Accredited Innovation Clusters

Closed: 23. 04. 2012.

Introduction

An important step in the changing of the world economy during the past decades has been the appearance of network economies and enterprise co-operation. Network members realised that they can massively benefit from co-operations; a significant profit growth can be reached by economies of scale growth realised by sharing of capacities, networking flexibility and sharing of expenditures.

Recently Europe has witnessed a wide range of enterprise co-operations, including scenarios of strategic allies and supplier networks. Enterprise networks encompass enterprises of different size, and these enterprises are engaged in close co-operation with educational institutions, research centres and municipalities. Establishment and effective operation of network-co-operations and clusters are of utmost importance, especially for SMEs, as a vast majority of them is unable to enter the extra-regional or the international market individually. However, having formed network co-operations, they have a better chance to enter the global arena.

Nevertheless, it is true that in comparison with Western-European countries, Hungarian cluster development has no rich history yet, it can already be established that the last decade has seen a major improvement in clustering and cluster development. The first Széchenyi Plan was the first strategic document which recognised the importance of co-operation and network-based economy, and in addition, this plan urged the establishment and intensification of regional clusters and supplier networks. Utilisation of geographical and personal relationships among enterprises, research and educational institutions and municipalities resulted in the formation of a large number of networking entities. Such a radical change triggered a quality-based, preliminary screening and accreditation of enterprises forming the cluster.

Following the appearance of the New Széchenyi Plan, the cluster accreditation system which had been operating since 2008, witnessed a major change. A stricter evaluation system was introduced which focused on strategy of the cluster and the cluster's employment impact. The goal of the Accredited Innovation Cluster scheme is to select network co-operations which have a decisive employment impact, exhibit intensive import and innovation performance and are able to implement development projects, as well as to reach outstanding performance in a regional scenario.

This publication provides insight into the activities of 14 clusters awarded with the Accredited Innovation Cluster title. These clusters represent a wide variety of segments throughout health industry, IT, biotechnology, energetics, building and environment industries. These clusters were awarded following an assessment by the criteria of the New Széchenyi Plan.

I believe that the clusters introduced in the publication will serve as good examples for future Hungarian co-operations, and will further strengthen the role of enterprise networks.

Gyula E. Barta
CEO

Clusters in the New Széchenyi Plan

Breakout points in the New Széchenyi Plan place special emphasis on enterprise network and cluster development. Most important development areas are grouped below by individual Programmes and breakout points:

1.1. Health Industry Programme

Health industry innovation sub-programme, medical device manufacturing: "Establishment of developer-manufacturer clusters and consortia (to cover the entire innovation value chain from the idea to market introduction), establishment of partnership relations (with universities, research institutions), support of demand side research and development activities (by introducing interactive suggestions of medical professionals), facilitation of public service places ('incubator' services)."

Thermal Spa – Health industry background sectors sub-programme, clusters in the thermal spa health industry: "Clusters are important tools of local economic development, and can only be created in sectors where companies produce for export (to meet extra-regional demand). It has not been typical in Hungary that enterprises and other organisations gather effectively into operation networks or clusters, however, quite a few regional initiatives were reported in the health industry and tourism. Such clusters, aka. thermal clusters, were typically formed to utilise regionally available thermal water."

1.2. Green Economy Development Programme

Programme indicators include the number of "green economy" clusters and their profit level.

Instruments of the Green R&D&I sub-programme: "It is also important to support consortia and clusters based on green innovation, as well as targeted support of existing knowledge and research centres, and establishment of new centres."

1.3. Enterprise Development Programme

Assistance for co-operation and networking: "Co-operation improves small enterprises' activities, a large number of individual capacities - following the North-Italian model – should form an integrated production system. The co-operation shall help the establishment of the Hungarian supplier enterprise cluster, and by doing so, it shall facilitate the seamless economic integration of multinational companies."

Intensification of role in the regional economy: "it is important that Hungary becomes the cultural, financial and economic centre of the Carpathian Basin, and to further strengthen existing positions. It is of utmost importance that individual programmes (renewable energy sources, "green industry",

health industry based on hot thermal spas, pharmaceutical industry, food industry with high added value, R&D, automotive industry, etc.) at helm of the Hungarian economic growth shall have a major impact on economic policies of the entire region, and shall provide options for the establishment of regional clusters."

1.4. Science – Innovation Programme

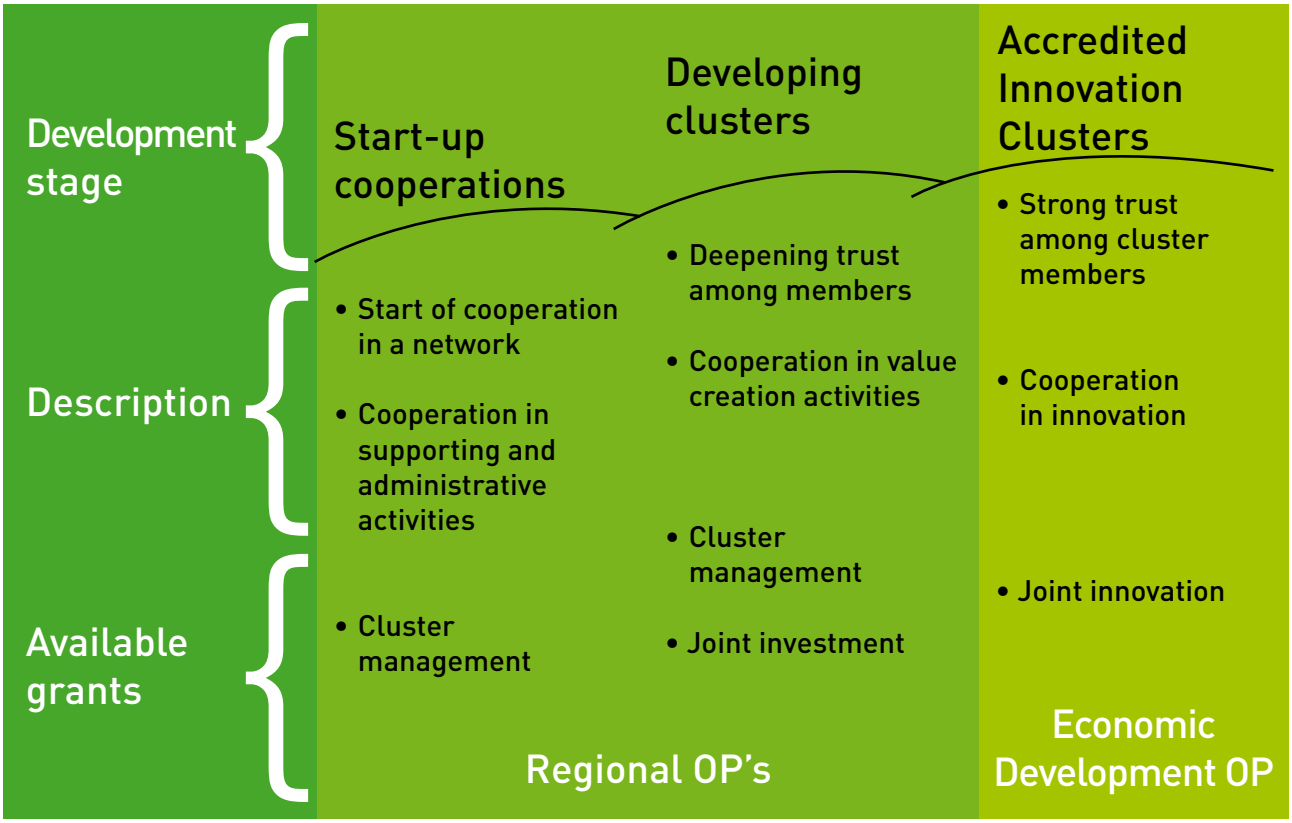
Enterprise development initiative to promote innovative Hungarian companies:
"Following the European example, innovative Hungarian clusters should be provided dedicated assistance to boost co-operation and to implement joint product and service development."

Key tasks of innovation policies: "Hungarian economy's R&D and knowledge intensity should be improved by the following tools: support to high growth potential innovative companies which operate in service and processing industries, improvement of SME innovation and absorption capacities, development of innovative clusters, establishing connections with Hungarian and international knowledge sources and markets that drive innovation."

Improvement of regional innovation dimension: „Special attention should be paid to regional imbalances of the R&D&I assistance system. Balanced development can be ensured by motivating regional level R&D&I activities, corporations, networking (poles and clusters)".

2. Cluster development policies (multi-stage model description)

Assistance for enterprise co-operations or clusters based on Hungarian SMEs are realised under the auspices of the New Széchenyi Plan with multiple Operational Programmes. Co-operations are provided access to assistance based on their development level. Assistance is provided as per the following cluster development model:



Multi-stage cluster development model

3. MAG – Cluster Development Office – Introduction

Fusion with MAG – Hungarian Economy Development Centre

Having entered discussions with relevant organisations (National Development Agency, Ministry of National Development, Hungarian Development Bank), MAG Zrt, the founder, decided that the organisation previously called Pole Programme Office, from 1 April, 2011, would operate within MAG International Relations and Strategy Directorate, as the Cluster Development Office.

The fusion left the Office with an improved technical background and a better information database, and in addition, the conversion resulted in significant resource savings. The conversion helps participating enterprises with uniform decision making processes and direct information flow.

Main Office activities encompass the following:

- Participation in the establishment and implementation of national cluster development policies;
- Operation of the cluster accreditation system;
- Participation in strategic planning for cluster Schemes;
- Preparation of cluster analyses and studies;
- Technical and methodology related assistance to partner enterprises;
- Continuous consultation and discussions with Hungarian clusters;
- Active participation in international co-operations.

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4. Achievements

Start-up and developing clusters

During the past 3 years, different Schemes under the umbrella of Regional Operational Programmes provided assistance for 200 start-up and developing clusters to a value of EUR 28 million. These funds were primarily allocated for establishment of structural framework for co-operation and joint investments.

Cluster Accreditation

The large number of clusters established during the recent years and the significant amount of resources accessible by these clusters require a **preliminary screening** and accreditation of cluster member enterprises.

The most important goal of cluster accreditation is to select network co-operations which have intense innovation and export activities, whose co-operation effectiveness can help implement major development projects and which can perform significantly in a regional scenario.

The Accredited Innovation Cluster Scheme organised under the auspices of the New Széchenyi Plan evaluates economic power and influence of cluster members. An overall, strategy-wise cluster assessment is given higher emphasis than previously.

Accreditation Titles are awarded by the Accreditation Body, which comprises government and private sector experts.

Members of the Accreditation Body:

- Gyula Barta E., MAG – Hungarian Economy Development Centre, CEO
- Norbert Csizmadia, Ministry for National Economy, Minister of State for Economics Planning
- Gábor Dányi, National Development Agency, Deputy Chairman, Innovation and IT
- Enikő Földi, Dr, Ministry of National Development, Deputy Minister of State for Development Policy Coordination
- Géza László, Dr, Netvestor Kft.
- National Development Agency, Head of the Economic Development Operational Programme Managing Authority
- András Siegler, Dr, Directorate-General for Research & Innovation, Director
- Miklós Virág, Prof. Dr., Corvinus University Budapest, Department Head, Head of Accreditation Body

Following a successful accreditation, cluster members are given the right to enter dedicated calls for 2 years, and to earn extra points or other bonuses in other calls. **A further advantage of cluster accreditation is that** it actually facilitates the realisation of EU acknowledged and supported cluster prominence goals and ideas, and as such, the name Accredited Innovation Cluster itself represents an internationally respected brand.

At the time of publication, in line with the decision of the Accreditation Body, 14 clusters are entitled to use the name "Accredited Innovation Cluster" announced under the auspices of New Széchenyi Plan.

There are altogether 475 members in these 14 clusters. From these members 426 are enterprises, while the rest are from the university, research institution and municipal sector. In 2010, members from the entrepreneurial sector employed 51,109 individuals, their total turnover exceeded EUR 23.8 billion. Export revenue in 2010 amounted to nearly EUR 5.2 billion.

Innovation schemes announced exclusively for accredited clusters (EDOP-1.2.1, CHOP-1.1.3/A; EDOP-1.3.1/B, CHOP-1.1.3/C) have so far provided assistance to 156 research and development projects, to a value of nearly **EUR 95 million**. Accumulated cost of supported projects exceeds EUR 189 million.

Accredited Innovation Clusters

Alliance Informatics and Innovation Cluster

The First Hungarian E-administration, Informatics and Innovation Cluster, established on 1 June, 2007 by 18 members, was the predecessor of Alliance Informatics and Innovation Cluster, and its activities basically covered the entire country.

The cluster is primarily engaged in Machine-to-Machine (M2M) communication based business solutions, development of sports assistance systems, elaboration of healthcare industry support systems and e-learning.

M2M business solutions and applications still mean a new market – their existence is greatly assisted by mobile communication technologies. One of these solutions' main characteristics is that continuous and well-forecast development of mobile communication (bandwidth and coverage expansion, price cuts) will ensure the connection of devices (measurement instruments, probes etc) into networks in an increasing number of business areas. The cluster aims to create innovative products and healthcare applications which can help generate profit for cluster members and other market actors, and simultaneously, to ensure effective solutions for important healthcare issues (nursing, diagnostics, finance, prevention, adherence, etc.). The cluster provides automated recording-editing software to edit and complement visual materials with further information.

Knowledge base necessary for effective co-operation overlaps several areas, and as such it includes large system integrating companies, consultancy companies, module specific enterprises and knowledge centres. The cluster currently has 36 members, so joint projects are supported by 30 SMEs, TEVA Hungary, Pannon University, University of Szeged and 2 research institutes. Best performing member companies from economics point of view were TEVA Hungary, Delta Informatika Zrt., HUMANsoft Electronics and AQUIS Zrt., their joint revenue in 2010 was HUF 246 billion (roughly EUR 863 million). In 2010, total number of individuals employed by all cluster member companies was 3,071.

Founding members:

- ALBACOMP IT Zrt.
- APERTECH Informatikai Kft.
- AQUIS Informatikai Zrt.
- Breona Kft.
- COMBIT Számítástechnikai Kft.
- DataLogic Kft.
- DELTA Elektronik kft.
- Evoltech Kft.
- GeoX Kft.
- HRK Consulting Kft.
- HSA Magyarország Kft.
- HUMANsoft Kft.
- Interface Kft.
- NOS-SZEGED Kft.
- PrintNet kft.
- Stratégiakutató Intézet Kht.
- Stratis Kft.
- Szegedi Tudományegyetem

Project Plans:

1. Smart-Health healthcare
2. Smart-Sec security
3. Smart-Green environmental protection
4. Smart Sport sports informatics
5. Test system to be used in evaluation algorithms and drug tests, capnography tools
6. mGBL, mobile phone based learning
7. ONTEX, online education
8. VM3, MM knowledge transfer
9. MMATT v-Learning technology development
10. Drug effect and application knowledge transfer system for physicians

Cluster Manager:	**Alliance Klaszter Menedzsment Kft.**
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ArchEnerg Accredited Regional Cluster for Renewable Energy and Building Trade

ArchEnerg Cluster was established by four South Hungarian small enterprises in March 2007. Other entities also saw a chance to break out with this co-operation, hence, in 2008, the cluster already had 32 members, and it was then when they submitted their first accreditation proposal.
ArchEnerg complex activities encompass a whole array of renewable energetics. Such a broad spectrum of activities can only be executed at cluster level, by utilising synergy effects of combined cluster member competences.

Number of members has been continuously increasing during the past couple of years, and this on the one hand, led to a significant extension of the scope of cluster activities, while on the other hand, clusters' economic and interest representation role has also intensified. There are currently 48 members in the cluster, from which 43 are SMEs, 2 are large enterprises and 3 are scientific institutions (Hungarian Association of Renewable Energy Sources, University of Szeged, Békéscsaba Regional Training Centre).

The cluster aims at developing in the following two main areas: the cluster strives to integrate external requests as its economic influence is increasing, and aims at better member relations by new business co-operations and joint projects.

Cluster SME members are regional and national experts: AERD Zrt., Alu-Profil Kft., Bauland Kft., Kon-Trade+ Kft., Inwatech Kft., Selmeczky és Tsa. Kft., Tandofer Informatikai Kft., Transcommers Kft. etc., their accumulated revenue in 2010 exceeded HUF 5 billion (roughly EUR 17 million). In 2010, cluster member companies, in total, employed 2,317 individuals.

Objectives of ArchEnerg were outlined in harmony with Hungary's renewable energy utilisation action plan and New Széchenyi Plan Green Economy Development Programme. In light of this, ArchEnerg aims at establishing and operating an internationally acknowledged innovative and green energy co-operation, aims at establishing a cluster manufacture capacity related physical and human innovation background, and co-operation improvement by development implemented by the cluster.

Founding members:

- GOBOKER Kft.
- NARIZ Kft.
- BAUTENDER ZIEGEL Kft.
- PROVILL 3000 Bt.

Project Plans:

1. Implementation of complex energy efficient systems
2. Development of intelligent town energetics systems
3. Development and optimisation of passive building technology.
4. Production of energy efficient building materials (with regional traditions)
5. Integrated biomass systems
6. Establishment of a solar incubator house
7. Development and streamline of energy conversion solutions
8. Renewable energy based power plants

Cluster President:	**József Makra, Mr**
Cluster CEO:	**Péter Folberth, Mr**
Cluster Manager:	**Henrik Hidvégi, Mr**
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Biotechnology Innovation Base Cluster

This cluster located in Southern Transdanubia was established by the co-operation of five small enterprises in the nineties. Cluster co-operation agreement was signed by 10 founding members on 10 December, 2005, and in 2008, already with 16 members, they were awarded the Accredited Innovative Cluster status. The cluster focuses on healthcare industry, medical biotechnology, in vitro medical diagnostics devices, especially immune diagnostics related development, manufacture and distribution.

Members strive to utilise products families and supplementary devices to the full. Cluster level co-operation ensures high level synergy among individual products, as well as provides the necessary background, and in addition, it guarantees resources and joint solutions for outputs. Main industry framework is defined by the cluster's long term goal to develop so-called „orphan" products to cure and diagnose rare diseases. Industry product development is SME oriented which is in synergy with Biotechnology Innovation Base Cluster activities.

Quality of cluster operation is not only confirmed by outstandingly performing individual cluster members, but products manufactured as project companies' special solutions in response to tenders. Several new products and product families have been successfully developed, and these items are popular both in the domestic and the international market. 2010 year revenue of member companies exceeded HUF 37 billion (roughly EUR 130 million), number of employees was 401.

Biotechnológiai
Innovációs Bázis Klaszter

Founding members:

- Hisztopatológia Kft.
- Immunochem Bt.
- Pannonia Kutatási Park Kft.
- Soft Flow Hungary Kft.
- Szkarabeusz Kft.
- Pathodiagnosztika Kft.
- Forrásvidék Kft.
- ImmunGenomika Kft.
- BIOTECONT Kft.
- Imuno Histocit Kft.

Project plan related product and service groups:

1. Immunohistochemistry product family
2. In vitro diagnostics flow cytometry reagents
3. In vitro diagnostics immune-serology reagents and kits
4. In vitro diagnostics laboratory instruments and accessories
5. High performance combined laboratory service group
6. Alternative animal and in vitro experiment models
7. Implantable tissue reinforcement net for abdomen operations
8. In vitro diagnostics tools to monitor tissue integration of implantable devices
9. Supplementary diet product development

Cluster Manager:	**Pécsi Egészségipari Innovációs Központ Zrt.**
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Goodwill Biotechnology Cluster

Established in 2007, Goodwill Biotechnology Cluster aims at co-ordinating member capacities to conduct joint marketing activities and joint utilisation of innovative solutions. Founding members are engaged in drug certification, manufacture, distribution, drug market research, image design, promotion materials and web appearance management. Members had been co-operating with each other before signing the co-operation agreement, especially in marketing and sales. The cluster later developed into a larger entity, and now it includes 25 members. Cluster seat is in Szeged, a big town in the Southern Great Plain region.

Main cluster activities encompass high innovation content pharmaceutical, health industry and biotechnology products and services, their development, and the increase of internal and external income generated by cluster product sales, as well as channelling services into health tourism to attract international clients. Strategic cluster objective is to harmonise operation and development activities of member companies, education and R&D institutions with market oriented projects, and to enhance domestic and international presence of cluster members.

Over the course of the past 3 years Goodwill Pharma Park has been established to provide infrastructural background for several cluster members. The park provides favourable conditions for research & development, commercial, service and office activities.

The cluster's economic influence is clearly represented by its nearly HUF 10 billion (roughly EUR 35 million) revenue in 2010 (by five biggest member companies). Member companies are: Meditop Kft., Goodwill Pharma Kft., Extractumpharma Zrt., G&G Kft. and Zipper Kft. Cluster member companies employed 376 individuals in 2010.

Goodwill Biotech

Founding members:

- Goodwill Pharma Kft.
- Zipper Kft.
- EVISTA Informatikai Kft.

Project Plans:

1. Development, manufacture and trade of drugs and other medical items
2. Therapy related supplementary diet product family development
3. Clinical testing of bone grafts and granules covered with humane albium
4. Development and testing of synthetic bone replacement materials
5. Research and development background establishment for tissue construction, technology implementation of actual achievements, and implementation of direct market utilisation
6. Manufacture of implants
7. Establishment of a healthcare based tourist facility

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Information Management Innovation Cluster

Information Management Innovation Cluster was established on 27 October, 2008, with 9 founding members. Cluster operation focuses on mobile area IT applications, specialised management applications, designer and analytic tools. Cluster member portfolio exclusively contains IT management products and related services.

A strategic cluster objective is to establish co-operation between enterprises of the IT sector, and to enter joint research and development with educational institutions. Their continuing success is confirmed by several internationally acclaimed R&D projects and products.

The cluster currently has 21 members, all of which are SMEs. Most powerful cluster members are DSS Consulting Kft., ESRI Magyarország Kft., M&M COMPUTER Számitás- és Irodatechnikai Kft., PROCESSORG SOFTWARE 82 Kft and Sense/Net Zrt. 2010 revenue exceeded HUF 3 billion (roughly EUR 10 million), and members employed 232 individuals in total.

Founding members:

- ESRI Magyarország Kft.
- Dexter Kft.
- Processorg Software 82 Kft.
- Cydrel-Quality Kft.
  (ma: SL Software Consult Hungary Kft.)
- MarkCon Informatikai Kft.
- M&M Computer Kft.
- Dél-Dunántúli Regionális Innovációs Ügynökség Nonprofit Kft.
- OpenMinds Kft.
- Altamira Kft.

Project Plans:

1. Development and international market introduction of a new generation, multi-platform, location based service platform
2. Development of location based services for the international market
3. Development of a thin client architecture business management application with artificial intelligence support
4. Development and international market introduction of a flexible, co-operation based information management tool
5. Development of a multiplatform on-demand BI tool for the SME sector

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Central-Transdanubian Regional IT Cluster

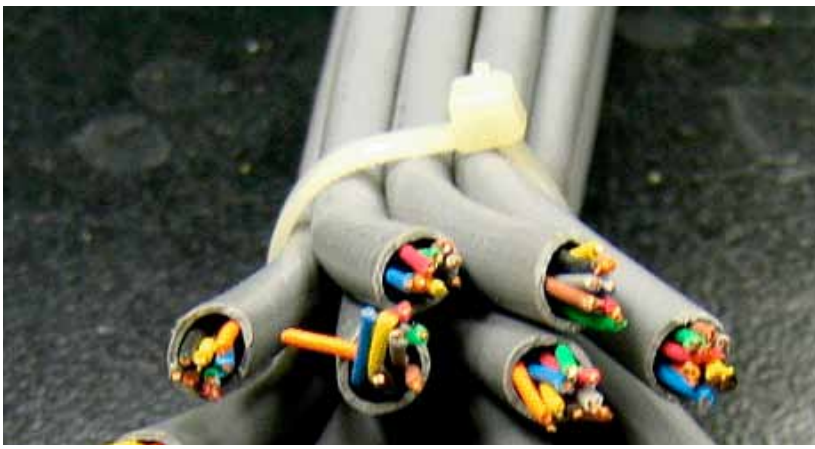
The Central-Transdanubian Regional IT Cluster (KDRIK) was founded on 20 July, 2006. Its seat is in Székesfehérvár. For-profit cluster members mainly benefit from consortia and contractor-subcontractor relationship based R&D&I schemes, without which member companies would have fewer opportunities – due to the size of typical members. In the wake of the co-operation, significant technical and innovative goals were achieved by the cluster.

Characteristics of co-operating enterprises confirm that it is a horizontally organised cluster, its members are mainly SMEs from IT areas. One of the expected advantages of networking is knowledge creation, hence, currently 4 knowledge centres, as well as development and market related sector actors improve the quality level of complex IT services. One of KDRIK main characteristics is that its for-profit members are exclusively micro and small enterprises, even the biggest ones are in the lower segment of the medium category.

Cluster operation is ensured by the 20 SMEs, College of Dunaújváros, Fejér County Government Office – Plant and Soil Protection Authority, Department of Geoinformatics – University of West Hungary and Alba Regia University Centre of Óbuda University, altogether by 24 cluster members. The five best performing enterprises (SEAWING Development and Service Kft., Rubin Informatics Zrt., Mortoff Informatics Consulting and Service Kft, Ablakszerker Kft., UNICOMP Kft.) had a joint 2010 revenue of HUF 2.9 billion (roughly EUR 10 million), while number of individuals employed by member enterprises was 301.

Founding members:

- Seacon Europe Kft.
- E_Base Informatikai Kft.
- Integrity Kft.
- Seawing Controls Kft.
- SW Vega Kft.
- Developing Business Kft.
- BakonySoft Kft.
- Seawing Kft.
- Absurd Design Kft.
- Belting Kft.
- AlbaSoft Kft.
- UniComp Kft.
- Budapesti Műszaki Főiskola, Kandó Kálmán Villamosmérnöki Főiskolai Kar, Számítógéptechnikai Intézet
- Delta Trade Kft.
- Pannon Job Kft.



Project Plans:

1. **Information and data security**
   Digital track analysis
   - Extension over to mechanical applications
   - Intelligent facility management extension
   - Involvement of artificial imaging technologies (KARMIN)
   - Sound analysis based inputs (animal sound analysis, speech-mood analysis)
   - Integrated management of the above in order to ensure comprehensive monitoring and analysis
   - Inclusion in MicroSoft product range.

   Identity management
   - Extension to benchmark platforms, improvement of distribution functionality
   - Inclusion in MicroSoft product range.
2. **Facility Management**
   Panel complex
   - Multi-aspect assessment of panel assets

   Industry and building rationalisation
   - Development and manufacture of a measurement and data collection system
   - Development of an energy efficiency and energy saving module
   - Complex analytic functions which ensure high-level analyses
3. **Healthcare Informatics**
   Health VIR, e-medicine
   - Extension and acquisition of a monitoring sample system to support medical analyses
   - E-medicine solutions
   - Integrated decision assistance and risk analytic solution
4. **WSN technology**
   Sensor based measurements, data collection, position tracking
   - Ri-Track , radio-interference based location services
   - Enco, a precision agricultural monitoring system
   - Silo, a wireless product management system

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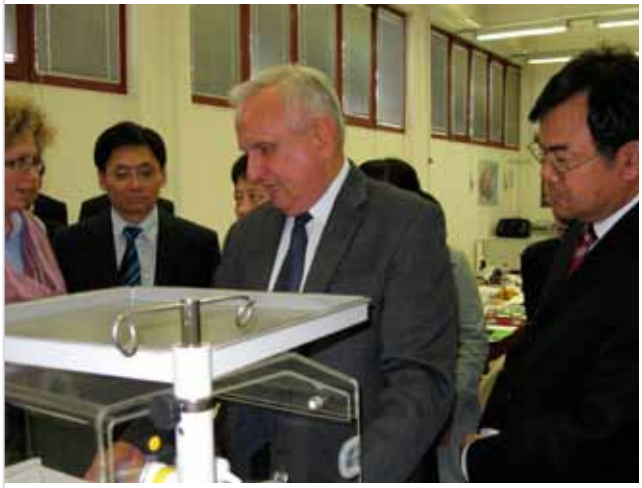
Hungarian Medical Cluster



Co-operation of Hungarian Medical Cluster (HMC) members dates back to the mid 1990s. More extensive co-operation started following EU accession, and then they formed a cluster. HMC was established on 14 December, 2006, with 21 members. It currently operates with 33 members.

The cluster is made up of companies and institutions which conduct profit or non-profit based development, manufacture and sale of Hungarian medical devices, or companies which carry out related activities or provide technical-scientific support.

One of the main objectives of Hungarian Medical Cluster is joint and organised response to market challenges and competition, improvement of competitiveness, intensification of co-operation in terms of development and marketing, and finally, utilisation of advantages in joint acquisition and export sales. Cluster members wish to intensify their economic role, primarily by innovation and by reinforcing co-operation, improved lobby activities, on both domestic and international markets.

32 out of 33 cluster members are enterprises, and all of them are SMEs. One of them is a state budget organisation, Budapest Enterprise Agency. Cluster activities are primarily focused on Central Hungary, it is where the cluster management centre is located. The five biggest cluster members in 2010 reached HUF 18.6 billion revenue (roughly EUR 65 million), number of individuals employed by 32 SMEs was more than 1200 during this period.

Magyar Medikai Gyártók és Szolgáltatók Klasztere
Budapest

Founding members:

- ALFA Impulz Bt.
- ASS Magyarország Kft.
- AUTER Elektronika Kft.
- BioDigit Kft.
- Budapesti Vállalkozásfejlesztési Közalapítvány
- Control X Medical Kft
- DenTech Fogászati és Fogtechnikai Műszergyártó és Kereskedelmi Bt.
- DIA-MED Kft.
- Gastrotherm Kft.
- INNOMED Medical Orvostechnikai Fejlesztő és Gyártó Zrt.
- Korzet Kft.
- Lasram Engineering Kft.
- MEDICOR Elektronika Zrt.
- Medimon Mérnöki Szolgáltató Kft.
- Mediplan Kft.
- Meditech Kft.
- MediTest Kft.
- Minel Elektronikai és Kereskedelmi Kft.
- SYSLONG Kft.
- Titán-Computer Kft.
- Tradeflex Kft.

Project Plans:

1. Innovative service forum
2. Establishment of a MedMarket forum
3. Creation of a new medical device

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Mobility and Multimedia Cluster

Mobility and Multimedia Cluster (MM Cluster) was founded by 10 members on 17 December, 2007. Founding companies list Magyar Telekom Nyrt and Ericsson Hungary. These companies have been assisting cluster operation ever since. Number of cluster members was increasing rapidly, today there are already 67 active members, 20% of them are start-up enterprises. MM Cluster's main activities are focused to the Central Hungarian region and Budapest.

MM Cluster's main activities cover info-communication areas, it aims at combining the most successful Central Hungarian companies and research workshops. Key cluster objectives are to co-ordinate mobile technology development and new media innovations in order to facilitate domestic and international utilisation of innovative achievements. Main identity features of the cluster are mobile technologies and multimedia development. These technologies are penetrating business and society, revolutionising several industries, such as transport, entertainment, commerce, banks, healthcare, vehicle control and navigation, to name but a few. Main cluster objective is to have internationally acclaimed and innovative development in these segments.

Cluster members are 55 SMEs, 4 large enterprises, 2 foundations, 6 universities and Computer and Automation Research Institute, Hungarian Academy of Sciences. Combined 2010 revenue of the 5 highest ranking large enterprise reached HUF 593 billion (roughly EUR 2,081 million), which amounts to 96% of total cluster revenue. 4 out of 5 members were large companies, Magyar Telekom Távközlési Nyrt., Hewlett-Packard Magyarország Kft., Ericsson Magyarország Kft., KFKI Rendszerintegrációs Zrt., and a medium sized enterprise called NNG Szoftverfejlesztő és Kereskedelmi Kft. Cluster member companies employed 10,995 individuals in 2010.

mobilitás és multimédia klaszter

Some of the founding members:

- Magyar Telekom Távközlési Nyrt.
- Budapesti Műszaki és Gazdaságtudományi Egyetem
- Ericsson Magyarország Kommunikációs Rendszerek Kft.
- Hewlett- Packard Magyarország Kft.
- SUN Microsystems Kft. (jogutódja az Oracle Hungary Kft.)
- GTS-Datanet Távközlési Kft.
- Albacomp Számítástechnikai Zrt.
- Origo Média és Kommunikációs Szolgáltató Zrt.
- Innomed Medical Zrt
- AITIA International Informatikai Zrt.

Project Plans:

1. Establishment of an NFC eco-system
2. Mobile device fleet
3. Hybrid TV promotion system
4. Android based middleware for smart TV-sets
5. Product family to assist digital integration of senior citizens

Cluster Manager:	**Mobilitás és Multimédia Koordinációs Iroda Nonprofit Kft.**
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ECOPolis Cluster

ECOPolis Cluster was established by nineteen strategically co-operating partners on 8 August, 2008. Its activities are focused on the Central Transdanubian region. The cluster has witnessed considerable development during the past couple of years, it now has 48 members. In 2010 it won the Accredited Innovation Cluster title, and it renewed its title in 2011.

Cluster composition perfectly matches the research oriented concept defined by the EU7 Framework Programme, i.e. it includes all actors of the innovation chain. The cluster incorporates two regional higher education institutions, College of Dunaújváros and Pannon University, and other research organisations, such as Institute of Nanochemistry and Catalysis, Hungarian Academy of Sciences, municipalities and regions, and two decisive players, municipalities of Székesfehérvár and Veszprém. Cluster members list 27 SMEs and 7 large enterprises. This composition enables SME cluster members to co-operate and run joint projects with enterprises such as MOL Nyrt., Nitrogénművek Zrt., Bakonyi Erőmű Zrt., D-ÉG Thermoset Kft., and HUMANsoft Kft. 2010 revenue of cluster members was HUF 4,457 billion (roughly EUR 15,639 million), number of individuals employed by all member companies amounted to 8,170.

The main objective of ECOPolis Cluster is to generate and manage high added value, innovative R&D&I&E projects, and to promote the success of such projects with product and technology driven knowledge transfer processes, resource generation and international representation. Developments are based on existing scientific achievements, development demand of the business sector and market breakout points. Furthermore, ECOPolis Cluster tasks also include eco-cycles which are inter-sectoral and exclusively comply with sustainable development criteria. In order to achieve such cycles, a close partner co-operation is necessary. The cluster places special emphasis on green industry and agriculture technologies, eco-centred energetics solutions, environmental informatics and sustainable biofuel solutions.

Founding members:

- AlbaComp Zrt.
- AperTech Informatikai Kft.
- Aranybulla Mg. Zrt.
- Bakonyi Erőmű Zrt.
- Delta Informatika Kereskedelmi és Szolgáltató Zrt.
- Depónia Hulladékkezelő és Településtisztasági Kft.
- Dunaújvárosi Főiskola
- HUMANsoft Kft.
- LSI Informatikai Oktatóközpont
- MOL Nyrt.
- Nitrogénművek Zrt.
- Nitrokémia Zrt.
- Pannon Bio-Innováció Kft.
- Pannon Egyetem
- P-ENERGY Kft.
- Ráckeresztúr Város Önkormányzata
- Stratégiakutató Intézet Kht.
- Veszprém Megyei Jogú Város Önkormányzata
- VRIC Veszprémi Regionális Innovációs Centrum Kht.

Project Plans:

1. Development and use of a complex waste utilisation and disposal technology
2. Development and manufacture of rubber bitumen
3. Ecology expert systems
4. Development of an acoustic diagnostics system
5. Software for energetics system improvement
6. Environmentally friendly and economical anti-slick material
7. CO2 absorption
8. Manufacture of productivity boosting, organic agents
9. Development of energy storing system LET
10. Development and utilisation of modern bio-engine fuels
11. Establishment of a small-scale biogas plant
12. Technology consultancy and development centre
13. Elaboration of intelligent IT environmental protection applications

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PharmAgora Quality of Life Cluster

PharmAgora Quality of Life Cluster is active in the fields of health and pharmaceutical industry, and was established on 23 April, 2007 by 11 small and medium-sized enterprises to combine market and development activities of the founding companies, and to improve their market positions. Despite of the harsh economic situation, due to close co-operation of cluster members, the cluster has been able to grow, domestic and international positions have been stabilised, and the number of members reached 24. Geographically, the cluster is focused on the Central-Transdanubian region, with its headquarters being in Balatonfüred.

PharmAgora Quality of Life Cluster activities primarily cover scientific research-development areas in the healthcare industry. The cluster places special emphasis on development of diagnostics procedures, development and manufacture of quality and functional food (primarily of animal origin), development and manufacture of premixes and other innovative generic drugs and dietary supplements. Development of cardio-vascular/gastro-intestinal stress testing system, a gastro-intestinal diagnostics system and a variety of premixes are based on existing achievements. The cluster implemented significant development and investments in the region which ensured the establishment of instrument, drug and food industry development and related background services.

The cluster currently involves 8 micro, 6 small and 6 medium sized enterprises, 3 universities (University of West Hungary, Semmelweis University and University of Szeged), and Municipality of Balatonfüred. In 2010, medium-sized enterprises were the best performers, the 5 members with the highest revenue (Brunswick Magyarország Kft., Diagnosticum Zrt., Olivia Élelmiszerfeldolgozó Kft., Meditop Kft., Solum Zrt.) achieved 83% of cluster's revenue, with HUF 24.8 billion (roughly EUR 87 million). In 2010, number of individuals employed by the cluster was 794.

Founding members:

- ADEXGO Ipari, Kereskedelmi és Szolgáltató Kft.
- AdWare Research Fejlesztő és Tanácsadó Kft.
- CERA-MED Egészségügyi és Oktatói Kft.
- Experimetria Orvosbiológiai Kutató, Fejlesztő, Gyártó Kft.
- GenProt Hungary Kutató, Fejlesztő és Forgalmazó Kft.
- MSB-MET Kft.
- MEDITOP Gyógyszeripari Kft.

Project Plans:

1. Development of cardio/gastro-intestinal stress test system
2. Development of a gastro-intestinal diagnostics system
3. Development and full-scale marketing of milk enhanced with Omega-3, CLA fat acid and D vitamins, development of premix neces sary for product manufacture, development and manufacture of dairy products
4. Combination of powdered egg based functional food and drug molecule (DIATIVA), for cardiovascular diseases
5. Combination of powdered egg based functional food and drug molecule (DIATIVA), for supplementary treatment of Type 2 diabetes

Cluster Manager: AdWare Research Fejlesztő és Tanácsadó Kft.
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Pharmapolis Debrecen Innovative Pharmaceutical Cluster

Pharmapolis Debrecen Innovative Pharmaceutical Cluster was established on 25 August, 2008, and today it operates with 27 members. The cluster mainly focuses in the Northern Great Plain region, especially around Debrecen, however, through member co-operation, Szeged also plays an important role. 20 out of 27 members are SMEs, there are 3 large enterprises and 4 non-profit organisations (University of Debrecen, Institute of Nuclear Research, Hungarian Academy of Sciences, Biological Research Centre, Szeged, Chamber of Commerce and Industry Hajdú-Bihar County).

The cluster involves profit and non-profit oriented members to enhance added values in drug industry, human biotechnology and related value chains. Cluster members may also carry out activities closely connected to these industrial fields. Main cluster research areas envelope development of drugs for central nervous system, inflammation and metabolism related diseases. Cluster objective is to establish an internationally known training centre which provides full-scale service for individuals dealing with nuclear medicine, medical-biological and functional imaging activities. Cluster activities are accompanied by the establishment of a new industrial park in Debrecen, and there are plans to establish a new bio-innovation park in Szeged.

Most powerful cluster members are: Richter Gedeon Nyrt., Mediso Medical Imaging Systems, OMNINVEST Kft., ScanoMed Medical Diagnostic Research and Training Kft. and HUNIKO Kft. 2010 revenue of these five enterprises amounted to HUF 286 billion (roughly EUR 1,004 million), and number of individuals employed by all member companies reaches nearly 11,000.

Founding members:

- Abiol Kft.
- Biomer Kft.
- Biosystems International Kft.
- Brain-X Kft.
- CERA-MED Egészségügyi és Oktatói Kft.
- Debreceni Egyetem
- Debreceni Vagyonkezelő Zrt.
- Hajdú-Bihar megyei Kereskedelmi és Iparkamara
- HUNIKO Kft.
- Labexpert Kft.
- MEDISO Kft.
- MTA Atommagkutató Intézete
- OMNINVEST Kft.
- ONIX Nyomda Kft. (ma PharmaPrint Kft.)
- Önkormányzati Egészségügyi Holding Zrt.
- PET-CT OD Kft. (ma ScanoMed Kft.)
- PHARMAPOLIS Debrecen Kutató és Fejlesztő Kft.
- PRS Kft.
- Richter Gedeon Nyrt.
- UD Genomed Medical Genomic Technologies Kft.
- JSW Hungary Kft.
- Laser Consult Kft.
- LipidArt Kutatási, Fejlesztési és Tanácsadó Kft.
- MTA Szegedi Biológiai Központ
- Vitadel Kft.

New Entries:

- CERORIN Kft.
- Pharmatom Hungária Kft.

Focus Areas:

1. Innovative therapy products
2. Imaging technologies
3. In vitro technology platforms
4. Education module
5. Biotechnology

Cluster President:	**Erik Bogsch, Mr**
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System Science Innovation Cluster

At the initiative of PANNON-PÓLUS Kht., 6 founding members established Pannon R&D&I&E Cluster on 15 December, 2006. Number of members has increased to 28. Cluster members are connected by the fact they are active in sectors where the basis of their operation and development activities is triggered by operating in different IT systems. From 2012, the cluster continues to operate under the name of System Science Innovation Cluster.

Cluster headquarters are located in Balatonfüred. The cluster promotes regional economic development, broadens regional economic diversification, and supports the improvement of local employment conditions. Project implementation takes place in an Innovation centre established by the cluster. The centre is a research institution for ICT companies settled in the region, and provides technical staff replacement at the highest possible level, as well as ensures direct transfer of new research findings to enterprises. Thus the project implements the combination of three important pillars of knowledge based enterprise development; TRAINING – RESEARCH - PROJECT IMPLEMENTATION.

Cluster members are 20 SMEs, 4 large enterprises and Research Centre for Natural Sciences, Hungarian Academy of Sciences, Budapest University of Technology and Economics, Óbuda University and Pannon University. Joint revenue of member companies in 2010 amounted to HUF 45 billion (roughly EUR 158 million). Member companies directly employ 2057 individuals. Their implemented projects created nearly 100 new jobs. On 6 April, 2012, they won the Accredited Innovative Cluster title for the third time.

Activities of the Cluster primarily focus on health IT, intelligent public utilities, IT solutions and optimisation of logistics services. Project number currently exceeds 30.

Founding members:

- PANNON-PÓLUS Innováció-Menedzsment és Inkubátor Szolgáltató Kht.
- CONTROLSOFT AUTOMATIKA Kft.
- ONLINE Üzleti Informatika Zrt.
- Sense/Net Kereskedelmi és Szolgáltató Kft.
- ISH Informatika Kft.

Focus Projects:

1. „wireHOSPITAL" (customised, inter-regional online health data storage service centre and an IT system to support healthcare processes)
2. TPS Logistic – multi-purpose modular sat ellite tracking, trip optimisation, planner and monitoring system
3. Scientific Research Centre

Cluster Manager:	**PANNON - PÓLUS Innováció - Menedzsment és Inkubátor Szolgáltató non-profit Kft**
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Silicon Field Regional IT Cluster

Silicon Field Regional IT Cluster (SzMRIK) was established by 21 enterprises on 1 July, 2008. Its main activities cover the Northern Great Plain region and Debrecen. In order to further enhance their influence, members unite their market forces, skills, innovative products, and they aim at developing their services together. Number of cluster members has reached 43.

The cluster is basically a network of IT communication companies and institutions which already have innovative achievements. Members have realised that co-ordinated development will lead to more competitive technologies, products and services. By ensuring seamless co-operation between members, cluster management guarantees the improvement of high added value innovative and export oriented activities, related training and establishment of knowledge intensive infrastructure.

The cluster includes 18 micro, 17 small, 3 medium and 3 large enterprises, as well as 2 higher education institutions (University of Debrecen and College of Szolnok). Highest revenues were achieved by Delta Informatika Zrt., POLYGON Informatikai Kft., Alcatel-Lucent Magyarország Kft., ISH Kft. and Bull Hungary, their joint revenue exceeded HUF 21.5 billion (roughly EUR 75 million) in 2010. In 2010, number of individuals employed by cluster companies was 799.

Founding members:

- Debreceni Egyetem
- DIP Kft.
- Szolnoki Főiskola
- Debreceni Informatikai Kutató-fejlesztő Központ Kft.
- Magyar Telekom Nyrt.
- Geoview System Kft.
- BULL Magyarország Számítástechnikai Kft.
- CORVEX Zrt.
- ISH Kft.
- Orgware Kft.
- Netlock Kft.
- NI Hungary Kft.
- Animex Kft.
- Feature Films For Families Hungary Kft.
- Invictus-Games Kft.
- Albacomp Számítástechnikai Zrt.
- Beks Kft.
- Lansoft Informatikai Kft.
- PAG-Stúdium Bt.
- ESANTU Kft.
- Optonet Bt.

Project Plans:

1. 3D display
2. Utilisation of 3D software and models
3. Security audit and methods
4. Regional and city area management informatics systems
5. Integrated customer service – ASP centre – local joint public administration service centre
6. Mission control
7. Multi-functional smart community card sys tems
8. e-election system
9. Intelligent resource map
10. Intelligent traffic management
11. Touristic systems
12. Regional Integrated Portal
13. Multi Utility Smart Metering Trial Debrecen project
14. Social communication tools, call and contact centres
15. E-democracy, IT society relation applications
16. University portal
17. e-learning, linguistic appliances
18. WEBAGORA
19. HUMARKET
20. Integrated library development
21. Data collection, anonymous systems, biobank supporting solutions, regional database and data mining
22. E-medicine, health protection and prevention, innovative e-medicine solutions (e-prescription)
23. Healthcare IT communication
24. Healthcare reform related development
25. Extension of R&D projects

Cluster Manager:	**Szilícium Mező Kft.**
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Software Innovation Pole Cluster

The cluster was established with 19 members as a result of co-operation between software research centres, enterprises and technology transfer organisations on 21 September, 2007. Its activities are based on co-operation with industrial partners such as the University of Szeged and E-Szeged consortium. As a result of dynamic development, cluster members now amount to 45. The cluster is composed of 40 micro, small and medium enterprises, 2 large companies (GE Hungary Kft., RITEK Zrt.), and 3 universities (universities of Szeged, Pécs and Debrecen).

The cluster provides high added value software development services primarily in the Southern Great Plain region and in the vicinity of Szeged, and it also helps to promote the implementation of local economy development goals. Main cluster objective is to ensure joint interest representation for companies involved, to further improve internal co-operation, to boost software innovation activities and to harmonise university research with software companies' demand. The cluster aims at increasing revenues for software industry SMEs, and intensifying their export shares.

By effective and careful utilisation of software SMEs and university education development, the cluster helps the industry to be a decisive regional factor in the IT industry, and to be an important actor in Szeged business life.

Cluster member companies directly employed 10,764 individuals in 2010, and have been successful in each year. In 2010, joint net annual revenue of the 5 founding large companies (GE Hungary Kft., Polygon Informatikai Kft., Griffsoft Zrt., EnterNet 2001 Kft. and Montana Knowledge Management) was HUF 1,024 billion (roughly EUR 3,593 million).

The cluster holds the Accredited Innovation Cluster title since 2008.

As a result of their eligibility, cluster members and project companies founded by them won project assistance for schemes EDOP-1.2.1 and EDOP-1.3.1/B in excess of HUF 2 billion (roughly EUR 7 million).

Info Pólus
Szoftveripari Innovációs Pólus Klaszter

Founding members:

- 3C Szeged Kft.
- Albacomp Zrt.
- Bács-Kiskun Megyei Kereskedelmi és Iparkamara
- Clarity Consulting Informatikai és Menedzsment Szolgáltató Kft.
- Csongrád Megyei Kereskedelmi és Iparkamara
- Epigramma Szolgáltató Kft.
- FrontEndART Szoftver Kft.
- GE Hungary Zrt.
- GriffSoft Informatikai Zrt.
- Montana Információtechnológiai és Kommunikációs Zrt.
- MorphoLogic Kft.
- MultiRáció Kft.
- OnlineWeb Kft.
- Polygon informatikai Kft.
- RITEK Zrt.
- Scriptum Informatikai Zrt.
- Siemens PSE Kft.
- Szeged Software Zrt.
- Szegedi Tudományegyetem

Main development areas and platforms:

1. Software quality
2. Embedded and mobile system applications
3. Home care and medical imaging, signal processing
4. Industry specific management solutions

Project Plans:

1. Quality impact studies for business critical IT systems, development of influencing factor analyser tools and services
2. Refactoring tool development
3. Development of a map based information system for mobile devices
4. Intelligent building – development of a complex AAL service package
5. Development of a tool system which supports the testing of fourth generation language applications, as well as measures and improves test effectiveness
6. Artificial intelligence related development

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The projects are supported by the European Union and co-financed by the European Regional Development Fund.