

Changes in Local Economic Development practice and the impact on the development of city centres: Perspectives gained from case studies of the cities of Eindhoven and Heerlen in the Netherlands

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¹ The [City Centre Doctor Project](#) is an Action Planning Network co-funded by the URBACT III Programme in which 10 smaller European cities are working together to revitalise their city centres.

A. Introduction

Many of our cities in Europe as we know them today are to a large extent the result of local industrial economic development strategies and programmes over the last century.

Historically the path of economic development in European cities was highly dependent on local and regional economic specialisation (e.g. a function of local natural resources, creative talent/knowledge/skills and production capabilities) enabled by established institutional frameworks (e.g. rule of law, property rights, financial systems etc.)². These patterns however faltered in the 20th century mainly because of the devastation from the wars in Europe as well as the disruption caused by the wholesale adoption of new technologies in transport, energy and communication, together with major demographic shifts associated with a new epoch of urbanisation.

A post-war pro-growth macro-environment took hold especially in Western European countries, featuring sustained investment in new transport and energy infrastructure, urban renewal programmes, the large-scale development of commercial property as well as substantial residential suburban greenfield development.

The effect was an ubiquitous expansion of car-based mobility that, together with wired and wireless communication capabilities, reinforced new development patterns characterised by rapid sprawl and functional segregation of activities all over the city and beyond.

How did these post-war local economic growth patterns impact on the city centre? And how did the financial crisis of 2008 change these patterns? What is emerging as new patterns and how could city centres benefit?

To answer these questions this article aims to contribute to a better understanding by drawing lessons from the experiences and practices over the last decades of the cities of Eindhoven and Heerlen, both located in the Netherlands.

B. An overview of early 20th century local economic drivers in Eindhoven and Heerlen

Eindhoven

Eindhoven is a city renowned for its history of developing manufacturing capabilities, mainly because it is strongly associated with the multinational company Philips. Today it is a far cry from the market town in 1900 on the banks of the Dommel River with a population of [3,200](#). In 1891 Gerard and Frederik Philips purchased a modest factory in Eindhoven with the [vision](#) to produce affordable and reliable electric incandescent light bulbs. From the outset the company was export-oriented and achieved an international reputation with an order to provide lighting for the Winter Palace in St Petersburg.

In 1914 the company established its first research laboratories in the newly built Strijp-S complex. In 1918 it registered a patent for the first X-ray tube. At the same time the company diversified into glass and cardboard manufacturing all from its factory base in Eindhoven. The goal was to be self sufficient and to control its supply chain.

² European Commission (2011), [Cities of Tomorrow: Challenges, visions, ways forward](#)

The company's culture of innovation is exemplified by the various products and appliances developed in Eindhoven. By 1927 it is producing portable radios and in 1938 the company showcased its first prototype television. In the years to follow the company introduces consumer electronic technologies to the world that changes lifestyles such as the Compact Audio Cassette and the Video Cassette Recorder as well as the Compact Disc (CD) and Digital Video Disc (DVD). Note that the latter two products were jointly developed with Sony³.



The success of Philips and the concentration of knowledge and skills in Eindhoven had growth effects in other spheres. In 1950 DAF, a local automobile engineering company started by the Van Doorne brothers, opens its first large truck assembly plant. DAF becomes Eindhoven's second large multinational company. In 1957 the Technische Hogeschool Eindhoven is established, known today as the [Eindhoven University of Technology](#). It is one of the top 75 engineering universities in the world⁴.

In less than hundred years the population increased fivefold. In 1920 after the amalgamation of neighbouring municipalities, Eindhoven had a population of 45,000 which today has grown to 225,000⁵.

Like in many economic success stories Eindhoven experienced downturns as well. As we shall see later, these crises also define the resilience of the city, its residents and the business environment.

Heerlen

Less than 100 km south-east of Eindhoven is the city of Heerlen located in the major coal mining region that stretched from Genk in Belgium to Aachen in Germany. Although it was an urban area in Roman times (known as Coriovallum), for most of its lifespan the city was no more than a rural market town (population of 6,600 in 1900), that is until the mining activities began.

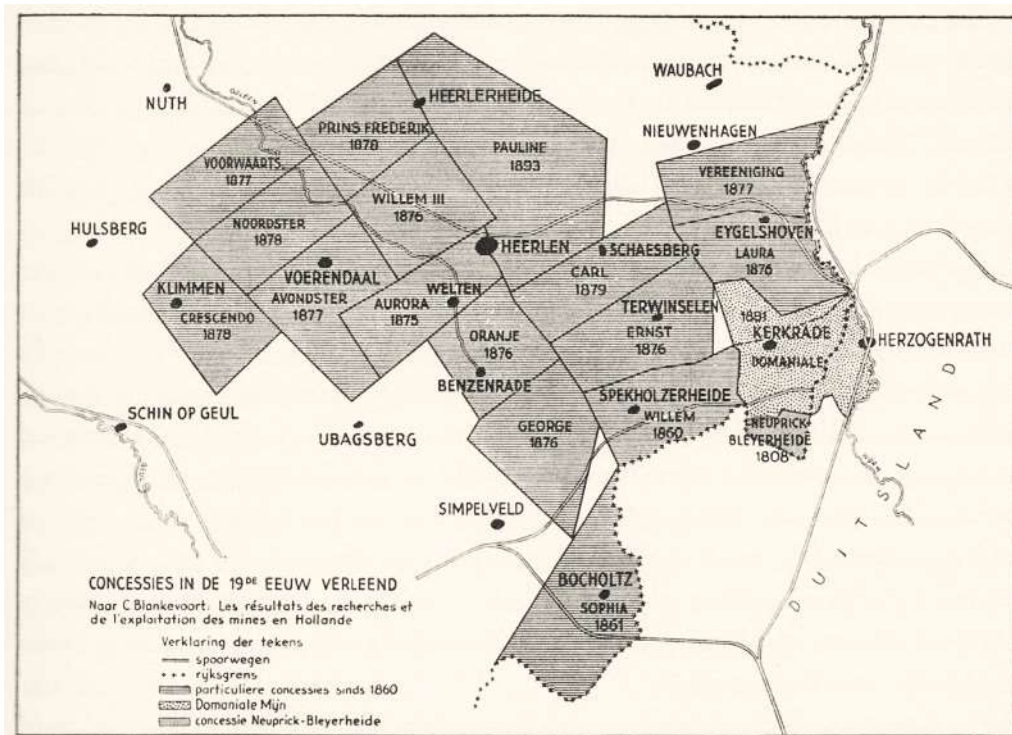
The era of spectacular growth in Heerlen started when the Dutch government decided in 1901 to stimulate the coal supply by establishing a system of state owned mines and limited concessions for private mines in South Limburg (See the map below for an overview of the mining area in 1900). In the first half of the twentieth century, coal became the main energy source in Europe. Production from the mines around Heerlen increased from 300,000 tons in 1900 to over 14,000,000 tons per annum at the start of World War II⁶.

³ For an overview of the history of Philips, please read more at <http://www.philips.com/a-w/about/company/our-heritage.html>

⁴ Source: <http://www.shanghairanking.com/FieldENG2016.html>

⁵ Source: <http://eindhoven.info>

⁶ Case study of the Aftermath of the Closure of Dutch Coal Mines in South Limburg, by Hans Kasper, Maastricht University (2012), http://nowa-energia.com.pl/wp-content/uploads/2013/03/raport_uniwersytet_w_maastricht_en.pdf



In 1902 the Dutch government also created a state enterprise called [DSM \(Dutch State Mines\)](#), headquartered in Heerlen, with the purpose to add value to the mined carbon minerals. In 1919 DSM opens the Emma coke plant near Brunssum, just north of Heerlen. In 1930 DSM opens its first fertiliser plant in Geleen, south of Sittard and at the same venue in 1939 the Central Laboratory is established. DSM continues to diversify and today it is a multinational company (listed on the Amsterdam Stock Exchange - AEX in 1989) and a major global producer of industrial chemicals, performance materials, life science and nutritional products⁷.

In the 1950s the picture for coal production becomes bleaker as oil becomes a viable energy substitute at a time where there is an oversupply of coal in Europe. Prices fall to levels that threaten the viability of mines in the Netherlands and Belgium. Other countries continue to provide state aid to keep their mines open. One measure agreed is to form a transnational economic bloc to allow free trade across national borders (a common market) while also controlling supply and demand in and to the bloc. The Treaty of Paris is signed in 1951 and the forerunner of the European Union, namely the European Coal and Steel Community (ECSC), is established.

The sustainability of the coal industry in the Netherlands however remains questionable. On 17th December 1965, an era comes to an end when Joop den Uyl, then Minister of Economic Affairs, announces in a speech given in the city theatre of Heerlen that all Dutch coal mines will be closed. In the following ten years, the mining industry was phased out. To alleviate the fallout, the Dutch government pursued a policy of restructuring using an array of financial instruments (compensation, subsidies and state guarantees for loans) as well as development of new transport infrastructure with the intention to establish new industries following the era of dependency on the wealth created through mining.

⁷ For a summary of the history of DSM, see <http://www.dsm.com/corporate/about/our-company/dsm-history.html>

A difficult period of change ensues for the next fifty years. The government's promises to miners of retraining and new work opportunities are challenging to fulfil. Yet the area did get the benefit from the relocation to Heerlen of several public sector institutions with amongst them the Central Bureau of Statistics (CBS) and the State Pension Fund (ABP), although these organisations required specialists in their respective fields, hence presenting few opportunities for retrained miners⁸.

One of the effects of the mine closures is chronic population decline. In the period 2001 to 2011 for example the population of the Heerlen urban area (similar area to the inserted map of the mining area above) continues to decline from 185,140 to 174,740 (-5.6%)⁹.

As we shall see there is however a more recent success story as local stakeholders in Heerlen jointly confronted these challenges and mapped new routes for local economic development.

C. Influence of global events in the past decades on the Dutch macro-economic climate

1970s and 1980s

The long period of post-war economic growth in the Netherlands waned in the aftermath of the 1973 oil crisis. Deep into the 1980s the economy was still plagued by inflation, stagnation and high levels of unemployment (especially youth unemployment). This period was characterised with tensions in industrial relations as labour unions fought to keep jobs in the manufacturing sectors while simultaneously a gradual shift was taking place towards more jobs in the services sectors.

In this period national governments in Europe prioritised the protection of local industries with a focus on preservation of jobs. One significant Dutch national policy intervention was the establishment of Regional Development Agencies (RDAs). In the Limburg province where Heerlen is located, the Limburg Institute for Development and Finance (LIOF) was established in 1975. In the Brabant province where Eindhoven is located, the Brabant Development Agency (BOM) was established in 1983. The RDAs became a mechanism for the Dutch government to provide state guarantees for loans to local industry in distress. The expectation was also that the RDAs could become vehicles to attract new investment with the ability to enter into joint ventures with companies interested to expand into the respective regions¹⁰.

In Eindhoven new companies were locating to the newly created (non-Philips) industrial estates like de Hurk and Esp, but also into the neighbouring municipalities of Best and Veldhoven. On the northern outskirts of Eindhoven, the development of one of the largest commercial estates in the Brabant Province namely [Ekkersrijt](#) commenced in 1980. It would gradually expand to a space today of 240 ha. developed in 5 zones to promote clusters ranging from construction materials, logistics, furniture to the high-tech R & D Science Park.

In Heerlen companies of mainly American and Dutch origin were locating in the newly created 135 ha. industrial estates 'de Beitel' and 'Dentgenbach' in neighbouring Kerkrade. LIOF reported

⁸ *The Safe City: Safety and Urban Development in European Cities*, (2006), edited by Leo Van den Berg, Erasmus University, published by Euricur, Rotterdam

⁹ Source: <https://www.citypopulation.de/php/netherlands-limburg.php>

¹⁰ *Regional Development Agencies in Europe*, (1998), edited by Henrik Halkier, Mike Danson and Charlotte Damborg, published by Jessica Kingsley Publishers, London

in 1980 that 325 projects were initiated to support existing or new companies in the whole Province of Limburg. An investment of some €200 million and 16,000 jobs were involved. However not all of these investments proved sustainable. When the State's employment subventions dried up, many of these companies in low tech industries were forced to close down.

Thus the focus in the 1970s and 1980s in both Eindhoven and Heerlen was to enable local economic growth by commercial and industrial real estate development on the outskirts of the city. Such initiatives actively contributed to sprawl and to counter balance the influence and role of the city centre as an employment and retail location.

1990s

Then in 1989 with the fall of the Iron Curtain, optimism for economic growth revives as Eastern Europe opens to market-led development. In 1991 the Maastricht Treaty is signed and the single market of the European Union is created. Infrastructural renewal and the introduction of new IT-technologies created new momentum with positive effects on employment levels.

A period of the liberalisation of the national economies in Europe follows that also dovetails with an era of modernisation and internationalisation of industrial production. The emphasis on stimulation of local economic development starts shifting from political largesse at the national level to regional and local competencies and competitiveness.

In Eindhoven a rapid modernisation of the infrastructure commenced with the development of an international airport followed by the upgrade of the provincial road around and north of Eindhoven to a highway, while the railways doubled in capacity north of the city. New business estates like the 124 ha 'Goederen Distribution Center' for logistics were established. The Ekkersrijt estate expanded to its full size of 240 ha., featuring attractions such as the segmented area for large scale furniture retail and the cluster of technology companies in the Science Park.

However the single market and the growth of globalisation also led to a downturn in Eindhoven affecting both Philips and DAF who faced major problems in adapting to the challenges of cheaper manufacturing of goods of the same quality in other countries. Philips announced Operation Centurion and laid off about 40,000 employees and closed their manufacturing activities within the Eindhoven city boundaries. DAF went bankrupt and was successfully taken over by the American company Paccar.

The employment crisis created a sense of urgency that led to the mayor of Eindhoven calling a summit with the major companies and knowledge institutions. Through political pressure Eindhoven was forced to let the Philips headquarters go to Amsterdam, but managed to retain the R&D activities. With the help of EU regional development funds new projects helped to establish clustering and sectorial specialisation. The establishment of triple helix cooperation via EU projects resulted in business and knowledge institutions supported by local government developing a new roadmap for future local economic growth.

In Heerlen new investments continued to be made in industrial estates. Since the closure of the mines in the 1970s most of the basic infrastructure such as roads had already been upgraded. Certain strategic connections, however, were lacking such as the integration with the German high speed train system via the nearby station in Aachen.

New industrial estates were being developed with a clear marketing and segmentation strategy addressing the needs of international production & distribution, high tech and local/regional companies. Heerlen also benefitted from being a good central location for warehousing and logistics facilities used by Far East companies serving the single EU-market. DSM built modern production facilities for their high-tech Dyneema fibre products in Heerlen.

One of these new estates was the [Avantis](#) cross-border estate created together with the city of Aachen. The campus of the Heerlen University of Applied Sciences¹¹ was established here on a centralised location in an estate near the city centre with adjacent room for new clean high tech activities.

A phase of regeneration started in Heerlen. New office locations were designated, while plans were made to redevelop the inner city for the first time in a consistent way so as to offer better shopping, living, leisure, working and parking facilities. A 40 ha. former car junk yard was turned into a EURegional furniture mall.

Thus the focus of local economic growth in both cities in the 1990s continued to be outward spatial expansion together with making local adjustments for new global competition. The better use of the capacity of the commercial spaces in the city centre were again being considered with plans for repurposing and regeneration of existing buildings.

2000s

The upward trend of the economic cycle however is also followed by a downturn. In 2000 the value of shares on stock markets across Europe, Asia and the US fell dramatically when the [dotcom bubble](#) bursts. This was however more a correction of the over-exuberance in the stock markets and 'normal' growth patterns return in 2002. In Europe long-term trends continued such as high levels of employment, population migration from East to West, as well as the growth of export markets in the emerging market economies (such as the [BRIC](#) countries). The ominous signs of a more unstable world were however vividly broadcasted onto the television screens of every household in 2001 with the 9-11 terror attacks in New York and Washington.

The euro becomes the second biggest global currency in 2002 after 12 countries in the European Union start using it as their legal tender¹². The new global financial framework is underpinned by more cooperation between central banks with monetary policies that drive down inflation. A real estate property boom fuelled by a credit boom ensues in the US and parts of Europe especially in Ireland, Spain, Portugal and Greece. The result is that many banks in the US and Europe have balance sheets with hopelessly overvalued assets (e.g. property-secured loans such as mortgages and other [derivatives](#)). These economic conditions culminate in 2008 with the biggest financial crisis that hits Europe since the Great Depression when the national economies are threatened by a breakdown of their own financial systems as banks stop lending and start deleveraging. Europe enters a long period of anemic growth and high unemployment as governments try to stop the bleeding (i.e. the deflation spiral) with bailouts and austerity policies.

¹¹ In 2001 Heerlen University of Applied Sciences, Sittard University of Applied Sciences and Maastricht University of Applied Sciences merged to form the Zuyd University of Applied Sciences. <https://international.zuyd.nl/about/history>

¹² Today 19 of the 28 EU countries are in the Eurozone. http://ec.europa.eu/economy_finance/euro/index_en.htm

At the same time the digital economy forges ahead. New online business models emerge (also referred to as e-commerce models) and connectivity infrastructure are rolled out (e.g. mobile networks and broadband), albeit initially mostly in large urban areas, resulting in the real possibility for smaller 'local' companies to do global business. Local economic development policy shifts decidedly to the building and 'scaling' of local business start-ups together with a renewed effort to attract and 'nurture' especially creative people and therefore to create powerful local mixes and clusters of technology and talent.

While playing in the 'world league' of the knowledge economy, the priority for Eindhoven to compete globally created a sense of urgency to act accordingly. Building upon the success of previous triple helix cooperation, a new programme called the [Brainport Navigator](#) was launched, addressing goals, activities and projects in the domains of 'People', 'Technology', 'Business' and 'Basics'. The collaboration of business, knowledge institutions and public authorities and agencies created a collective local responsibility to adapt and change so that the city will become more competitive.



It resulted in an acceleration of the development of certain clusters such as High Tech Systems & Materials finding its way in applications like medical equipment, automotive and mechatronics. The nodes of development include the city centre enhanced by its connection to corridors of commercial estates and knowledge institutions in close proximity. These clusters were strengthened by the early adoption of enabling ICT technologies and with a strong emphasis on Design in Eindhoven. The key roleplayers also understood how global value chains in the knowledge economy operated and the role the city could play in the creation, acquisition and implementation of knowledge i.e. innovation. As a result Eindhoven became one of the top four innovation regions in Europe with the highest number of patents registered per population on the European Innovation Scoreboard.

Meanwhile Philips continued to only concentrate on core activities, thus creating the space for a number of spin-offs that over time developed into the new multinational companies in the Eindhoven region such as NXP, ASML Lithography and FEI.

In Heerlen the challenge to address societal needs resulted in initiatives to shift to a low carbon economy. In October 2008 the municipality of Heerlen's Minewater Project launched a low temperature district heating system using geothermal heat from the water in the old coal mines. This innovative idea was co-funded by the INTERREG B North West Europe Programme.

From this pilot project, Heerlen developed Minewater 2.0 which is part of the city's Sustainable Energy Structure Plan. The mines are now used as water reservoirs that provide energy storage and regeneration, instead of just depletion of existing heat available in the mine tunnels. The mine water source is also now connected to cluster grids where energy exchange takes place between buildings and where possible, other energy sources are 'tapped in' such as solar and

waste heat. Mine water is also now used as the conduit for heating in the city with new piping and pump systems contributing to the city's infrastructure.¹³

Thus in the new century the cities of Eindhoven and Heerlen began focusing much more on their own capacity and abilities to gain competitive advantage. By developing their own initiatives and innovations, both cities became more resilient and able to handle competition from other cities and countries.

D. Building the capacity in the municipalities of Eindhoven and Heerlen to respond to business needs

The shift in local economic development from national to a regional/local locus of control is an ongoing trend. The municipalities in both Eindhoven and Heerlen have been positioning themselves over the last three decades to drive local initiatives that stimulate local economic growth.

Eindhoven

The Eindhoven region, consisting of 21 municipalities, established the NV REDE economic development agency in 1983 to create the local capacity to drive local economic development with inputs from a range of local actors¹⁴.

Through NV REDE, it was possible to coordinate the planning of business estates avoiding unnecessary inter-municipality competition and bundling capacity for marketing and acquisition. Relationships were built up with start up companies to assist with their tenancy in 6 different buildings in the region, each informed by a specific underlying philosophy to create a vibrant community of small companies. NV REDE provided support and advice to SME companies helping them to address challenges with strategic issues related to expansion, accommodation and or finance. The agency also took a leading role in identifying and initiating clustering and innovation projects.

At the time of Philips announcing lay-offs and DAF's financial troubles, the mayor of Eindhoven, Rein Welschen, convinced the other municipalities in the region in 1992 to pool funds for local economic development by establishing a multi-annual investment fund with contributions based on fixed amounts per capita¹⁵. Through the backing of their own regional investment fund, the city of Eindhoven and the region made strategic investments to facilitate future growth. They were also in a position to leverage finance from provincial and national government as well as access EU funding.

¹³ The Minewater 2.0 Project in Heerlen the Netherlands: Transformation of a Geothermal Mine Water Pilot Project into a Full Scale Hybrid Sustainable Energy Infrastructure for Heating and Cooling (2014), by Rene Verhoeven and others, published in *Energy Procedia* Vol. 46

<http://www.sciencedirect.com/science/article/pii/S187661021400174X>

¹⁴ In 2008 NV REDE was merged with the Brainport Development Company

<http://www.brainportdevelopment.nl/nv-rede-bestaat-25-jaar/>

¹⁵ *Leadership, governance and place in the knowledge economy: the case of Brainport Eindhoven in the Netherlands*, by L.G. Horlings, presented at the Regional Studies Association European Conference 2013

http://www.regionalstudies.org/uploads/Horlings_Leadership_in_Brainport_Eindhoven_paper_RSA_conference_2013.pdf

Eindhoven benefitted from a 'vital coalition' of leaders from the City, the University and the Chamber of Commerce who worked together, often using their networks of personal contacts and working 'behind the scenes', to gain benefits for the region from attracting new business to developing plans for restructuring redundant elements into new initiatives, all the while building a culture of entrepreneurship.

Heerlen

Heerlen Municipality established an Economic Development Department in the late 1990s staffed with 6 people tasked to initiate and implement local actions to drive new development. The budget was a modest 1% of the annual city budget. One of its key performance areas was to consolidate and segment industrial plots in order to market specific uses to investors such as office, heavy industrial manufacturing, warehousing & logistics and local services. The Department was also well positioned to attract business via Public Private Partnerships and to apply for development funds from regional and national programmes as well as via European Union programmes.

At the time the Department worked on differentiating Heerlen's offer to investors. The city was presented as a good location for cluster development in ICT and telematics. Other initiatives included a marketing plan for the city centre and supporting local businesses with additional employment and training schemes including on-demand on-site training projects. For smaller businesses the Municipality assisted by helping them to secure business locations and to access seed loans.

Up to the 1990s new retail was 'planned' to only develop in proportion with the growth in large housing developments. Decisions for retail expansion or consolidation were not market-led, but rather guided by a planned hierarchy and structure for functional segregation. For example, outlets for convenience goods, i.e. our every day needs, were situated on selected crossings of suburban streets or in a limited number of 'strips' or small centres per suburb. On the other end of the scale, speciality goods could only be found in the main urban centre for example in large department stores. It however became inconvenient for customers to shop for certain voluminous goods like furniture, household appliances and consumer electronics (e.g. televisions) in the main urban centres. The logic was to therefore locate such stores on the perimeter of suburbs in the green fields. The Department used its new role in the Municipality to exploit the international trend of large scale retail developments (retail boxes) on the periphery of cities. Heerlen's 'furniture mall on the green' was one of its successful investment campaigns. At the time the largest Ikea store in Europe opened in this location.

In 1990 Heerlen also took its first steps to establish international cooperation with its neighbouring German city of Aachen. In particular, stakeholders such as the Heerlen Chamber of Commerce learnt from a development agency, the *Aachener Gesellschaft für Innovation und Technologietransfer mbH* ([AGIT](#)), which then was quite advanced for its time. AGIT's aim was to foster cluster development in specific new technologies and to coordinate involvement of multiple stakeholders like local authorities, chambers of commerce and the technical university together with venture capitalists to create the knowledge and networks to generate technical start ups & spin-offs from established companies. Equally AGIT advocated for flexible housing policies and promotion of the city region as a high tech region in Europe. Its approach was place-based and what we today recognise as an integrated strategy to develop a local innovation ecosystem.

Each city has a history of embedding the principles and good practices initiated through the ERDF programmes of the European Union. Hence the discipline that is required for co-funding of projects and initiatives was instilled together with a willingness to embrace multi-stakeholder involvement in planning and implementation. The result is the capacity to regularly engage in iterative processes of evaluation of the local issues, opportunities and interventions from different view points that culminates in an integrated development approach.

Finally, deregulation was an important issue for the business communities in both cities. A process of improvement of services were initiated in each municipality to lessen the burden of bureaucracy (i.e. cutting red tape), especially to increase flexibility with labour contracts; to simplify the application processes for permits; to relax regulations on opening hours for shops; and to give more clarity to the purpose of planning procedures.

E. Building local ecosystems for start-ups

In the Post 2008 crisis period, the start-up culture emerged, especially in US cities, but also in the Netherlands. Several factors converged to enable a start-up culture to take hold in cities, not least of which was the growth in the knowledge economy, the establishment of ubiquitous international connectivity networks and the dilution of government-led economic development 'schemes'. The latter is relevant to the more prominent role of local authorities in local economic development.

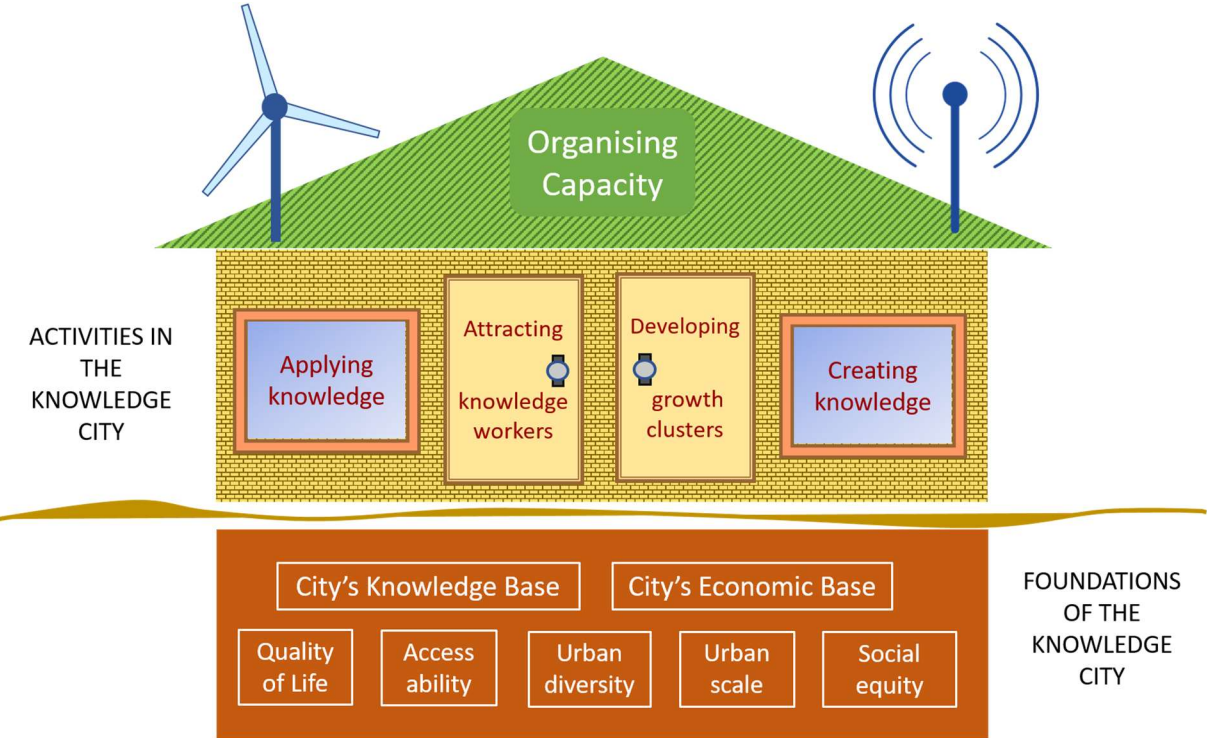
As most EU governments adopted austerity policies, the possibilities for national subventions to sustain local firms diminished compared to pre-crisis periods. In the Netherlands austerity was also accompanied by more labour market flexibility and deregulation. Increasingly, cities were relying on bottom-up processes where smaller more flexible firms as well as self-employed workers and contractors generated new business and provided options to address rising unemployment.

In this era entrepreneurs who are prepared to start new businesses locally are welcomed and encouraged, even if few will probably scale to become the next Philips or DSM. Cities are hoping that start-ups will create the new jobs of the future, while some large companies and industries are keen on a vibrant start-up community as to keep their own business models updated with new innovations and therefore keeping them competitive. Start-ups have thus become critical for them to innovate and survive.

It is evident that the emerging start-up communities are more independent and less reliant on government for their survival. This can be partly attributed to the 'fail quickly' mentality, where entrepreneurs are more inclined to swiftly close a business or relocate a business once they conclude the initial business plan is not working. Furthermore, often start-up communities thrive on a counter-culture badge of honour, i.e. they are determined to replace establishment culture with new methods and design.

It has also become clear that some cities are more successful than others to gain advantage of the new opportunities offered in the knowledge economy. The question is what role the local authorities could play to give their cities an advantage. Local authorities have to understand whether their cities have the capacity to attract knowledge workers and creative talent; how

knowledge is created and applied in their cities; how clusters of knowledge-intensive industries evolve and are supported; and how successful cities build their brand as knowledge cities¹⁶.



In particular, it is now understood that the foundations of a knowledge economy include specific conditions that are in the control of local authorities. The graphic above shows seven factors that provide such a foundation namely: Knowledge base in the city; Economic base of the city; Quality of life of residents and workers in the city; Accessibility – specifically infrastructure enabling mobility; Diversity of the city’s population (the more, the better); Urban scale of the city, especially in terms of density and facilities/services in the centre; and Social Equity which covers aspects such as affordable housing and cost of living that impacts on the disposable income of households which drives domestic spending in the local economy.

Eindhoven

Eindhoven has successfully managed to become a knowledge city. The high level of cooperation among stakeholders that over the past decades has become a feature of the city region’s response to change and it’s capacity for resilience, enables the role players in the city to continuously build the basic ingredients for new businesses to start up and existing businesses to scale up. The University of Technology for example continues to provide incubation facilities for student start ups as well as coaching and mentoring. At the southern end of the city, the [High Tech Campus](#) accommodates start ups and spin offs from (former) Philips companies & knowledge institutes in a high-end R&D environment, where acceleration programmes combine cutting edge research with high tech entrepreneurship. In the opposite direction just north of the city centre, [STRIJP-S](#) has developed on the former Philips industrial estate with a range of art deco industrial heritage buildings providing the environment for more creative and design enterprises.

¹⁶ [Creating knowledge locations in cities: innovation and integration challenges](#) (2010) by Willem Van Winden and others, published by Euricur, Rotterdam

The city centre has emerged as a focal point for a 'non-label' start-up scene which is moving away from the more conventional place- and industry-specific segmentation and clustering. The emphasis is shifting to creative crossovers, where the engagement between start-ups from different segments increases the possibilities of new ideas and innovation.



The University of Technology also promotes the Startup Eindhoven community by facilitating events and learning for this 'desegmented' and mixed community such as hackathons, meet-ups, bootcamps etc. In addition, new intermediaries such as [redbluejay](#) or [seats2meet](#) offer co-working spaces and facilities in or close to the city centre.



Eindhoven's start-up culture is thriving and a self-sustaining ecosystem is becoming evident. The role and quality of the city centre is critical to build the ecosystem. Challenges include securing more private equity to sustain and scale start-ups and in this regard new financial mechanisms such as participation funds are expanding the menu of funding options for start-ups.

The city centre should thus be further enhanced as the place for capitalists and entrepreneurs to meet and deal.

Heerlen

Although Heerlen's initiatives to grow start-up communities are more recent compared to Eindhoven, the city took decisive action since the 1990's to address the social aftermath of the closure of the mines, in particular to create a city centre that is a great 'place to be'. These included a programme to successfully deal with a drug problem in the city called Operation Heartbeat and initiatives to establish a programme of cultural activities in the city centre called Cultura Nova. This has created an essential foundation for attracting talent that could translate to economic activities with a knowledge focus in the city centre.

The strategy of the city is to embrace and welcome contemporary culture. This is evidenced by its growing reputation as a [mural city](#) and by becoming an events city for example hosting in 2015 one of the largest media events in the Netherlands called [Serious Request](#).

The opportunity for Heerlen to create a start-up ecosystem came with the relocation and down sizing of the large state agencies namely the Central Bureau of Statistics (CBS) and the State Pension Fund (ABP) in Heerlen. These moves left large buildings vacant. In the former CBS building, a big private initiative Walas relocated while at the former Philips estates C-mill created a number of smaller creative enterprises. They became tenants of the repurposed 30,000m² Carbon6 campus.



There is also a growing start-up community in a co-working space taking up two floors on the Carbon6 campus and known as [Spark City](#). Their mission is to become a home for start-ups from across the Meuse-Rhine EURegion.

In the former ABP building the new Brightland Smart Services Campus has opened. The focus is to be a facility for spin-offs and scale-ups enabled by new communication technologies, global connectivity of devices (Internet of Things) and access to big and open data. The facilities include offices, research labs and specialized facilities for prototyping and semi-production testing. The campus is a home for the researcher-entrepreneur.

Heerlen however did not have the same benefits from the merger of municipalities and the subsequent multiplier effect that a larger consolidated population area gives as in the case of Eindhoven. In an effort to create economic synergies between the various municipalities in the Heerlen region, an ambitious initiative based on the successful German urban innovation programme, the Internationale BauAusstellung (IBA), was launched in July 2014, namely [IBA Parkstad](#), Limburg. Parkstad is the place name for the region which is Dutch for 'park city' making reference to the green environment of the area. IBA is a Living Lab where more than 200 urban innovation projects are in progress with the results to be showcased in 2020.

Notwithstanding the initiatives to create regional cohesion for local economic development, the city centre of Heerlen remains pivotal to the future local economic development of the region. Hence the decision of the municipality to participate in the URBACT City Centre Doctor Project (CCD). By conducting a thorough place analysis via the CCD Project which included the participation of stakeholders such as local businesses and surveying the opinions of residents, the municipality is in a position to understand what elements to prioritise, in particular, to improve mobility and public spaces. This allowed the municipality to put together a bid book for urban regeneration funding from the Limburg province. The application has been successful and a first round of €15m was secured.



Revitalisation of the city centre is an ambition that requires the city to address issues block by block and street by street. For example, the city employed a social enterprise, Streetwise, who does excellent work with landlords of vacant shops and aspiring new retail entrepreneurs to create possibilities for new shops in areas where footfall has waned. The municipality also supports an ambitious regeneration programme called the [Maankwartier](#) that involves the transformation of the old station and reducing the fragmentation of the centre caused by the railway tracks.

We can describe the whole created by the sum of these initiatives described above - among others - as an ecosystem to support local start-ups in both Eindhoven en Heerlen. Good start-up ecosystems will have many of the features present in Eindhoven and Heerlen. Both cities also demonstrate the expanding role of key stakeholders such as business and citizen groups brought together in new governance structures to drive and influence developments that will enhance their city's start-up ecosystem.

F. Conclusion

Neither Eindhoven nor Heerlen are the exciting places for local economic development today if it was not for the determination of local citizens, businesses and institutions to collaborate and grasp opportunities when they presented themselves as well as to pull together when they suffered downturns and economic blows.

Both cities are benchmarks for urban innovation and although they are only 100 kms apart from each other, over the past 100 years their development paths from small market towns to knowledge centres often diverted, yet they achieved similar milestones on a road towards gaining locus of control from central government for local economic development.

Both cities are characterised by their openness. Open for new and diverse ideas, people, and cultures. They are European cities who actively participate in EU projects to build territorial cohesion and also continue to individually build strategic partnerships with their neighbouring cities in Germany and Belgium.

Both cities recognise the importance of their city centre as the crucial hub for creativity and the place for the pollination of new ideas leading to new start-ups and thus driving local economic development. Living, learning, working and playing within a 20 minutes walk, cycle or train/tram journey is becoming the new norm for a successful urban centre. In most cities almost all routes lead to the centre. A vibrant centre is thus critical to the start-up communities and ecosystems.

The focus on an environment conducive for entrepreneurs to start businesses locally does not negate the importance of also responding to global trends impacting on the same local business environment, such as changing consumer preferences and more dynamic work requirements, which for example results in more retail and office space rendered redundant. This specifically, but not exclusively, is a problem in city centres. The question is how the problem can become new opportunities for start-ups.

The examples of Eindhoven and Heerlen show that once a presence has been created that a specific city is a place where start-ups are spawned and encouraged to grow, the collective of leaders emanating from key stakeholders in the city should facilitate a range of activities to keep the momentum going. Such activities should include start-up community building through hackatons, start-up boot camps, co-creation events, pitching events for Venture Capitalists, meet ups and master classes on hot topics.

The role of the local authority in all of this is to 'move the chairs' to create the space for all this to happen. The role of the national and provincial government is to 'stay in the background', while at the same time to learn and develop policies and incentives conducive for the blooming of local initiative.

The critical factor however is to develop an appropriate governance strategy for the city. The responsibility of the local authority for local economic development requires it to find ways of attracting and keeping knowledge workers; to support businesses developing and applying new knowledge that will result in innovation; and by defining and stimulating growth clusters. This it cannot perform on its own. It has to manage the collaboration of key actors in a structure where the future of the city is co-determined and the actions to make the future happen is co-created. Triple and quadruple helix structures have proven successful where actors build trust and

efficiencies through collaboration. The governance strategy will stand or fall with the quality of leadership (not necessarily provided by the elected representatives); developing a well planned set of priorities (less is more); creating a 'magnetic field' of external and internal networks for the city; and pooling human and financial resources to work on the set of priorities for local economic development.

G. About the authors

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