

1 OVERVIEW OF THE REGION

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1.1 The geographical and demographic situation

Figure 1.1 Geographical map of Twente in relation to the Netherlands



Source: ITC, 2005

1.1.1 Location of Twente

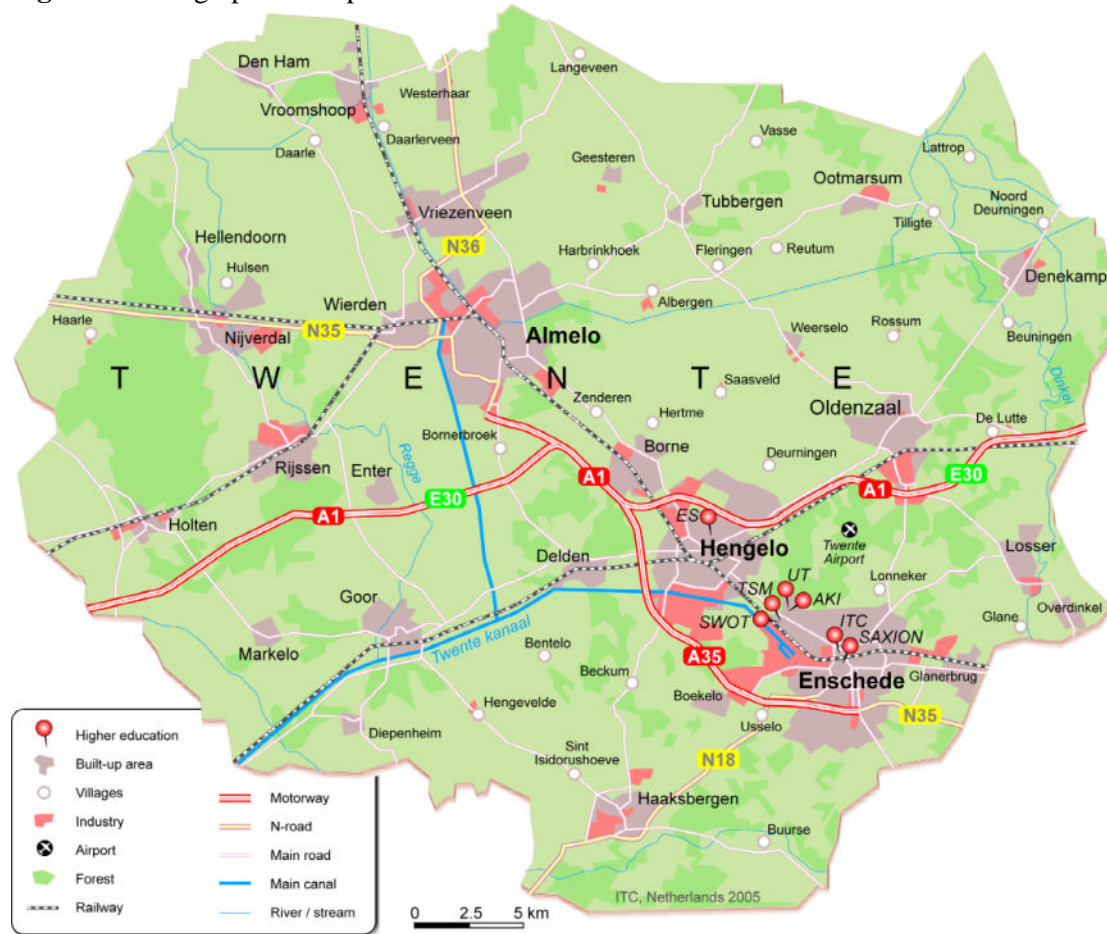
The region of Twente, in of the Province of Overijssel, is located on the eastern border with Germany and is part of the *Euregio*, a transregional cooperation between bordering areas in Germany and the Netherlands. The size of Twente is 143,000 hectare; there are about 600,000 inhabitants, who live in 14 municipalities; half of them live in one of the three cities Enschede, Hengelo or Almelo. These three cities have a function towards the neighbouring towns for medical care, industrial estates and (large) companies.

Twente is located on the axis that runs from Amsterdam via Berlin to Moscow. It is 150 km from Amsterdam and 500 km from Berlin. This corridor consists of e.g. the motorway A1 (E 30) that in Twente intersects with the A35 (and connects the north-west of Twente with the south-east) and connects Twente with Zwolle (the capital of the Province) and Germany. There is an international intercity connection by train from Amsterdam to Berlin that stops in Hengelo and direct connections to the European rail nets (Netherlands: Thalys, Germany: ICE, France: TGV).

Twente has an airport (*Airport Twente*); originally a military airbase and now also used as a civilian airport (charters for holidaymakers and air taxis). The military part of the airport is to be closed down in the next couple of years. Via water, Twente can be reached by the *Twente Kanaal* (Twente Canal), which is connected with the seaport of Rotterdam. The Twente Canal is used for commercial freight

transport as well as for recreational purposes and runs from Zutphen via Hengelo to Enschede. At Goor it branches to Almelo.

Figure 1.2 Geographical map of Twente



Source: ITC, 2005

1.1.2 Industry

In Twente there are a number of large companies with an international reputation, e.g. Texas Instruments (microelectronics), Urenco (uranium enrichment), Siemens, Philips, Stork, Eaton-Holec (all in the metalelectrical sector), Vredestein (tyres), Grolsch (beer), Ten Cate (industrial textiles), Polaroid (photographic films), Cannondale (bikes), Bolletje (industrial bakery), Uniq (salads), Zwanenberg (fine meat products), Akzo (salt production), SASOL (chemical additives), Thales (military radar equipment). Furthermore, there are two main cultural institutions located in Twente: the Nationale Reisopera (National Travel Opera) and the Orkest van het Oosten (The Netherlands Symphony Orchestra).

1.1.3 Demographics

Table 1.1 Main demographics of Twente

	1980	1985	1990	1995	2000	2004
Number of inhabitants	553,600	563,848	573,635	586,720	596,394	615,303
% Inhabitants living in cities				48%		49%
Between 15 and 65 years				68.7%	68.8%	66.7%
% men	50.1%	50.0%	50.0%	50.1%	50.1%	50.2%
% women	49.9%	50.0%	50.0%	49.9%	49.9%	49.8%
Average income per				€23,300	€25,100	

	1980	1985	1990	1995	2000	2004
household						
% participation in the labour process				54.4%	61.0%	64.6%
Unemployment				7.6%	3.8%	6.6%
Number of emigrants			1,992	2,042	1,842	2,806
Number of immigrants			2,908	2,942	3,848	2,650
% Living below the poverty line					9.6%	

Data have been used of the year mentioned or of a year just proceeding or following that particular year.
Source: I&O Research, Enschede

One of the problems Twente will face in the future is a growing shortage of teachers in secondary education as well as a decreasing supply of managers in primary education. Therefore, efforts are taken now to investigate the set-up of a Twente *Instituut voor Lerarenopleidingen* (Twente Institute of Teaching) in which UPE Edith Stein, Saxion UPE and the University of Twente will cooperate in order to educate students for a job at primary and secondary schools. This is related to the general problem that many graduates leave the region after their studies in Twente. Explanations for this 'brain drain' are a lack of suitable jobs and the feeling that the *Randstad* (the cities of Amsterdam, Rotterdam, The Hague and Utrecht) rather than Twente, is the 'place to be'.

1.1.4 Knowledge institutes

Higher Education Institutions (HEIs) are concentrated in the largest city of Twente, Enschede: the University of Twente (UT), Saxion University of Professional Education (Saxion), AKI Visual arts and design academy, ITC (International Institute for Geo-information Science and Earth Observation), Telematics Institute, TSM Business School, SWOT (business school). The Educational Centre Edith Stein (ES), a large part of the ROC van Twente (Regional Training Centre, community college) and the SMEOT (training school for the metalelectrical sector) are located in Hengelo, and the STODT (a technical training centre) is located in Almelo. For a detailed overview of the HEIs in Twente, see appendix A.

The table below (table 1.2) shows the distance to the closest HEIs in the Netherlands and Germany.

Table 1.2 Higher Education Institutions close to Twente

Institution	City	Type of HEI	Distance from Enschede (km)
Saxion Deventer	Deventer	UPE	60
Windesheim	Zwolle	UPE	75
Emmen	Emmen	UPE	75
Saxion Apeldoorn	Apeldoorn	UPE	75
Theological University Kampen	Kampen	University	85
Arnhem Nijmegen	Arnhem / Nijmegen	UPE	85
Radboud University	Nijmegen	University	100
University of Groningen	Groningen	University	140
Fachhochschule Münster	Münster (D)	UPE	70
Universität Münster	Münster (D)	University	70
Fachhochschule Osnabrück	Osnabrück (D)	UPE	95
Universität Osnabrück	Osnabrück (D)	University	95

(D) = Germany

Source: Saxion, 2005

1.1.5 Business development support

In the Twente region there are many organisations that support companies and offer networking opportunities. The *Kamer van Koophandel* (Chamber of Commerce) is an organisation where every company has to be registered; it supports organizations in commercial contacts (national/international), export and start-up. There are a number of organisations that represent the

interest of their members nationally and regionally – e.g. MKB-Oost, the organisation of SME in the Eastern part of the country, VNO-NCW Midden Nederland, the employers' organisation in this part of the Netherlands. Other organisations are the IKT (Industrial Circle Twente) supporting members through seminars and network activities and TKT (Technology Circle Twente), a business club of high-tech companies in Twente. To support innovation processes there is Syntens and the *Innovatieplatform Twente* (Innovation Platform Twente), and to support finding locations and getting investments etc., there is the Regional Development Agency, Oost N.V. For a full list of these industrial institutions / societies in Twente and their scope, see appendix D.

1.1.6 The Twente identity

For centuries, Twente has had a regional identity. This identity becomes clear when the region is evaluated according to the four regional criteria of Paasi. These criteria are clear borders, symbols, institutions and a 'mental map'. Twente is a territorially bounded area, the area is recognizable as such and it is clear which area belongs to Twente and which does not. Twente has symbols, like a dialect of its own, a flag (with the Twente horse), a regional anthem and regional products (e.g. *Twentse krentenwegge*: black raisin bread). Twente has many regional institutions: governance (*Regio Twente*; the region of Twente), society (e.g. *Twentsche Courant Tubantia*; regional newspaper, *FC Twente*, national league football), and a strong industrial base.

The Twente notion is rooted in the consciousness of many Dutch people and spread by national VIPs such as the comedian Herman Finkers, singer Ilse DeLange, and marketing and PR-guru prof. Dr. Anne van der Meijden. This are examples of the clear and recognizable identity, and industry increasingly recognizes it as an opportunity to differentiate itself from other regions.

1.2 The economic base of Twente

1.2.1 Twente's strong industrial past

The present economic structure of Twente is the result of the region's specific economic history. Until the 19th century, Twente was a rather rural area with a population of farmers and traders that lived in the countryside and in small villages. The composition of the soil of Twente was too poor to make it entirely into an agricultural area. When the farmers could not work in the fields in winter, they took up spinning and weaving. It was this home industry at farms that laid the basis for the growth of the regional weaving industry, which developed into the largest textiles companies in the world. After the separation of Belgium from the Netherlands in 1830, King William I looked for a place to build a national textiles sector that could produce cotton for the colonies overseas. The weaving knowledge of the Twente people and their strong labour ethics made the national government support the development of a modern textiles industry in Twente. In Almelo, Borne and Enschede large textiles factories were built, whereas Hengelo specialized in related industries such as metal, machinery and electronics. The demand for qualified workers soon was so high that immigrants from the northern provinces (Drenthe, Groningen) and Germany came to work in Twente's industry.

To make the hard transition from country to factory life tolerable, the manufacturers invested in green parks and decent working class neighbourhoods such as the Garden Villages *Pathmos* en '*t Lansink*. Also libraries, art collections and sporting facilities were established as well as a financial bank in 1861, the *Twentsche Bank* which in 1964 merged with the *Nederlandsche Handelsmaatschappij* (Dutch trading society) to the *Algemene Bank Nederland* (ABN). Nowadays this bank is better known as the internationally operating *ABN-AMRO bank* after the merger with the *AMRO bank* in 1991. In addition, the industrial heritage consists of those quarters in several cities, which were built to provide housing for the thousands of employees during the industrial revolution. Therefore, the actual shape and design of the cities and the local infrastructure incorporates in many ways the characteristics of the past.

During the 19th and first half of the 20th century Twente was constantly growing in textiles and metal manufacturing, providing not only mass products, but also specialized clothing, synthetic fibres and

metal-electronic equipment. In the 1950s, however, the regional textiles sector entered a period of structural decline: competition from low-wage countries, the post-war loss of Dutch cotton colonies, increasing technological efficiency and lack of entrepreneurial alertness led to a cut-down of 80% of regional employment in textiles between 1955 and 1980. To counter the loss of 40,000 jobs, the region's stakeholders joined forces and lobbied in national government circles to get academic education for Twente.

1.2.2 Still recovering from the crisis?

The regional lobby succeeded: in 1964 the UT was opened as a campus university of technology offering degrees in mechanical, electronic and chemical engineering as well as applied physics and mathematics. The area's strong industrial heritage and the technological university were seen as an ideal combination to build a modern technology-based regional economy. During the 1970s, it was clear, however, that the region could not grow solely on the basis of technology. Unemployment was still high, while the enrolments at the university were stabilizing. To diversify the economic structure, investments were made in new growth sectors, especially services. In line with that, the UT set up degrees in social sciences such as management studies, public administration and educational sciences. Meanwhile, also other regional higher education institutes were expanding: the *Hogeschool Oost Nederland*, the *Hogeschool voor Techniek en Gezondheidszorg* (both now part of Saxion), ITC as well as AKI. Backed with European funds in the 1980s Twente could gradually recover; the region's infrastructure was improved and the area managed to climb back to the third place in the national league of industrial regions. Manufacturing still is important in the regional economy with food, chemicals, metal/electronics, defence industry, transport and building as well-known examples. Ten Cate, today producing fibres like artificial grass, carbon fibres and aramid fiber products for the aircraft industry, is one of the few remnants of Twente's long textiles history. Consumer and business services (e.g. finance and communication), which have been at the top of the Twente planners' lists since decades, have been growing rapidly only since the 1990s. Especially transport, communications, financial services and business services have been on the rise, realizing a growth that is higher than in the rest of the Netherlands. The same is true for public services: thanks to large medical institutions like the Roessingh rehabilitation centre, MST (*Medisch Spectrum Twente*) and ZGT (*Ziekenhuis Groep Twente*), and related economic/scientific activities, especially Twente's health care sector is on the rise. In terms of high-tech clustering, the region now has a worldwide reputation for its performance in medical technology, telematics, nanotechnology and tissue engineering.

1.2.3 Towards a more diversified economic base

Due to the tendency of diversification the sector structure of Twente has become more balanced over the last decades. This can be concluded from the recent development of the regional 'concentration index' (i.e. a sectoral index in which a higher level indicates a higher concentration of firms, employment and value added in only a few sectors): twelve years ago in Twente this index amounted to 39.6% (Dutch average: 37.0%), but now it is 36.7%, which is close to the national average of 36.5%. Nevertheless, the sectoral shares in employment show some significant differences between Twente and the Netherlands. Although the share of people working in manufacturing and building declined over the period 1996-2004, the region still employs many people in the secondary sector (26.3% versus 18.1% in the rest of the Netherlands). The reverse can be seen in the primary sector: only a few people from Twente work in agriculture (0.8% versus 1.4%). Despite its recent rise, the employment share in the tertiary sector has not reached the overall Dutch level yet. With a share of 72.9% service workers, Twente has 7.6% less service jobs than the Dutch average of 80.5%. From a national perspective, only the number of jobs in Twente's public health services like hospitals, homes for the elderly and specialized medical services (e.g. heart centre), is relatively high. All in all, the long industrial legacy of Twente is important to the present day.

The sectoral dynamics of Twente's economy is rather ambivalent. Thanks to leading knowledge-intensive and export sectors (electronics, metal, machine-building and fibres) and leading knowledge institutes, the regional innovation potential is high. At the same time, the actual regional innovative performance lags behind this large potential.

The level of R&D expenditures is 2.1% of Twente's gross regional product, which is more than the 1.6% nation-wide. In addition, the number of patent applications is higher than in the rest of the country.

This innovative potential, however, does not lead to a similar high level of regional innovation; to be sure, Twente develops slightly more product innovations than other Dutch regions, but far less process innovations. The rate of new business formation in Twente over the last five years has been 0.1% higher than in the Netherlands, but not in innovative sectors, where start-ups are 0.1% lower than the Dutch average.

Most firms are local SMEs; only 0.41% of all firms are large companies (Dutch average: 0.43%) and only 0.49% of the business comes from abroad (national figure: 0.67%).

The problem of Twente's innovation paradox of high potential combined with low performance could be that a relatively large share of regional R&D is carried out by only a few actors. The majority of the patent applications, for example, come from a small group of knowledge-intensive firms around the UT. By finding new ways to exploit the knowledge-potential, the economic growth of Twente can be continued.

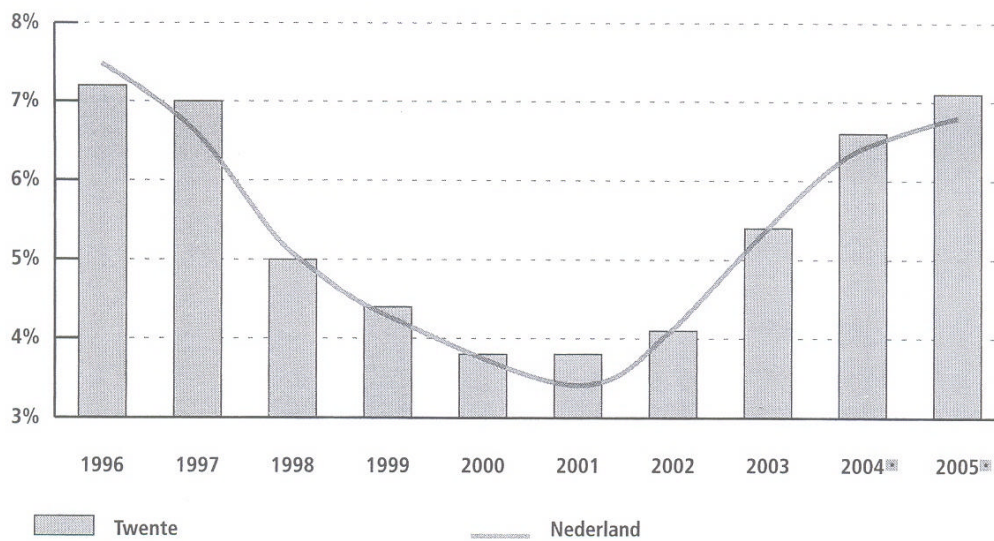
1.2.4 Labour market and long-term performance

The Twente economy represents 3.5% of the total number of jobs in the Netherlands. The participation level (i.e. the number of workers related to the potential work force) is 64.6%, which is lower than the Dutch average of 65.1%. Compared with other regions manufacturing and building offer relatively many jobs in Twente. Although employment growth takes place in the services sector, the rise of jobs in the area emerges particularly from a rise of the regional participation level.

Unemployment figures show a less favourable development. At the moment, the level of unemployment in Twente is slightly higher than the Dutch average: in 2004 about 6.6% of the working population in the region were out of work compared with 6.4% in the Netherlands as a whole. This is a gap of 3%. Three years ago these levels were about 3.8% and 3.4%; a difference of 8%. The rise of unemployment, however, is part of the general downward economic trend since 2002 that can be felt throughout the nation. Twente's share of unemployed young people (15-29 years), however, is much larger than in the rest of the country. In the last two years the regional growth of youth unemployment, for example, has been about three times higher than the national average. Over this period the unemployment rate among higher educated people has risen faster (more than two times) than in the Netherlands. It must be said, however, that the traditional lower starting level in Twente plays a role here as well.

Between 1985 and 2005 the economy of Twente has performed better than in the sixties and seventies. Nevertheless, the region's economic development has been structurally weaker than in the rest of the Netherlands, in terms of employment, income and value added. In 1985, for example, unemployment in Twente was 18.5%, while the Dutch average was 15.4%. The unemployment rate in Twente in relation to the Dutch average has been lower only once over the last twenty years, namely in 1996 (see also figure 1.3). Also in terms of gross regional income per capita, there has always been a structural gap between the relatively poor Twente and other Dutch regions (figure 1.4). Compare, for example, the GDP (Gross Domestic Product) per head in 2002: in the Netherlands this amounted to €27,641, whereas the Twente figure was €21,966. A similar structural lag can be observed in the development of sectoral value added, that is the contribution of the single sectors to the regional economy. Over the period 1996 until now, the average growth of the total regional added value was lower than that in the rest of the country. Twente's transport and communications (including information and communication technology), trade and commercial services realised high growth rates in their value added, although they did not reach the Dutch average. In leisure, finance and the environmental sector, however, the growth of value added over the last ten years has been higher than the national average. In total, these statistics demonstrate that the long-term performance of Twente continues to be less favourable vis-à-vis the Netherlands.

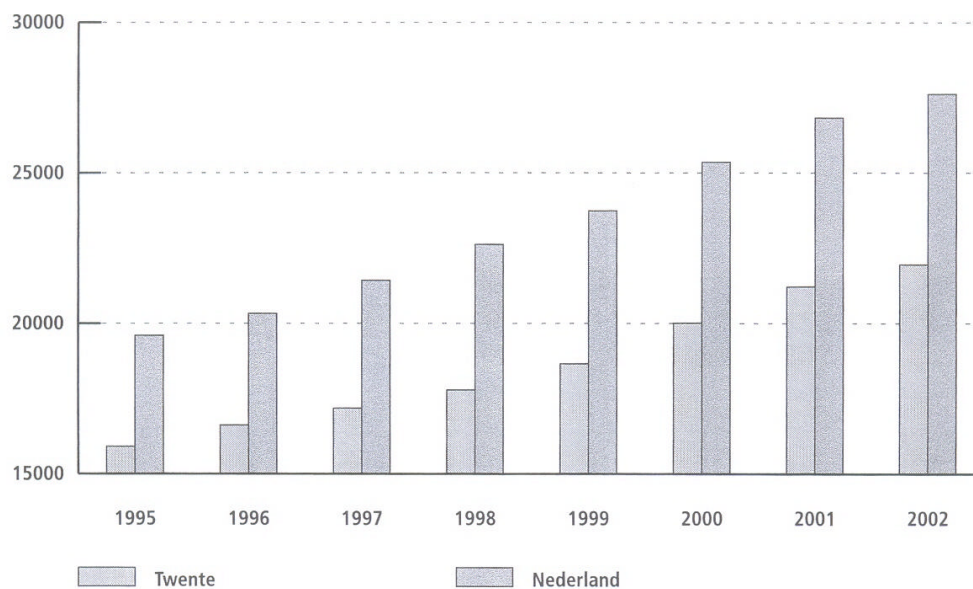
Figure 1.3 The development of unemployment in Twente and the Netherlands (1996-2005)



Bron: CBS, bewerking Economisch Bureau ING

* Twente 2004 en 2005 en Nederland 2005: raming Economisch Bureau ING

Figure 1.4 GDP per capita in euros in Twente and the Netherlands (1996 – 2002)



Bron: CBS, bewerking Economisch Bureau ING

1.3 The governance structure in Twente

1.3.1 Tasks and responsibilities of authorities

Like all areas in the Netherlands, Twente falls under the Dutch system of administrative governance. The Netherlands is a decentralised unitary state with two types of ‘lower governments’ besides the national government (*rijksoverheid*): provinces (*provincies*) at the regional/county level and municipalities (*gemeenten*) at the local level. The Netherlands has twelve provinces with hundreds of municipalities; Twente and its fourteen municipalities (Enschede, Hengelo, Borne, Almelo, Losser, Oldenzaal, Dinkelland, Tubbergen, Twenterand, Hellendoorn, Wierden, Rijssen-Holten, Hof van Twente and Haaksbergen) are part of the province of Overijssel. The lower governments have an autonomous position, but the extent of their autonomy is determined by the national government. The higher administrative levels also supervise the lower ones and can demand cooperation from them. The set-up of this system implies that the tasks and responsibilities of Dutch provinces and municipalities are largely dependent on the national government. In matters of macro-economic and social-distributional policies, the national level is in charge. When it comes to the provision and allocation of local amenities, the lower governments come on the screen.

Generally speaking, provincial authorities have the right to decide on all regulations that they deem important for the development of the province. In implementing the regulations, municipal cooperation can be required. In turn, municipalities have to submit their local plans to the province for approval. In practice, the province settles regulations with a supra-local scope in the field of spatial development, infrastructure and socio-economic development. Within the limits of these provincial regulations, municipalities have important allocation tasks. The local authorities, for example, take care of public order, traffic, education, transport, culture and recreation within their municipalities. For this purpose, they dispose of only a limited amount of own financial means (received for example from local taxes), totalling not more than 10% of the local budget; the majority of the municipal funds still comes from the national government and is earmarked for special purposes. In conclusion, the different tiers of government in the Netherlands are highly interdependent. Municipalities have a certain degree of discretionary power on local matters, but they are subordinated to the national and provincial government. Unsurprisingly, local stakeholders regularly complain about some ‘superfluous centralism’. Especially in Twente such complaints can be heard about the province; the municipalities in Twente feel, as the economic engine of Overijssel is in their region, that they deserve more power in relation to the province governing from Zwolle.

1.3.2 Network city and the region of Twente

In all post-war national plans for regional administrative reform, Twente has been designated as one of the areas where such reform should take place. This designation can be seen as recognition by the national government that Twente – although part of the province of Overijssel – does have an administrative right to exist. Historically speaking, there is indeed reason to see Twente as a separate entity; see chapter 1.1.6. The recognition and reality of Twente as a single territorial unit, however, has never resulted in a new, official administrative status for the region. As a matter of fact, Twente has a historical record of forty years of inter-municipal cooperation. In varying combinations the cities, towns and villages in Twente have tried to join forces since 1966 and work together more closely for the benefit of overall regional development. Plans for a City Belt, District Twente, Province of Twente, Twin City (Enschede-Hengelo) and Twente City, however, failed because of internal conflicts or due to opposition from the national government.

Over the years, the close inter-municipal deliberations, consultations and cooperation initiatives still led to progress. For one thing, the municipalities got to know each other’s opportunities and sensitivities better, which sets it apart from other regions in the Netherlands. For another thing, building on the historical experiences Twente has been able to establish a Network City and a Region. Both bodies are platforms for strategic cooperation between municipalities in the region. Since 2001, Enschede, Hengelo, Borne and Almelo have met in Network City Twente (*Netwerkstad Twente*) to develop strategic visions and jointly set-up regional flagship projects such as Knowledge Park Twente.

Besides this city network, there is the construction of the Region of Twente (*Regio Twente*) in which all municipalities discuss matters of region-wide importance.

The emphasis of this cooperation is on the content, not on the cooperation structure. To this body, the members have delegated a few competencies, mainly in the field of infrastructure and tourism. The Region, for example, is responsible for the functioning of public assistance (fire brigade), public transport (buses, taxis) and information on health matters (Area Health Authority) on a regional scale. Enlarging the powers of the region to matters like spatial planning and economy has not been possible until now, because the participating municipalities fear to lose their individual autonomy.

A factor that may explain the lack of administrative cooperation in Twente is the absence of a large natural centre city whose leading position is recognized and accepted by all the other municipalities. Thus, due to inadequate cooperation Twente still lacks a strong regional authority. This result contrasts with the high degree of 'social capital' in the region, which counts among the highest in

In the region 89% of the population participates in a local social-cultural network (e.g. a business association, soccer club or music society), while the West-European average is 26%.

Western Europe.

This is a positive sign, because social capital enlarges mutual trust and facilitates doing business. Obviously, the solution of the regional cooperation paradox (the population is highly cooperative, but the authorities are not) has to be found in the nature of cooperation: making far-reaching decisions on the region differs from collective action in social networks.

1.3.3 Governance in the economic and education domain

As in all policy domains, spatial-economic and educational policy at the regional level cannot be separated from national and provincial plans in this field. At the moment, the economy of Twente is subject to national policy (funds within the framework of Dutch regional-economic policy) and provincial policy (Triangle-strategy and Regional Innovation Platform). In the recent policy document Peaks in the Delta (Ministry of Economic Affairs, 2004), Twente figures as one of the five Dutch regions that have been designated as R&D-Hot Spots. In the new Dutch regional policy a radical shift has taken place from an approach aimed at regional equity to a policy geared towards regional efficiency. In this respect, the designation of Twente as an R&D-Hot Spot is an important recognition; it shows that the Dutch government sees Twente as a region with opportunities rather than a place with problems. The Triangle is a project of *Oost NV*, the joint regional development corporation for Overijssel and Gelderland, promoting closer research cooperation between the UT (Technology Valley), Nijmegen (Health Valley) and Wageningen (Food Valley). With the help of all these partly overlapping policies Twente should develop into a Top Technology Region with a focus on innovation in clusters like materials and health technology. A similar goal has been formulated in the Region's Regional Economic Development Plan for Twente (REOP), although in this strategy also recreation and tourism receive a great deal of attention. At the moment, ES, Saxion and UT investigate the possibilities for the establishment of a *Twente Instituut voor Lerarenopleidingen* (Twente Institute of Teaching). This institute should help to attract more students for a job at primary and secondary schools. In this way, it is hoped to give in to the shortage of teachers and managers in primary and secondary education that is threatening the region of Twente. The municipalities in Twente also have economic plans of their own (e.g. health technology in Enschede), but they have to deal more with the day-to-day matters of economic development, such as providing services. Local authorities may also sell land and develop business parks in cooperation with private developers and other parties (e.g. the universities or schools). Thus, recently an Educational Boulevard for vocational education was built. In a similar way, local authorities and the university are cooperating now to redevelop the Business & Science Park in Enschede into a Knowledge Campus.

1.4 Conclusion

Towards a SWOT analysis of Twente

As was stated above, Twente is a region with a distinctive development path. It is a clearly recognizable region marked by its strong industrial past and moving now into a largely technology-based future. Within a European and global context, it is hard to judge whether the region of Twente can regain its competitiveness of the past. In an attempt to assess the economic perspectives of Twente, researchers often have related the region's internal characteristics to the external challenges the area is facing. In this respect, a number of SWOT analyses have been made, mapping the strengths/weaknesses and opportunities/threats for Twente and its economy. Table 1.3 lists the main findings from these studies. In general, international developments, technological change and the demand side of the economy gain importance. Twente could take advantage of these opportunities in particular by exploiting its strategic location and its unique position as an area where trend and tradition on the one hand and city and country on the other are complementary. Such a positive scenario is only feasible, however, if Twente is able to solve its weaknesses. Investments in infrastructure and in amenities that keep and attract higher educated people may be needed for this. But whether these investments are made, probably depends in the first place upon the willingness among the municipalities to join forces and develop strategies for the benefit of the whole region.

Table 1.3 Strengths/weaknesses of Twente vis-à-vis external opportunities/threats

Opportunities for Twente	Threats for Twente
Further integration/enlargement of EU Technological change/knowledge economy Growing demand for quality of life	Interregional competition in Europe Dependency of footloose companies Less growth in low-tech/mass production
Strengths of Twente	Weaknesses of Twente
Strategic position on East-West axis Highly-developed knowledge infrastructure Nature and tranquillity in green surroundings	Bad infrastructural North-South connections Lack of a dynamic and vibrant urban environment Inability of municipalities to cooperate well

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