

Innovation on the open road

The creation of the Automotive House on the outskirts of Helmond (within the Eindhoven city region) had a dual purpose. It was conceived to operate as a focal point to promote the automotive sector in the Netherlands while at the same time representing the first building block of the High Tech Automotive Campus. In this sense it has played a crucial role in catalysing the development of the campus and now functions as the heart of this automotive cluster. It is fully consistent with the 'Brainport' high-tech, innovative growth strategy for the region.

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The term 'smart growth' could almost have been coined to describe economic development policy in and around the Dutch city of Eindhoven over the last 50 years. Today this is translated into the 'Brainport' strategy for the Eindhoven City Region. This framework for growth and employment is based on exploiting the experience, production tradition, and know-how existing in the south Netherlands, since the Philips company established what would become the High Tech Campus Eindhoven in the 1960s.

The aim of the 'Brainport' is to cultivate a top technology, open innovation hotspot through cluster formation involving various sectors (particularly medical technology, life sciences, food and nutrition, high-tech systems and materials), including the automotive industry as a key element of existing and future opportunity.

Despite the collapse of vehicle production in the area (by DAF, NedCar and Volvo) at the turn of the millennium, the automotive supply chain and R&D activity still provides jobs for some 45 000 people in the Netherlands (half of them in the greater Eindhoven area) and retains a role of global importance. In a sector which has suffered significant difficulties in recent years and is redefining itself globally, a focus on innovation and development of top technological, engineering and IT solutions linked to an evolving product range (low-carbon solutions, alternative public transport technologies, smart route/vehicle guidance) is seen as a viable and sustainable path for growth and investment.

As a consequence policies at national, provincial, city region and municipality levels have combined to encourage the formation of a High Tech Automotive Campus at the heart of the former NedCar production location (Eindhoven, Helmond and Born). This aims to secure and exploit employment and skills present in the locality but also to maximise the benefits of high-tech open innovation. In order to kick-start this campus formation, ERDF funding was sought for the establishment of an Automotive House on the campus site in 2008, and the setting up of the management office to coordinate and run the High Tech Automotive Campus. The physical entity was conceived to function as a focus point to promote and support the automotive sector in the Netherlands, but simultaneously to operate as a centre for campus activity and as a driving force for its ongoing development. The triple-helix initiative has resulted in accommodating some 30 organisations on the campus, which carry out such diverse activities as precision engineering, design, testing, automotive research and vocational training. Already 11 collaboration projects between business and knowledge/research bodies have been established.

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The Eindhoven 'smart growth' legacy

The term 'smart growth' could almost have been coined to describe economic development policy in and around the southern Dutch city of Eindhoven over the last 50 years. The decision of the Philips company to develop its most important innovation centre in the city in the 1960s ultimately resulted in the formation of the High Tech Campus Eindhoven.¹ This initially private cluster (since 2002 an open facility), with the status of 'national importance', laid the foundation for a conceptually and territorially wider economic development policy based on innovation technology. Today this is translated into the 'Brainport'² strategy for the Eindhoven City Region, a framework for growth and employment based on exploiting the production tradition, experience and know-how built up over the years.

Like similar place-based growth and development strategies ('Airport' at Schiphol-Amsterdam and 'Seaport' at Rotterdam) the trademark concept of Brainport was set out in 2006. Based on four strategic pillars (people, technology, business, basics) it represents a policy vehicle to reinforce the high technology profile of the city region by promoting open innovation. The aim is to cultivate a top technology hotspot through cluster formation involving sectors such as medical technology and life sciences, food and nutrition, high-tech systems, instruments and materials. With the High Tech Campus model as a guiding principle, initiatives like the Health Technology Park Veldhoven, the Food Technology Park and the High Tech Automotive Campus characterise the development of a collaborative firm-to-firm, research-to-business landscape supported by public sector facilitation. This area, made up of 21 municipalities, hosts more than a third of public and private investment in research and development in the Netherlands and in turn delivers 25% of the country's exports, 50% of registered patents and contributes around 14% of the nation's gross domestic product – higher than either Amsterdam or Rotterdam.³

Reconfirming an 'automotive' potential

The inclusion of the High Tech Automotive Campus (HTA Campus) as a Brainport 'product' recognised the existing and future opportunities represented by the automotive sector. The automotive industry had been a strong feature of the Netherlands economy, especially in the Eindhoven area, since the late 1960s. Despite the virtual collapse of vehicle production in the region (by DAF, NedCar and Volvo) at the turn of the century, the automotive supply chain and R&D activity still provides jobs for some 45 000 people in the Netherlands (half of this figure in the wider Eindhoven area) and continues to play a role of global importance. So although initial reactions to critical production closures anticipated the death of the industry, more considered evaluation identified the automotive sector as an ongoing, even thriving opportunity linked to the strong presence of a diverse range of healthy supply firms and services. While vehicle production lost importance, the supply of high-tech components, engineering, research and development was identified as being buoyant. Sustainability in the sector is therefore strongly linked to the potential of innovation, new products and services which can be delivered for the EU and world market within the know-how, skills and research environment of the Eindhoven City Region and its Brainport philosophy. In a sector which has suffered significant difficulties in recent years and is redefining itself globally, a focus on innovation and development of top technological solutions linked to an evolving product range (low-carbon solutions, alternative state of the art public transport technology, smart route/vehicle guidance) is seen as a viable and sustainable pathway for growth and investment. It is probably unrealistic to imagine a revival of vehicle production in the region, at least not any traditional form of car manufacturing, but the option to serve the supply

¹ <http://www.hightechcampus.com/>

² <http://www.brainport.nl/>

³ Speech by Eindhoven Mayor Rob Van Gijssel to URBACT II project 'Joining Forces', Eindhoven 2010

chain, wider transportation technologies and niche markets matches both local strategic ambitions and specific capacities – a conscious tactic to extract the maximum benefit from the development of inherent innovative skills, techniques and systems.



Fig. 1. Automotive House, Helmond

The combined logic of an interactive multi-governance model

The option to encourage the establishment of the HTA Campus, or the introduction of the Brainport concept itself for that matter, is not the result of local decision-making by a single authority or a single sector. On the contrary, there is a clearly understood and agreed policy framework operating across the different layers of governance. The evolution of governance models in the Netherlands is characterised by a long-standing experience of impulse from the national level which results in interpretation and implementation at provincial or local level. In response to the Lisbon objectives (the EU as the most competitive and dynamic global knowledge economy) the Dutch government initiated an ‘innovation platform’ in 2003 with the aim of strengthening the forces for innovation – to bring the Netherlands into the international top five in terms of higher education, research and innovation capacity. This platform, constituted by members from the scientific, political and business world, launched an initiative which in the intervening years has had an important influence in driving innovation, open innovation and smart growth initiatives – ultimately resulting in projects like the Automotive House and HTA Campus. Known as the ‘Key Sector Approach’⁴ the initiative directed attention at economic opportunity in the fields of flowers and food; high-tech systems and materials, water, chemistry and creative industry. The key sectors identified are expected to drive related economic and business activity and to encourage diversity and global competitiveness. In operational terms, innovation roadmaps or programmes have been developed for each sector, and supported by the Ministry of Economic Affairs, Agriculture and Innovation.

In the case of high-tech systems and materials, this resulted in the setting up of a High Tech Automotive Systems programme in 2007, which recognised the unique connection and position of the south Netherlands in terms of a concentration of automotive industries, skills and know-how. The goal is to develop the automotive industry by clustering innovative products, processes and services, building on the remnants of the vehicle construction and research industry and the chain of supply companies in continuing operation.

The ERDF South Netherlands Operational Programme 2007-2013 (OP-Zuid)⁵ reflects the key sector approach in its identification of knowledge axes as prime opportunities for the

⁴ Sleutelgebieden – Rijksoverheid: State Ministry for Economic Affairs, Agriculture and Innovation <http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2010/07/23/sleutelgebieden.html>

⁵ Operationeel Programma EFRO Zuid-Nederland

region (high-tech systems, instruments and materials, food and nutrition, and medical technology and life sciences). It highlights the potential of the automotive sector ('the cluster high-tech systems and materials involves among others specific products for the automotive industry, its suppliers and logistical services'). So the automotive sector is also recognised within a regional growth perspective and is a key user of high-tech systems and materials.

Thus there is a close link between the national, provincial, Eindhoven city region and local levels, firmly coupled to the trio of 'knowledge, skills and profit' (*kennis, kunde en kassa*) and a tradition of 'investing together' (*samen investeren*). Government facilitates, but the regional and local levels are experienced and skilled in forming the necessary alliances to implement policy at the 'local' level. Furthermore the Netherlands Spatial Planning Act of 2008 requires municipalities, provinces and national government to set out their policies in structural visions. It is within this contextual framework that the Municipality of Helmond was prepared to seize the opportunity to create the HTA Campus (with Automotive House as a forerunner) within its territorial jurisdiction. The desire to compensate for the loss of local production and jobs by reinforcing the automotive sector in the same locality is incorporated in the local spatial planning and master planning process to develop the campus site.

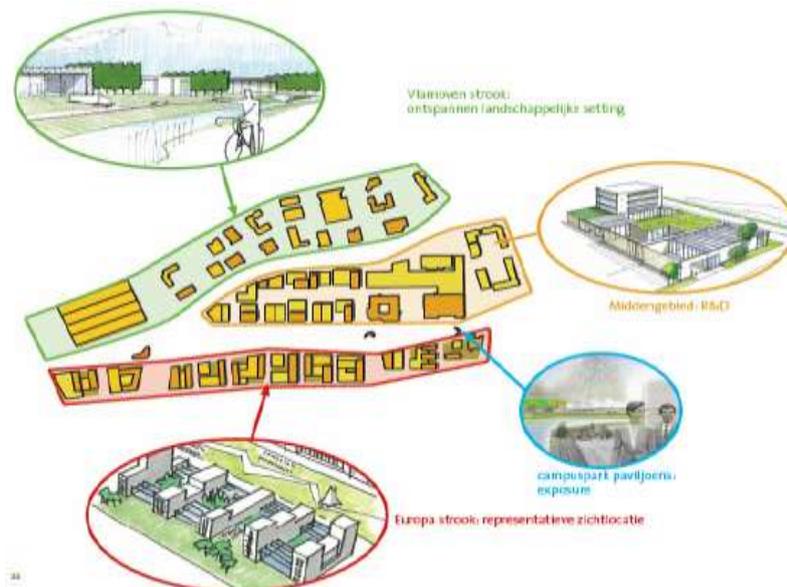


Fig. 2. Master plan HTA Campus

A triple-helix solution

The formalisation of the Eindhoven City Region builds on a structure of 21 municipalities (including Helmond) with a history of voluntary cooperation stretching back over the last 40 years. The initiative to establish the HTA Campus was driven by the Municipality of Helmond. Both public authorities and the automotive sector wanted to act quickly, and considered that in order to achieve rapid and operational clustering the project and the sector required visibility, in fact a 'flagship' impulse to ensure campus development. The idea of the Automotive House was born to operate as a centre for the promotion and development of the Dutch automotive industry, to act as a magnet for campus development, and ultimately to function as the organisational and communicative heart of the High Tech Automotive Campus.⁶

Helmond Municipality was awarded €908 000 of ERDF funding (40% of total budget of €2 270 000) to develop the Automotive House as a key component in the process of developing

<http://www.op-zuid.nl/images/stories/Programmadocumenten/programmadocume-op-zuid-nederland-2007-2013.pdf>

⁶ <http://www.htacampus.com/>

the wider campus project. ERDF funding was used to install the Automotive House in part of an existing building on the campus site and to set up and provide accommodation for the management structure of the HTA Campus. It could be described as a one-stop shop or 'clubhouse' for the automotive sector, based on bringing together business, research and training organisations under one roof, organising joint and promotional activities to strengthen the image and impact of the industry. As Daniel de Klein, the project manager, claims: 'we needed to create a dynamic, to establish some presence which could give the campus a flying start by creating an optimal climate for open innovation, knowledge exchange and collaboration'. The public authority assumes the role of facilitator by providing a tailored range of facilities, programmes and activities to support automotive companies, vocational training institutes and research and knowledge institutions. The end goal is openly stated that every action should 'finally lead to generation of business and/or benefit for public and private research initiatives'.

The Automotive House is a departure from past or standard practice in that it is not simply a support to the automotive industry as it has traditionally operated in the area, with a strong emphasis on production (by DAF, NedCar, Volvo, Mitsubishi, DAF Trucks, VDL Bus and Coach). The glory days of local vehicle production will probably never return, so the focus is firmly on reinforcing existing activities. These include production (by DAF trucks, VDL Bus and Coach and of niche vehicles) but the accent is on the lower profile but high potential service suppliers which are still strong and are establishing themselves in the area as a result of the high-tech climate. Open innovation is seen as a crucial element in developing top-technological solutions for the existing market and also to take proactive new automotive initiatives (alternative low-carbon vehicle technologies for instance) and to create new developments in the industry.

The Automotive House as the means to a wider end

The Automotive House functions as the central meeting place for stakeholders in the Dutch automotive industry, such as TÜV Rheinland TNO (an EU centre of excellence for vehicle safety), Benteler, VIRO and Brace (engineering companies), and ROC Ter AA (a progressive regional training centre for vocational and adult education). It also serves businesses with no presence on campus such as TomTom global positioning systems. It provides accommodation and facilities (meeting places, conference rooms, exhibition and workspaces) for diverse organisations such as the Automotive Technology Centre, the European Centre for Mobility Documentation (ECMD), the project office for the HTA Campus, FIER Automotive, a branch office of Holland Automotive and workspaces for educational institutions (Fontys, ROC Ter AA and Technical University Eindhoven TU/e).

The underlying principle applied to the House and Campus is the fostering of triple-helix interaction between businesses in the sector (constructors, designers, engineers, component and system suppliers); research bodies and vocational (technical) training colleges (Technical University Eindhoven for example); and public authorities at all levels with responsibility for economic growth, employment and innovation.

At a secondary level the cluster forming generated by the installation of the campus and its activities benefits the local economy and employment directly (and indirectly, as regards hotel and restaurant activities for instance). For example VIRO engineering alone employs 450 people locally, skilled workers from the historically located production plants and young technicians, products of the technical education facilities feeding the high-tech sector. Within the building occupied by the Automotive House a printing firm has set up. This was not foreseen in any sense as a project impact, but is a service response to the demand generated by campus occupants and their activities. Furthermore solutions developed by the industry on site, such as on-road and in-vehicle traffic guidance technology, are applied (and tested) locally and by local users. The ultimate recipients in the broader sense are vehicle and transport owners and users benefiting from better or alternative performance, road vehicle safety improvements, public transport innovation, clean vehicles etc.

Targets

The Automotive House component of the project set itself targets to generate 175 full-time jobs through its own activities and also in the organisations renting permanent work or office space in the building. It was also foreseen to achieve at least 10 concrete projects based on collaboration between businesses and knowledge/research institutions.

In terms of the wider campus development, secondary but equally important objectives were formulated to strengthen the business community and stimulate entrepreneurship through the offer of quality facilities and services. The HTA Campus was not orientated simply towards production but concentrated on supporting development and innovation by targeting innovative starters and SMEs on the one hand and research projects of end-producers on the other. The prime expectations reflect the stimulus envisaged to connect business and research to economic growth and employment through:

- an increase in employment opportunities: up to 2015, attraction of three business start-ups, three existing firms from the region (or the Netherlands), one or two foreign companies. Over the whole territory of Helmond the municipality targets 2 000 jobs in the automotive sector by 2015 based on developing innovative technology and engineering solutions (Volvo alone had 3 000 workers in the high production period in the 1990s). The campus forecasts a growth in jobs on site from 584 (2008) to 1 505 (2015) and student numbers to increase from 65 to 750 over the same period;
- an improvement in working of the labour market: better cohesion and cooperation between education and training institutes and business – education and training tailored to the demand from the automotive business community.

Investment and impact

One million euros of the total project's budget (€2.27 million) was assigned to establish the Automotive House (interior transformation, design and installation). The project rents the ground floor of an existing building occupied by Benteler Engineering Services and has already expanded to take over part of the second floor. The budget line covered the transformation, interior design and organisation of the space acquired in the Benteler building. A further €1.2 million was reserved for the setting up of the organisation and management structure of the Automotive House and HTA Campus, particularly the installation of offices and a management team to run the campus on a day-to-day basis under the governing structure of the High Tech Automotive Campus Foundation. The 10-strong team includes a director, secretariat, business development manager, events coordinator and others.

The activities organised in the Automotive House disseminate achievements and promote systems and products developed by the automotive cluster. It is the pioneering role the Automotive House takes in terms of campus development which is the most interesting aspect. It was established in June 2009, and ensured that the campus organisation could be fully operational and the number of agencies on campus could be expanded from the original five key actors (Programme Office High Tech Automotive Systems, Automotive Technology Centre, European Centre for Mobility Documentation, High Tech Automotive Campus project office, FIER Automotive) to 22 firms or organisations on site within the space of two years. It is doubtful that this could have been achieved so quickly without the impulse of the Automotive House – enabled by ERDF support – particularly in a period of the crisis which elsewhere caused a downturn in investment. As a result there is now a possibility that HTA Campus will achieve the status of 'national importance', something which only the High Tech Campus Eindhoven has been awarded to date.

Today the campus is managed by a steering group, the HTA Campus Foundation, which operates within the overarching coordinating structure of Automotive NL, and comprises three representatives from each of the three strands of the triple helix: the automotive business community; the knowledge sector; and public authority.

The number of organisations, representing all three strands of the triple helix, located on site or using the Automotive House and Campus facilities, is seen as highly satisfactory by the steering group and this dynamic is continuing and is expected to intensify as the crisis eases. The diversity of activities developing on campus is both complementary and innovative with organisations and collaborations involved in: in-vehicle guidance and driving systems; automatic traffic guidance and road safety; communicating vehicles; development of efficient and alternative vehicle types in terms of reduced CO₂ emissions, vehicle electronics and diagnostic systems; crash and other test centres; homologation labs; design and prototype construction; technical skills and employment training; mobility management; high-tech and precision engineering solutions; and public transport improvement.



Thirty organisations are now on site and actively involved working on the campus to develop cutting-edge transport and mobility solutions. Vocational training, technical schools and universities may not have developed full educational facilities in the campus as hoped for, but they have outpost locations and the firms operating on campus are used to provide practical work placement for students and 'on the job' technical training within their course focus (for instance the bachelor course in automotive engineering).

In this way the aims of the project have been achieved in the setting up and bringing into operation of the Automotive House and the HTA Campus. On the other hand in respect of the attraction of firms, organisations and institutes to locate on campus, progress has been slower than anticipated and more characterised by the presence of smaller firms. This has

impacted on the target of achieving 175 full-time employment posts, where the project is still some way short of this figure at the present time. The economic crisis has clearly had an effect in slowing down the take-up of sites.



With a view to further strengthening the economic impact of the HTA Campus and creating additional technical facilities, the HTA Campus Foundation has taken the initiative to develop an Automotive Facilities Brainport Centre on site. This centre works on the basis of a 'sharing principle' and required an €18 million investment

to develop automotive test facilities, work stations, laboratories, and offices for use by automotive SMEs. A sum of €9 million was made available by the Ministry of Economic Affairs, the Province of North Brabant and the national initiative programme *Sterke Regio's* ('Strong Regions').⁷ The Brainport Development Agency assisted in the detailing of the business plan, with private investment mobilised and committed to make up the remaining part of the budget, notably from the VDL Groep (bus and coach development) and TNO (tools for safer, cleaner, efficient transport). In this way it is clear that there is still an impulse from the public purse but that private initiatives will progressively dominate the ongoing development.

This larger stimulus from the public sector in partnership with key private operators represents a hands-on intervention to actually implement innovation, designed to run alongside (and leverage) the attraction of private business and research enterprises – to

⁷ <http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2010/10/01/publicatie-sterke-regio-s-investeren-in-clusters-van-nationaal-belang.html>

complement and provide a service for automotive companies and organisations. This would seem to confirm that the perhaps slower level of progress in on-site location is not regarded as a failing of the project but rather that there is a conviction that this that will catch up in time.

Looking to a brighter automotive future

The economic influence of the Eindhoven region extends beyond the administrative border of the city region and even that of the Netherlands. This has traditionally been driven by invention and innovation, high-tech operations, importantly all reinforced by the activities of Philips. So the Brainport strategy to develop the region as a top technological hotspot, and the multi-level governance model which characterises the Dutch approach to growth and development, combine to extend a long-standing tradition of promoting state of the art systems and skills as the economic foundation for the south Netherlands.

The realisation and operation of the High Tech Automotive Campus, the ultimate goal of the ERDF-funded project, has created a valuable building block in this territorial specialisation. It might be said that the public sector is involved here in preserving an industry with a less than certain future in Europe, or in maintaining jobs at all costs. The added value of the project forms a counterpoint to any such reasoning; however it must be conceded that the impact of future global trends cannot be easily or accurately forecast. The question of leverage is therefore an important one, particularly at a time when the Dutch public sector is making a strategic withdrawal from the concept of subsidy provision.

In this the project scores on two counts. First, it is based on the realisation that the vehicle production segment of the industry is no longer key to the future of the automotive sector in the Netherlands. With about 45 000 people still employed in the automotive industry (approximately half of them in the Eindhoven region), it is the supply, research and development segment which still has a buoyant role to play on the European and even global stage. Secondly, the project does not aim to protect existing operations, but, by fostering open innovation, to develop cutting-edge solutions which can guarantee an important share of the market based on responding to and creating evolution in the industry.

The Automotive House and HTA Campus provide a fairly well-understood triple-helix platform with a high potential for generating the alliances and collaborations necessary to achieve high-tech skills development and a strong labour market. This is smart growth par excellence.

This type of reinvigoration of a traditional sector could be a model for similar industries in other places. The key to transferability is the triple helix model, driven by the idea of setting up a partnership organisation to drive the model forward. It couples the organising power and resources of the public authorities with strong participation of industry and higher education.

AEIDL has been contracted by the European Commission in 2012 in order to provide 50 examples of good practice in urban development supported by the European Regional Development Fund during the 2007-2013 programming period (contract reference 2011.CE.16.0.AT.035). The views expressed by AEIDL remain informal and should not under any circumstance be regarded as the official position of the European Commission.