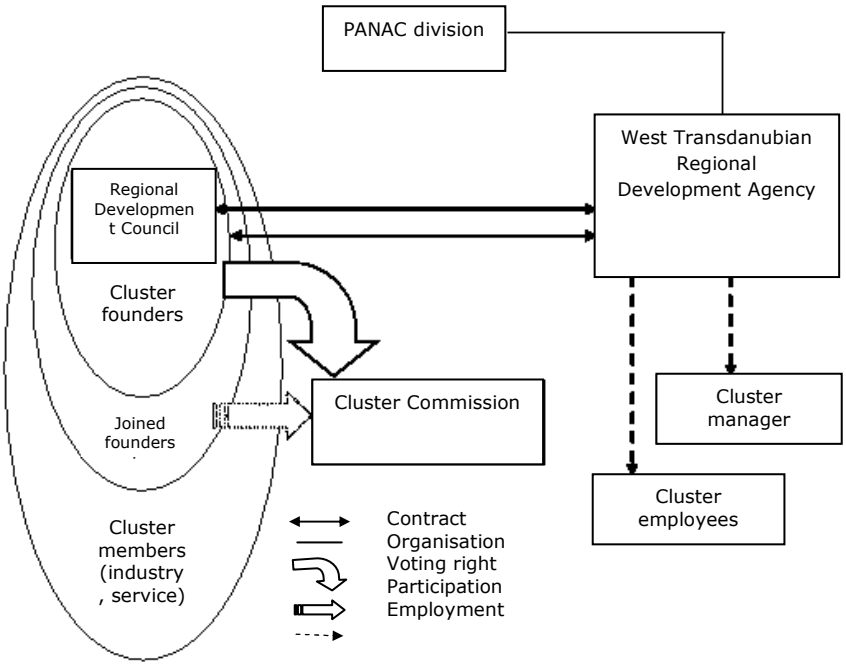
9 Chapter based on interviews and »Pannon Autóipari Klaszter Üzleti Terv, 26 November 2008" (Pannon Automotive Cluster Business Plan) – document publicly unavailable, excerpts used with permission

10 The term used here („Transdaubian") is the one currently in use to avoid confusion. At the time of the foundation of PANAC, both the region and its bodies used „West Pannon" and „West Transdanubian" interchangeably. The first referred more to the socio-cultural area, and was used as a key message-holder in shaping the identity of the newly established regions, but without exact borderlines – and with the other Transdanubian regions using the geographichal term, this latter version bevame prevalent in latter years.

division, and remained the primary driver of the initiative all through its history. This setup had its definite benefits, but its inherent risks became all too clear when the financing issues exacerbated.
The definition alludes to all organisations and players, which is a result of the top-down structure. Balancing the interests of the founders (OEMs and tier-1 suppliers) with those of the SMEs became a key challenge for the cluster all through its history.

2.3.1 Structure

It is evident from a closer examination of the organisational structure chart that the power hierarchy was strict within the cluster.



3. Fig. PANAC Structural diagram - source PANAC

As much of the structure was taken from the Austrian cluster model, the PANAC initiative was hosted by the RDA on behalf of the **Regional Development Council**. As mentioned above, the **cluster management organisation** was established as a separate division within the organisation of the Agency. The PANAC division enjoyed a large degree of independence, coupled with the expertise and financial hinterland of the RDA. Both aspects were intensively utilised. The cluster was a flagship project of the region and its development was represented in all economic development

initiatives of the RDA. On the other hand, as it is to be seen, financial help in the form of internal loans were needed on more than one occasion to even out cash-flow and finance cluster deficits.

This synergic relationship with the key regional development bodies provided a healthy interplay between the different levels of development, which in turn helped carry out more complex actions; access to stakeholders, and a mutual increase of the regional actors' trust.

The **Founders** of the cluster could be divided into two groups: *professional* (Audi Motor Hungary Ltd, Hungarian Suzuki Co, General Motors Powertrain Hungary Ltd, LuK Savaria Ltd, Rába Automotive Holding Co) and *service* (Ministry of Economy, Citibank Co, Consulting & Research for Industrial Economics Ltd, West Transdanubian Regional Development Council) entities. The founders were entitled to delegate voting members to the Cluster Commission.

The **Cluster Commission** was the highest decision-making body of PANAC. it consisted of the delegates of the founders with a total of 9 votes, and non-voting delegates of the group of so-called "joined founders". The Commission was responsible for all strategic decisions regarding the operation of the cluster – and due to the setup, was naturally inclined to support the interests of the OEMs represented among the founders.

Cluster members experienced an asymmetric position. On the one hand they paid a nominal yearly membership fee (30000 HUF), and never had the chance to have direct influence on the strategic directions of the cluster – but on the other hand for that fee they received a slew of services, all geared toward the general direction of their development. From their aspect therefore this setup was hardcoded never to evolve beyond the basic service procurement transaction level. They were first and foremost clients and not owners or participants of the network.

In the first years this was a necessity due to the novelty of the cluster concept and the pervading trust issues within the industry, and proved to be a good selling point for recruitment. During the mature years of the cluster however, this proved to be a major setback, making the structure too rigid to withstand the changes that would have been needed to survive the parallel impacts of the economic crisis and the new Structural Fund environment.

2.3.2 Services

The service portfolio of PANAC was diverse, innovative and of high quality, in many ways even pioneering. Although the area of services is definitely

not one of the direct factors in the collapse of the cluster, it bears closer examination as a good practice to consider for any follow-up attempts.
The cluster had a comprehensive and ambitious set of objectives, which provided it both continuous challenges to strive for and enough room to manoeuvre when developing complex new solutions. The objectives are as follows:

- **strengthening the international competitiveness** of the Pannon region, enhancing its renewability and contributing to its development (through automotive start-ups and spin-offs and employment creation
- increasing the efficiency of long-term **network cooperation** among the enterprises operating in the automotive area
- supporting the establishment of **new automotive supplier relations**
- supporting the establishment and settling of **new automotive enterprises**
- **joint utilisation of the infrastructure, technology and capacity** already existing in the automotive industry; **joint procurement** and operation of new ones
- supporting the formation of a **professional expert base** corresponding to the demands of the automotive enterprises (channelling both blue-collar and engineering training needs, developing other skills: teamwork, language knowledge, practical orientation)
- mitigating trust issues among the automotive enterprises, providing a platform for informal communication, **efficient information flow**
- strengthening **relations outside the network** (with other similar networks for the purposes of cooperative activities and technology transfer)
- increasing **value added** in company activities

Based on these premises the cluster developed a palette of activities and services. The services could be classified into two tiers: the so-called horizontal services were considered baseline, available for free to all members, but implemented at a high quality level to motivate the users for further development. Vertical services on the other hand were provided as premium goods, tailored to the individual needs and development stage of the enterprise paying for them. The scope of both service types was constantly developed, although in the case of horizontal ones the focus of development was naturally more on general comprehensiveness and

quality, while completely new vertical services consciously focused on providing innovative answers to non-covered needs.
Horizontal services included:

- *Online enterprise database* development and maintenance. The database did not only include cluster members, but aimed at being a comprehensive, and continuously updated one-stop-shop data haven for all automotive-related enterprises.
- Integrated into the database PANAC developed a *complex survey of supplier competences*, and over time grew into a powerful benchmarking and supplier search tool.
- Communication platform (web-portal) development and updating, including monthly newsletters, inter-company forum, English communication and banner advertisement opportunity.
- *Industry-specific information services* with daily frequency
- General *training programmes* for both enterprise needs and global industry trends through certified training organisations (together with the specific trainings classified among the vertical services 16 programmes in 6 years ranging from one-day targeted sessions to the 22 days of Automotive Quality Academy)
- Organisation of industry-related conferences and events. In the long list of events two series stand out, the *Automotive Competitiveness Symposium* and the *Supplier Club*, both of which became recurring occasions that lasted to the very end of the cluster.
- General representation, international networking, matchmaking
- Project opportunity dissemination and promotion

Vertical services included:

- *Automotive Benchmarking Club* started off in 2002 on a semi-annual basis, collecting and analysing data on 24 indices about key topics: customers, processes, business effectiveness, HR and suppliers; sharing good practices and promoting internationalisation By 2008 there were 22 companies participating in the Club, providing ~15% of total cluster revenues in 2007. This was one of the few activities to be successfully transferred after the collapse and kept on operating within the Hungarian Vehicle Engineering Cluster.
- Specific *training courses*, workshops and on-demand symposia
- *Direct company representation* at business forums and fairs
- *Savings Club*, utilising joint procurement

- *Press information service* with customisable filters – "Rear View" weekly professional press digest from home and abroad tailored to every company's needs and interests

2.3.3 Network

PANAC was exemplary in its efforts to build a wide and diverse professional and policy network. This tied in perfectly with the service portfolio both for service utilisation, data availability and – of course – generating financing opportunities.

Yet this, too had its challenges, and in many cases not even outside the network. The slogan "Co-operation in competition" conveyed the concept that the enterprises competing locally are only able to achieve significant competitive advantage in the global market if the co-operate. This mindset was, and in many ways still poses a radical change for the SMEs, despite the fact that the OEMs and Tier-1 suppliers they wish to win concessions from openly exploit the possibilities of global supplier competition.

The external network of the cluster can be divided into professional and policy-related relations, and in both cases domestic and foreign contacts can be further identified.

Professional relations are primarily entrepreneurial and network contacts with direct stakes in the automotive industry

1. Corporate relations:
    a. OEM, Tier 1 purchasers, purchasing centres (e.g. VW, Ford, Audi, Suzuki, BMW, PSA, Chrysler etc.)
    b. International corporate leaders (e.g. Veritas, BOS, Continental, etc.)
    c. Hungarian corporate leaders (e.g. Borsodi Műhely, Ratipur, Varinex etc.)
2. Network relations:
    a. Hungarian clusters (e.g. MRK, NOHAC, SZEDAK, PANFA, etc.)
    b. International clusters (e.g. ACS, Clusterland, ACVR, ACStyria, Autoklaster Slovakia, stb.)
    c. Research institutes, universities, competence centres (PCCL, Kista, VDC, SZE, Corvinus, Cranfield University, Fraunhofer, etc.)

Policy relations

3. Hungarian support organisations (e.g. chambers, associations, RDAs, Regional Innovation Agencies, national innovation-development offices, ministries, embassies etc.)

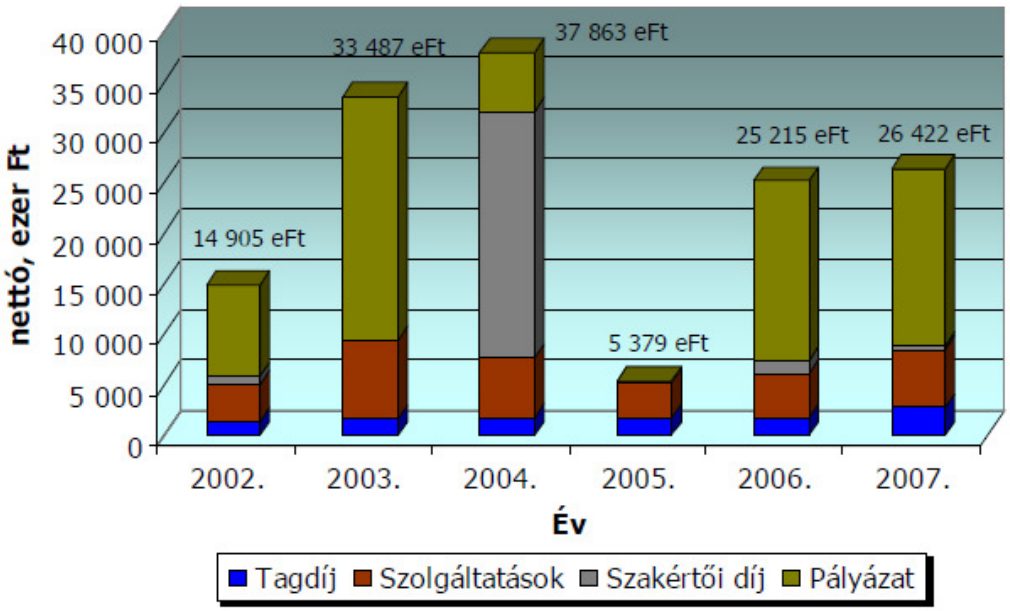
4. International organisations (e.g. JETRO, KOTEF, embassies in Hungary, EU DG, chambers, etc.)

According to the interviews there are two key lessons to note in the building of such a network:
For the cluster to find its place in the Hungarian industrial and service arena, a very clear and specific focus on SME development has to be created. **OEMs and their associations** have been and are wary of possible service competition, but tend to welcome initiatives that develop their supplier environment without "trespassing". In the case of PANAC this meant the establishment of a solid rapport with MGSZ (today MAGE, Association of the Hungarian Automotive Industry (AHAI)) and MAJOSZ (Association of Hungarian Automotive Component Manufacturers) not just through the founding members, but through conscious cooperation efforts. Without the presence of the founders it is even more essential for any new structure to define its position in the field and establish mutually beneficial strategic partnerships with these associations. These partnerships may have the power to "make or break" an efficient cluster.
The second key lesson is the necessity of **macroregional embedding**. The interviews clearly show that the international network partners are more than willing to co-operate – and also that in several cases the activities PANAC carried would still provide a very favourable competitive position in the macroregion. International cooperation generates the most spill-over effect by a large margin, returning a steady stream of presentation requests, project partnership offers, expert assignments, which all contribute to the sustainability of the cluster management organisation. At the same time international visibility and credibility has a similar effect on the cluster membership as well: international brand goodwill directly translates into orders and innovation collaborations.

2.3.4 Financing

Cluster financing has always been a difficult proposition in Central and Eastern Europe. With typically weak entrepreneurial culture, deeply entrenched trust issues and widespread undercapitalisation, in most cases it poses a serious challenge to recruit enough SMEs for at least regional critical mass and keep them motivated in a sustainably developing network.
This setup tends to gravitate towards reliance on external funding sources, or in some cases an overly diluted membership. In the PANAC case – just as in the case of later copies in the Central Transdanubian and North Hungary Regions, or even Slovakia, the former choice was made initially. The

Ministry of Economy provided a one-time non-refundable support of 50 million HUF, which helped kick-start dynamic recruitment and service activities, but was not enough to build a sustainable organisation on it.
It is apparent from the figure that the four main revenue streams do not represent a balanced budget.



Membership fees serve as the basis of the budget. This includes the one-time registration fee to be paid at admission, and the yearly nominal membership fee. Membership fees were fixed at a yearly 30,000 HUF in 2000 and remained so until the end of the cluster. The management attempted to carry out an overhaul of the system in 2008 and switch to a company-size-based progressive fee system, but the economic crisis and the insecure position of the cluster foundered the initiative.
Registration fees on the other hand were successfully reformed for the later years, and it clearly shows in the chart. After the initial recruitment push and the establishment of the PANAC brand the cluster reached 60-70 members. At this point both the management and the Cluster Commission were interested in introducing stricter selection criteria for new member applicants. By February 2008 this resulted in an increased registration fee of 250,000 HUF – which still covered the detailed business and competence overview every new member received.
The PANAC management prepared different business plan scenarios for 2009 onwards, and in the optimal version it was foreseen that membership fees with an added innovation contribution would cover around 15-30% of total revenues depending on the size of the other streams.

Service fees include the fees of premium and joint marketing services provided *within* the cluster, including the Benchmarking Club, advertising and event participation among others. These fees remain show dynamic growth from 2005 onwards and were foreseen to play a central role in financing the cluster in all scenarios.

Due both to structural rigidity and a conscious "expert" approach, premium services became the focal point of activity development in the cluster. With a sufficiently diversified service portfolio this could certainly have been a viable development strategy, letting members cherry-pick the opportunities tailored for their needs while necessarily keeping service quality high. This however reinforces the notion that a supply-demand balance point is difficult to reach without a stable 3-5 person professional staff with competitive service offers, and a sufficiently developed critical mass of cluster members with enough demand to finance those services.

Expert fees typically include fees paid to the management organisation for services provided to *external* entities – conference presentations, studies and consultation. During the existence of the clusters these showed a largely hectic trend that apparently served to even out the lows in project funding – however it was foreseen that these become more steady from 2009 on, becoming an integral and dependable part of the service portfolio.

For the past 15 years **project funding** has meant the lifeblood of most clusters in the region. In the case of PANAC this often meant 60-70% of the total budget, which, needless to say is an extremely vulnerable position. Project-based funding is a perfect opportunity for development and expanding, but due to its targeted nature and the pressure it exerts on the cash-flow it is always dangerous to raise its share in the total revenues above 30(-50)%. PANAC understood this, in none of its future scenarios were project-based revenues increased out of strict proportion to the other revenue streams. Another danger of project-based operation is that project management takes a significant share of the work capacity of the management organisation, diverting it from the optimal effectiveness unless extra staff can be hired for those tasks as well. Once again, this reiterates the need for a stable and sizeable project management organisation to be able to realise both the unique opportunities of co-operation and innovation projects and efficient service provision towards both the internal and external clients.

In the case of PANAC it also has to be emphasised that the shifts in funding policy and support goals played an active role in the destruction of the cluster. As the Regional Development Agency itself received the responsibility of Intermediary Body for the West Transdanubian ROP, the

very programme containing the cluster development calls, PANAC would have become ineligible to apply. This exacerbated the pressure for a separate cluster management organisation entity, but with the economic crisis in full swing not nearly enough financial commitment could be secured for the transformation. One must also note that in the 8 years of the PANAC operation the core goals of cluster development shifted away from the more complex template of mixed regional-SME-innovation development, and after the Pole programme attempt focused on generating a wider rather than deep cluster arena.

3 Possible scenarios

3.1 No-cluster setup

This is the 0-scenario, no action is warranted.
If no formal clusters are set up, the current trend of "spontaneous triple helix development" would continue. There are several actors motivating and educating the SME sector, but these efforts will remain mostly latent.
In this setting the sector would still realise some of its cooperative and innovative potential, since many of the key actors have developed strong business relationships over the years. SMEs however are unlikely to develop into international suppliers, and new entries depend solely upon the global consumption trends.
OEMs are likely to keep dominating the supplier scene, and without a critical mass on the development side the need of SMESs for streamlined quality development would likely not manifest itself as demand until it is directly received from the lead firm.

3.2 PANAC redux

From all appearances, restarting the PANAC brand may be well within the range of both feasibility and sustainability, at least in the mid-run. This setup can quickly realise a lot of goodwill, but is likely to have problems with financial maintenance – unless the management organisation has a sizeable nest egg, meaning that the organisation is in no need to realise internal revenues as long as the development and PR values balance the financial losses.

Strengths	Weaknesses
Strong brand beacon Service portfolio to reopen, members have ready expectations	Difficult indigenous financing Structural issues hardcoded into setup, challenge to tackle
Opportunities	**Threats**
Instant eligibility for funding	Vulnerable position due to possible financial issues

3.3 Fragmented cluster network

This setup is anticipated to be realised in one of several ways.

1) The coordination vacuum of Scenario 1 attracts other clusters to recruit in the area
2) A new cluster is formed but is not representative enough.
3) Due to personal differences several clusters are formed out of spite.

In any case, the result would be that much of the area is covered by clusters, and they may or may not cooperate among themselves. This is a very organic outcome, several paths gravitate here.

Strengths	Weaknesses
Little coordination need Can be very cheap No need to balance the diverse demands of a larger cluster	No critical mass May be no clear partner for international relations If newly founded, very difficult to actively maintain for 1-2 years
Opportunities	**Threats**
Inter-cluster cooperation and synergies	Possibility of turf war

3.4 Supply chain hybrid innovation cluster[11]

This setup is by definition the most difficult to realise of all, but has the highest potential by far.

There is a slight chance that this can grow out of Scenario 3 if one of the competing clusters can absorb the others and gain critical mass. Otherwise it has to be consciously designed.

Key success factors to this scenario are:

1) Strong leadership and unwavering regional/territorial/national policy commitment
2) Existing supply chain instead of being dominated by the multinational players. OEM needs can be utilised to cascade technical/skills improvement through the whole membership.

11 Developed using thoughts and pointers by John Murray from the ClusteriX Master Course in Győr http://www.westpannon.hu/webimages/files/140424_CLX_Gyor_Presentations_EN.zip and the NWAA website http://www.aerospace.co.uk/

3) Profile making it impossible not to support it
4) Stable, dynamic and accepted staff
5) Key export driver – measure the joint competences on the global market at once.
6) High membership numbers with membership fees brings a drive for a wide range of services and the ability to fill programmes with well-motivated SMEs.

Strengths	Weaknesses
Strong critical mass – instant business, and policy impact High innovation potential Stable finances even during first period Stable structure	Delicate negotiations to find common ground with all
Opportunities	**Threats**
Inter-cluster cooperation and synergies	Possible membership resistance

4 Policy lessons

4.1 Critical mass focus for sustainability and representativeness

A *critical mass* is needed both for the sustainability and representativeness of the cluster. Operating in a dominant industry in the region, the cluster cannot be in a position to take formation step by step. A deep and intensive engagement process is necessary in order to guarantee buy-in from all leading SMEs and institutional stakeholders. If this critical mass is lacking, development and macro-regional embedding cannot be assured in time, plus the organisation would run the risk of having to depend on external funding for the basic services. (See below.)
On the other hand however a proper critical mass-based structure would be well-positioned for both the national economic development decision-making bodies, other regional clusters in the sector and for enterprises and clusters from abroad as the primary point of contact. This, coupled with the larger scope of competences within the cluster can provide for a cooperative, outward-facing innovative cluster.

4.2 Consistent SME focus with OEM strategic partnerships

In an *OEM*-driven global industry the lesser players often strive to get in direct contact with the leading manufacturers. Obviously the needs of the OEMs have to be taken into prime consideration, and a consistent means of gaining their input has to be established. It is essential however that OEMs stay only strategic partners and not dominating cluster members.

4.3 Necessity of targeted financing for balanced efficiency and effectiveness

Financing and funding is always a difficult decision, especially in the New Member States, where the culture of innovation and cooperation is not as well developed as in Western Europe in general. Many of the past and present clusters are therefore either completely bottom-up initiatives, lacking in size and visibility; or primarily territorial development tools, funded almost exclusively from external sources.
One of the most "deadly" pitfalls of using clusters exclusively as territorial development tools is the that while the *need* for such coordination and co-operation exists in the system, the *demand* is not yet embedded in the culture. This setup usually defaults to a scope of free services and not enough recognised value exchange from the members side. This in turn pushes a lot of clusters into either further dependence on ERDF funds or on

the finances of a single body – typically a municipality or development agency. Either of these settings places the cluster in a vulnerable position, therefore the internal balance of fees and services needs to be calibrated right from the beginning.
At this stage, policy institutions do best if providing primarily *professional support* and work with cluster management to harmonise the goals of the cluster with the policy priorities. This approach helps keep the funding focused on innovative and development projects, fostering the growth and stabilisation of the organisation without interference with the internal fair value exchange perceptions.

4.4 Sectoral focus and territorial development

Sectoral focus and diversification has to be taken into consideration. In the current economic environment it is not advisable to restrict the scope of the cluster to car-manufacturing. Competences within the cluster ned to be utilised for all relevant aspects of mobility, which enables a more dynamic market presence and a wider range of co-operative innovative activities.
A wider focus, with a clear internal platform system also facilitates a more ready acknowledgement of the *territorial development function* of the cluster. Just as much it is counter-productive to base the organisation setup on the regional development premise, it would be a similar mistake to ignore this aspect of the role. The cluster can and should serve as a joint interface to communicate with municipalities, vocational and/or higher education institutions, agencies, presenting the consensual position of the members, and disseminating back the requests and needs of the socio-cultural environment.

4.5 Macro-regional embedding

Macro-regional embedding is a must in this case. In the globalised mobility market European SMEs and clusters need to find their USPs and build strong co-operative networks. This means a heavy emphasis on international cluster relations from day 1, participating in macro-regional coordination co-operations. These cross-cluster and cross-sectoral activities, coupled with the continuous competence development have the potential to monetise member competences at a European scale, fuelling the dynamic development and innovative approach that is necessary to grow into a globally competitive cooperative network.

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