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Continued from Sheet LVIII:

Apart from the major surveying and cartographic achievements of the period credited to the two surveying companies (the Municipal Surveying Company in Łódź and the Regional Surveying and Cartographic Company in Łódź), it feels right to underscore the accomplishments of other surveying service providers – specialist departmental offices, surveying studios, and geodetic units established between 1945 and 1970 to satisfy the requirements of the national economy. Surveying works in the city area were conducted by: the Regional Office of Surveying and Agricultural Land in Łódź, Geological, Physiographic, and Building Industry Surveying Enterprise – “Geoprojekt”, as well as surveying studios of the Planning and Research Office of the General Building Industry – “Miestoprojekt-2”, Housing Industry Central Research Facility – “Inwestprojekt”, Industrial Planning Bureau of Łódź, Water Quality Improvements Bureau, State Forest Research Bureau, Regional Public Roads Management, Textile Industry Research and Planning Bureau, Light Industry Planning Bureau – “Bedete”, Municipal Building Planning Bureau, Design and Investment Implementation Bureau – “Chemitex”, and the City Power Industry Plant “Łódź-Miasto”.

As of the mid 1980s, self-employed qualified surveyors played an increasingly important role in providing surveying and cartographic services. This was supported by the launch of vocational geodetic education which in the post-war period gained momentum in Łódź.

Already in 1945, on the initiative of the Łódź Division of the Polish Surveyors’ Union, the Surveying Middle School was opened (transformed later into the Surveying High School, and in 1952 – into the Geodetic Technical High School). In 1957, the Extramural Technical College for working adults was opened at that school, followed in 1966 by the surveying Post-Secondary Technical College with the speciality in surveying (later transformed into the Post-Secondary Vocational College). This school still exists today as part of the No. 13 Post-Middle Education Trust. To date, nearly 2500 students have been conferred surveying technician certificates from these different types of schools with surveying educational profiles.

In order to ensure surveying engineering staff in Łódź and the region, in 1951 an Applied Surveying Section was established at the Construction Department, Extramural Engineering College of Łódź. As a result of the administrative changes in the higher education system, in 1955 the Section became a faculty of the extramural engineering studies at the Construction Department, Technical University of Łódź. The courses for surveying engineers specialising in applied surveying were continued until 1958. By that time, 48 students had been conferred surveying engineer degrees. For the purpose of teaching surveying and cartographic subjects to prospective construction master engineers, the surveying Workshop was established at the department in 1956. The research and didactic work in surveying and cartography, as launched by the Applied Surveying Section, Extramural Engineering School of Łódź, is now continued by the Faculty of Surveying, Environmental Cartography, and Descriptive Geometry, Department of Construction, Architecture, and Environmental Engineering, Technical University of Łódź.

This period in the life of the surveying service closed with two important events: another considerable enlargement of the city’s area, and the adoption of the “Surveying and Cartographic Act”.

Map 4. Major surveying and cartographic achievements: 1989–2008

The city’s area within the new limits increased to 294.4 km<sup>2</sup>. In effect of the enlargement, as of 1 January, 1988 the following villages were incorporated into the administrative area of Łódź: Sokółów, Zimna Woda, Romanów, Nowe Moskule, Wilanów, Nowy Imielnik, Nowosolna, Mileszki, Więczyń Górny, Sąciszyn, Andrzejów Nery, Feliksin, Broniszin Wiskitno, Wiskitno A-Las, Huta Szklana, Łaskowice, Jagodnica, Huta Jagodnicka, Srebrna, and Lublinek. For the newly-incorporated areas the surveying and cartographic studies, i.e. the master map and the land and building register, had been maintained based on a coordinate system different from that of the city of Łódź, namely on the ‘1965’ state reference system. The location of the newly-incorporated areas is shown in fig. 7.

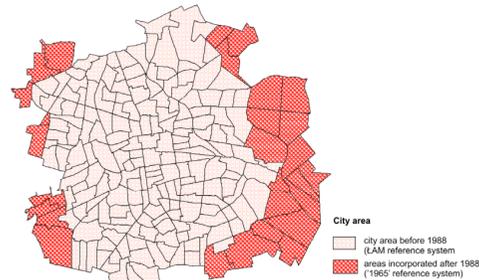


Fig. 7 The 1988 incorporation

Source: own compilation based on data from MODGiK in Łódź

At the time, the city’s primary surveying resources included:

- 665 triangulation grid points
- 4933 polygonal grid points in the LAM system
- 1780 polygonal grid points in the ‘1965’ system in the newly-incorporated areas
- 2786 levelling grid benchmarks
- 3014 section sheets of the base map at the scale of 1:500 in the LAM system
- 299 section sheets of the base map at the scale of 1:1000 in the ‘1965’ system
- 188 surveying district land register documentations in the LAM system
- 27 surveying district land register documentations in the ‘1965’ system

The political transformation of 1989 changed the legal context of both the surveying administration and the execution of surveying and cartographic works.

The local government law introduced a new form of property ownership – the local government’s property in boroughs (gmina) and borough unions (związki gmin). The Stocktaking Committee at the Łódź City Council was established with the primary scope of responsibilities to prepare applications for State Treasury’s property, if meaningful for the city’s development, to be municipalised., Regulation of the real property rights and preparation of the surveying and legal documentation necessary for the municipalisation purposes became new responsibilities of the surveying service.

The surveying and cartographic law prescribed new functions for the land and building register. The data contained in the register provided the basis for a national land information system. The land register itself was transformed into a land, building and business premises cadastre. This required its considerable modernisation.

Pursuant to the said law, the surveying and cartographic services also became obligated to keep an up-to-date surveying inventory of the infrastructural network and to establish and maintain its register. The infrastructural network register includes both the surveying register and industrial branch registers maintained by the administrators of each such network.

The GPS technology – the Global Positioning System – changed the approach to the so far primary task of the surveying services, i.e. to ensure an adequately accurate and well developed network

of triangulation and polygonal grid datums. Another urgent task was to install GPS reference stations within the city’s area.

Technological advancements changed the methodology of acquiring, processing, storing, and sharing information included in the state surveying and cartographic resource database.

The surveying and cartographic paradigm changed. The prime responsibility of the surveying services at the time was to build spatial information systems as components of the National Land Information System.

The Spatial Information System is the primary surveying knowledge source for the Information Society – a source of information for both the public administration, public services, various businesses, and individuals.

Pursuant to the Regional Development and Construction Minister’s Ordinance of 2001 on the rules of establishing and maintaining the national land information system, the National Land Information System contains compulsory data concerning the national spatial reference system, register of the national boundaries and the boundaries of the basic three-tier administrative division, surveying grids, land registers, geodetic register of infrastructural networks and topographic elements. In its optional part, the system may be supplemented with other information, allowing users to define their own individual branch databases.

The basis for building the Regional Spatial Information System for Łódzkie Region (Województwo łódzkie) was the integrated map of the region, as developed by the surveying services, constituting a spatial reference system. The system is maintained by the Regional Surveying and Cartographic Documentation Centre utilising the regional surveying and cartographic resource and county (powiat) thematic databases, including the database dedicated to the city of Łódź.

A part of the data is available free of charge to all parties involved from [www.rsip.lodzkie.pl](http://www.rsip.lodzkie.pl). The said database comprises several dozens of thematic layers comprising the general geographic map, administrative map, transport map, and a map of investment areas, as well as the map index.

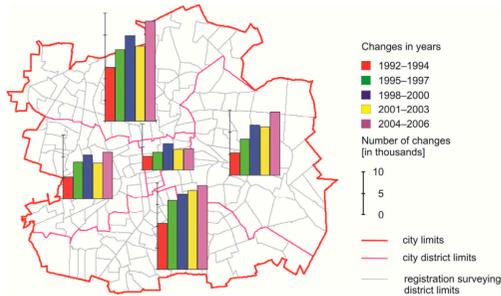


Fig. 8 Changes to the land and building register in the city of Łódź

Source: own compilation based on data from MODGiK in Łódź

The Surveying and Cartographic Documentation Centre maintains the Land Information System of Łódź. The system is built based on the state surveying and cartographic resource and the data stored in the Łódź City Council’s databases. A part of the data is available free of charge to all parties involved from [www.mapa.lodz.pl](http://www.mapa.lodz.pl). The ‘InterSIT’ Land Information System of Łódź covers several dozens of thematic layers comprising information on the city’s geography, structure, administration and non-governmental organizations, transport and road works, education, culture and art, health care, sport and recreation, entertainment and gastronomy, business, and other aspects essential for the city’s inhabitants. It also contains sheets of aerial and satellite orthophotomaps, the coverage and numbering of the analogue map sheets in the LAM and ‘1965’ systems, as well as sheets covering Łagiewniki, city area numeric map’s coverage, registration surveying districts in the LAM and ‘1965’ systems, and a map of land plots with their registration numbers, which makes it possible to draw land plot data from the Centre’s database.



Fig. 9 Complete construction designs submitted for harmonisation

Source: own compilation based on data from MODGiK in Łódź

The breakthrough period for computerisation of the surveying information resources was June of 1990, when the descriptive part of the land register created in 1971–1981 was transferred to modern electronic storage media. As of 2000, the land and building register was modernised, and the premises register was set up. The aim of the modernisation was to harmonise the records in the land and building register with the entries in the property registers. At the same time, created were computer databases dedicated to the State Treasury and borough (gmina) properties and their administrators.

Information technologies also made it possible to transform the analogue master map into a digital one. Such a map has been developed for areas whose land registers have been approved for modernisation. The map will be gradually implemented for common use, following its verification, as an essential component of the state surveying and cartographic resource.

To acquire, process, and share new quality information constituting the National Surveying and Cartographic Resource is the responsibility of the Municipal Surveying and Cartographic Documentation Centre, established in 1994, whose operations are supervised by the Mayor of the City of Łódź through the Chief Executive Officer of the Surveying Cadastre and Stocktaking Department, Łódź City Council. The scope of the Centre’s responsibilities are as follows:

- establish and maintain national surveying and cartographic resource databases, and contribute to the National Land Information System,
- manage the city Land Information System,
- maintain the land register,
- register catalogued infrastructural networks,
- coordinate prospective infrastructural network locations,
- provide services on commission from other entities under civil law contracts (especially IT and reproductive services).

These responsibilities are fulfilled by the Centre’s respective departments, inter alia by: the Land Information System Department, IT Service Department, Land and Building Register Department (figure 8 shows the number of amended entries in the land and building registries in the past few years), the Coordination and Technical Service Department of the Design Documentation Harmonisation Team (figure 9 shows the number of building designs submitted for harmonisation in the years

1995–2005), the Surveying Resource and Service Department (figure 10 shows the number of submitted geodetic and cartographic surveys), the Resource Supervision and Updating Department.

The surveying administration body, the most important component of the surveying service since 1990, is the Surveying Cadastre and Stocktaking Department, Łódź City Council. This is the authority that makes the most important decisions concerning surveying and cartography, as far as the interests of the city inhabitants’ and the interests of the Municipality of Łódź are concerned. The office of the City Surveyor is held by the Department CEO.

The responsibilities assigned by the Łódź Assembly and the City Mayor are fulfilled by the Department’s organisational structures: the Surveying Department, Stocktaking Department, Department of Real Estate Acquisition for the City’s Investment Purposes, State Treasury Property Department, Department for Regulation of Real Estates’ Legal Status, Department for Real Estate Expropriation and Restitution, Database Department, Self-contained Thematic Maps Maintenance Position, Payments and Settlements Update Department, Real Estate Market Monitoring Department, Department for Limited Substantive Rights and Indemnities, Perpetual Land Use Registration Department, Land Use Department, Permanent Management and Enfranchisement Department, and the Premises Sales Department.

It needs to be emphasized that the basis for many of these operations is the surveying and cartographic documentation developed by surveying and cartographic service providers active in the city. The figures below show: the number of maps for legal purposes, developed for the purpose of resolving disputes in administrative or judicial proceedings concerning the rights to a property or a part thereof (fig. 11), as well as the number of proceedings in the matter of dividing real estates, closed with a definitive administrative decision in the years 1994–2006 (fig. 12).

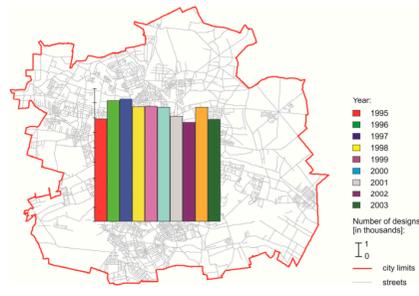


Fig. 10 Surveying and cartographic studies

Source: own compilation based on data from MODGiK in Łódź

In Poland there applies the principle of two-tier administration law proceedings, hence the Regional Surveying and Cartographic Supervision Inspector, who works for the Surveying Department being part of the Regional Council’s organizational structure, is also part of the municipal surveying service. Supervision and control of the works of the surveying and cartographic administration, supervision over surveying and cartographic works concerning the land and building register and soils classification and general real estate appraisals, maintenance of the register of local land information systems and keeping backup database copies, including the cadastre database, maintenance of the register of boundaries and area of the state’s primary territorial division with respect to the Region (Województwo) are all taken care of in the interest of the city’s inhabitants and the interest of the municipal surveying service.

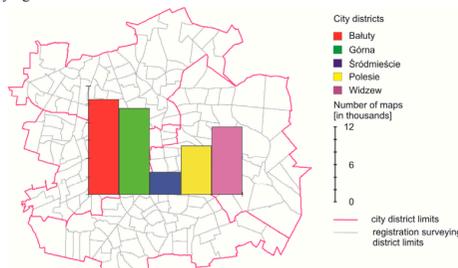


Fig. 11 Number of maps for legal purposes

Source: own compilation based on data from MODGiK in Łódź

The organizational structure of the Łódź Regional Marshal’s Council encompasses the Surveying and Cartographic Department, whose CEO holds the position of the Regional Surveyor. The primary responsibilities of the Surveying and Cartographic Department is to maintain the Regional Surveying and Cartographic Resources Management Fund and cooperate with the National Surveyor in modeling the surveying and cartographic policies in the region, as well as to monitor and analyse land use changes and land classification, and finally to maintain and share the databases that are parts of the National Land Information System, and build and implement the Regional Spatial Information System (RSIP).

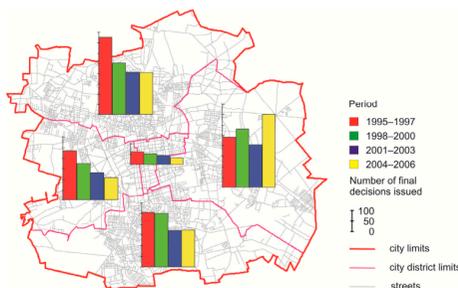


Fig. 12 Real estate division

Source: own compilation based on data from MODGiK in Łódź

It goes without saying, then, that harmonious cooperation between the municipal surveying service and the Surveying and Cartographic Department of the Regional Marshal’s Council with a view to fulfilling their responsibilities helps improve the customer service quality with respect to the local surveying and cartographic matters. The internet service managed by the Regional Marshal’s Council boasts an increasingly richer resource database concerning the region and the city of Łódź, and the measures taken by the Regional Surveyor bring the desired effects, e.g. the available aerial and satellite orthophotomap of the city.

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