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INFORMATION RANGE OF LOCAL DATABASE IN POLAND VS. EUROPEAN INFRAREGIONAL INFORMATION SYSTEM – SIRE

The Local Database (shortly the BDL) is a multilevel base of statistical data of various territorial units in Poland, regarding the scale and the range. EUROSTAT (Statistical Office of European Community) has created the SIRE system as an answer to a growing need for the data in local profiles.

The acquirement of compatibility of information range between the Local Database administrated by The Central Statistical Office in Poland and the SIRE system existing in Eurostat is necessary in the light of Poland's aspirations to integration with the structures of European Community countries. So, the Authors present some problems of compatibility of those systems and show the spheres in which Polish public statistics has information gaps. The scale of information gap in the Local Database in comparison with SIRE system is very differentiated. It refers to concrete information domains. Actually the biggest gaps refer to the range of domains "Eligibility for the structural funds" and "Infrastructure data".

1. INTRODUCTION

Territorial units of different levels show a considerable differentiation. Therefore EUROSTAT (Statistical Office of European Community) undertook in the 70's some activities, aiming at the unification of the territorial units for the needs of regional statistics. Beginning from 1988, these units' nomenclature (The Nomenclature of Territorial Units for Statistics – NUTS) (see: Decant 1997, p. 23) is used in many analytical-research fields, namely: in regional statistics, in socio-economic analysis of particular regions, in formulating regional policies of the EC countries and in systems of geographic information (Obrębalski 1997, p. 7–15).

The areas of particular interest in the policy of European Community's regional development are four kinds of problematic areas (so called Regional Objectives), namely:

1. areas of so-called objective 1, where the challenge is a development and structural adjustments in under-developed regions;

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2. areas of so-called objective 2, where the challenge is a regions' transformation, their parts and neighboring regions particularly afflicted with industrial regress;

3. areas of so-called objective 5b, where the challenge is a development and structural changes of rural areas;

4. areas of so-called objective 6, where the task is a promotion of development and structural adjustments of the areas of a particularly low density of population.

2. INFORMATION RANGE AND LEVELS OF TERRITORIAL IDENTIFICATION IN THE LOCAL DATABASE

A subjective range of the Local Database, initiated and administrated by the Central Statistical Office and the Centre of Regional Statistics located within Statistical Office in Wroclaw, takes into account the following territorial sections:

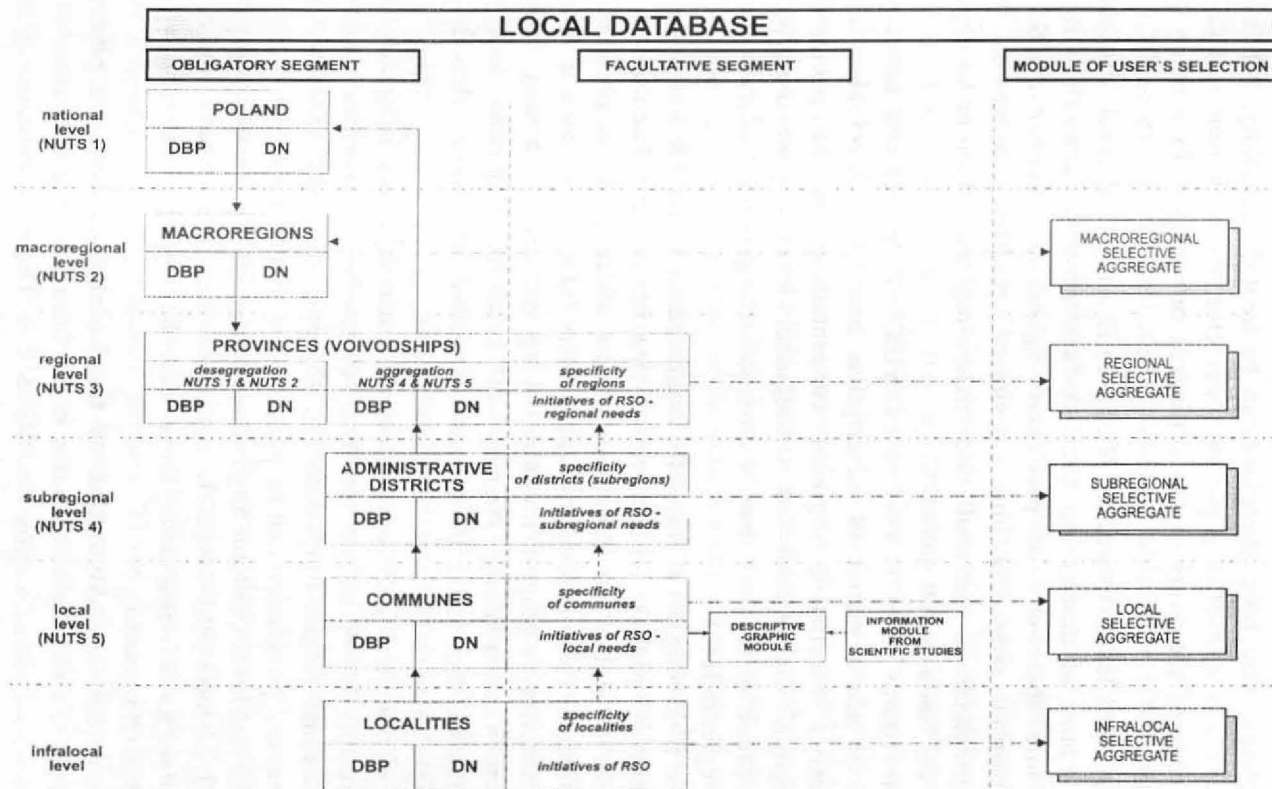
- Poland – country,
- macro-regions,
- provinces – regions,
- sub-regions – administrative districts,
- communes (gminas): urban (taking into consideration town's quarters), urban-rural and rural,
- elements of the country settlement system, that is localities such as towns and villages.

Figure 1 gives a general conception of the Local Database (the BDL) in Poland.

A designed, in-coming construction of the Local Database takes into consideration two information segments: obligatory and facultative. The obligatory segment will contain information in a standardized range. That segment is reinforced and centrally administrated. Yet the introduction of the second BDL's segment is a result of the need for appointing informational ranges that show specific features of particular territorial identification levels. Particular statistical offices can administrate that segment. Both segments will take into consideration territorial identification levels, convergent to the NUTS classification used in the EC countries.

On the highest identification level (treated as NUTS 1) there will be general information describing a country in a statistical way.

The next level of the identification (corresponding with NUTS 2) will comprise data about macro-regions. That level is closely connected with the country's supra-regional spatial policy and it is not taken into account in many



DBP - data of public base
DN - inaccessible data

Fig. 1. Scheme of the local database

Source: own elaboration.

disciplines. That level therefore can be treated optionally, because at the moment it is a level of a passive character. Its activation will depend on the needs of the users of the statistical information in a macro-regional profile.

The third level (treated as NUTS 3) is a regional level. Provinces will be a matter of description here. A facultative segment showing social-economic specificity of particular regions can appear on this level. Information range in the provinces' profile can result either a disaggregation of "national" and "macro-regional" data, or an aggregation of "local" data (about gminas).

The fourth level is treated as NUTS 4. Subregions (administrative districts) are a matter of description here. That level also takes into account a facultative segment concentrating on the peculiarities of subregions. Information of subregional level appear as a result of aggregation of a lower level's data and desegregation of data formulated on a regional level.

The following level (the fifth one) treated as NUTS 5 is a local level. Communes (gminas) are a matter of description here. Facultative segment on this level can be developed much wider than on previous levels. Additionally two modules can appear here (in a facultative segment):

- descriptive-graphic module (taking into account among other things elements of marketing strategy of local development and showing information expressed in a form of verbal or graphic description, for example numeric maps of territorial units);
- information module of scientific research (comprising the range and the results of works carried into effect by universities and research institutions; fragmentary data i.e. showing only the examined parts of communes' population can be presented in that module.

The last level (without any reference in a NUTS classification) has been called an infralocal level. It describes localities (towns and villages). Peculiarities of settlement units can be shown here (in a separate facultative segment).

Constructional assumption of the Local Database is a placement of descriptive and graphic modules in the future, also in the remaining levels of territorial identification i.e. NUTS 1-4. Thematic contents of particular modules will require some unificational works.

The need to keep certain group of data confidential, point out a need of separation in an obligatory segment of the Local Database, two parts of data base, meaning:

- partial accessibility to all users, called a public base (DBP – Public Database),
- a part of data inaccessible to some users.

Construction of the Local Database also comprises a so-called “module of users’ selection” which is an expression of “friendliness” of the BDL’s functional side towards the individual needs that uses its resources. That block will take into account the opportunity of creating selective aggregates on five levels of territorial identification, i.e. macro-regional, regional, sub-regional, local and infralocal. That formulation will ensure the high creativity value and functional usefulness of the Local Database.

A functional construction of the BDL that has been the existing hitherto exposed mainly local (gminas’) profile. Catalogues of statistical attributes, describing communes (gminas) make the effect of the current content’s analysis of reporting accountancy of public statistics, reporting of other resorts and National Register of Units of National Economy. The essential supplement of indicated sources of providing the Local Database are the results of large-scale surveys, such as the National Population and Housing Census`1988, Microcensus`1995 and Agricultural Census of June 1996. Additionally it is worth mentioning, that in compliance with contemporary requirements of users of statistical information, the methods of its accessibility are adjusted. Hitherto existing methods in this sphere (tables of surveys’ results, reports, files of *.dbf type) have been expanded since 1998 with the possibility of direct access thanks to Internet (<http://www.stat.gov.pl>). In the catalogue of attributes describing the gminas of the country in 1997, the classification according to divisions (18), groups (more than 50) and sub-groups. Table 1 shows it systematically.

The Local Database is of open nature. It means that there is a need and necessity of systematically introducing new information into the BDL and this is associated with the modification of the existing range, and also essential changes referring to many statistical surveys. Those changes are forced by, among other things, the country’s administrative reform initiated on 1st January 1999 and sanctioning the formation of new provincial administrative districts’ (powiat level) and changes provincial (regional) level.

Generally speaking, the BDL can fulfill functions of a database integrating statistical information formulated in different territorial profiles (among those: national, provincial, districtal, local).

Table 1

Information range of the Local Database in Poland – profile of communes in 1997

Contents of the catalogue (divisions and groups of attributes)	Total number of attributes (*)	In which free provided by Internet	Contents of the catalogue (divisions and groups of attributes)	Total number of attributes (*)	In which free provided by Internet
Total (without results of Agricultural Census)	1172	198	Trade	12	4
Territorial division	4	3	Shops	6	3
Administrative division	1	1	Marketplaces	6	1
Settlement network	3	2	Tourism	188	4
Territorial self-government	33	1	Tourist accommodation establishments	160	4
Organs of commune	23	1	Selected accommodation establishments by categories	28	–
Self-governmental administration	10 /10/	–	Education	273	36
Population	136	34	Pre-school education	38	8
Size of population and vital statistics	112	22	Primary education for children and youth (including special schools)	24	8
Migration of population	24	12	Schools preparing for professional	24	–
Labour market	38	2	work (including special schools)	24	–
Employment	38 /36/	2	Primary education for adults; Primary vocational extramural studies	5	–
Territory and landscape	14	–	Vocational education	90	12
Agricultural land	10	–	General secondary education	92	8
Forests	2	–	Health care and social welfare	65	25
Remaining land and wasteland	2	–	Hospitals	5	2
Agriculture and forestry	53	–	Health resort treatment	14	2
Private agriculture	36	–	Out-patient health care facilities	24	8
Forestry	17	–	Pharmacies and pharmaceutical outlets	5	3
Agricultural Census (results from June 1996)	359	110	Medical personnel	5	4
Transport and communication	12	7	Nurseries	8	4
Transport	8	6	In-patient social welfare facilities	4	2
Communication	4	1	Culture	14	5
Environment and its protection	60	24	Public libraries	7	2
Communal and industrial waste water treatment plants	31	18	Cinema	4	2
Emissions of air pollutants from especially oppressive plants	8	4	Museums	3	1
Industrial wastes harmful to the environment	7	2	The REGON register	66	10
Nature and landscape protection	8	–	Entities recorded by sectors	15	10
Open green areas	6	–	Entities recorded by the NACE sections	51	–
Housing	62	16	Local budgets	77	20
Population in dwellings	1	1	Revenue	12	9
Dwelling stocks	22 /4/	6	Expenditure	65	11
Dwellings completed	21	9	Investments	44	–
Repairs and modernisation of communal dwellings stocks	18	–	Investment outlays by investment localization (at current prices)	18 /8/	–
Communal infrastructure	21	7	Effects of completed investments in water management and protection	26	–
Networked facilities	17	7			
Urban transport	4	–			

/*/ – the legal protected attributes are signed by italics.

Source: own elaboration.

3. EUROPEAN INFRAREGIONAL INFORMATION SYSTEM – SIRE

EUROSTAT has created a system SIRE as an answer to the growing need for the data in local profiles (level of communes or corresponding territorial units). This data can easily be aggregated and used as information helping in the implementation of regional policies of the European Community. An important element of the system is its adjustment to data aggregation on level NUTS 5 in order to create a set of information about functional zones such as: municipal (urban) zones, rural zones, zones of commuting to work, etc. The data of the SIRE system comprises of six information groups:

- data from population censuses,
- data from agricultural censuses,
- module of data chosen for the objectives of structural funds,
- module of data by population density,
- infrastructural data,
- unemployment data.

SIRE is connected with the system of geographical information (GISCO) through a table comprising a proper nomenclature. However the long-term aim is a union of SIRE with the regional data included in base REGIO. It will enable a verification of the compactness of data from SIRE base on levels NUTS 1–3. Table 2 shows informational relations between BDL and SIRE.

As can be seen on the basis of Table 2, there is a gap in compatibility in the information range between the Local Database and SIRE.

In the domain "Census Data" in a group "population by sex and age" it will be necessary to change the principles of population division into indicated age groups. However in groups relating to population and division by sex into certain age groups it will only be needed to aggregate given information. At the same time a sub-group "Active Population" does not find any possibility now in the Local Database to maintain the information structure given in SIRE. However after carrying out a certain aggregation, it is possible to obtain information about the active population generally and of an age lower than 25 years. The next group "Employed by NACE groups" is in substance compatible with the information structure comprised in the BDL. At the same time a necessary aggregation has to maintain the preservation requirements of unitary data. It is worth noticing that the Local Database only includes data about economic entities employing more than five workers. The last group of the "Census Data" domain relating to foreigners is not present in the BDL at the moment. However there is a possibility of introducing it through appropriate information from registration offices.

Table 2
Information range of the BDL and SIRE

Domain	Group	Name	Table of SIRE (name)	Source of data (1996-1997)		Notices
				BDL	other sources	
x	x	CENSUS DATA				
		Total population	POP_TOT	+		It is not possible to aggregate for indicated age groups in the BDL because of the following population division: - Age group 0-19 (step: 1 year) - Age group 20 - 59 (step: 10 years) - Age group 60-64 - Age group 65 and more years Need of data aggregation Need of data aggregation Need of data aggregation Need of data aggregation Need of data aggregation Need of data aggregation The same notice as in instance of population by sex and age (above mentioned) Need of data aggregation Need of data aggregation (male in age group 15-64; female in age group 15-59) Data in the BDL refer to economic units which employed more than 5 persons Need of data aggregation and legal protection of individual data
		Population by sex and age	POP_SEX and AGE_80 (and 90)			
		Population in age group 0-14 (total, male, female)		+		
		Population in age group 15-24 (total, male, female)		-/+		
		Population in age group 25-39 (total, male, female)		-/+		
		Population in age group 40-54 (total, male, female)		-/+		
		Population in age group 55-64 (total, male, female)		-/+		
		Population in age group 65-79 (total, male, female)		-/+		
		Population in age above 80 (total, male, female)		-/+		
		ACTIVE POPULATION	POP_ACTIVE_80 (and 90)			
		Active population less than 25 years old		-/+		
		Total active population		-/+		
		EMPLOYED BY NACE GROUPS	POP_EMPLOYM_80 (and 90)			
		Employed in the agriculture and fishery sector		+		

cont.

Данная	Group	Name	Table of SIRE (name)	Source of data (1996-1997)		Notices
				BDL	other sources	
x		Employed in the industry sector		+		Need of data aggregation and legal protection of individual data
		Employed in the service sector		+		Need of data aggregation and legal protection of individual data
		Total number of employed		+		
	x	FOREIGN POPULATION	POP_FOREIGNE RS_80 (and 90)			
		Total foreign population		-	-/+	Source: information of registration offices
	x	ELIGIBILITY FOR THE STRUCTURAL FUNDS				
		Eligibility for the regional objectives of the structural funds for the period 1989-1993	ELI_89			The issue (as yet) is not observed in official statistical surveys; need of beginning of methodological works
		Eligibility for the objective 1		-	-/+	The objective 1 is related to NUTS 2; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 2		-	-/+	The objective 2 is related to NUTS 3; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 5b		-	-/+	The objective 5b is related to NUTS 2 or 3; need of aggregation of data collected at local level (by communes)
	x	National eligibility		-	-	
		Eligibility for the regional objectives of the structural funds for the period 1994-1996 (objective 2) and 1994-1999 (objective 1 and 5b)	ELI_94			The issue (as yet) is not observed in official statistical surveys; need of beginning of methodological works
		Eligibility for the objective 1		-	-/+	The objective 1 is related to NUTS 2; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 2		-	-/+	The objective 2 is related to NUTS 3; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 5b		-	-/+	The objective 5b is related to NUTS 2 or 3; need of aggregation of data collected at local level (by communes)
	Eligibility for the objective 6			-/+	Need of territorial delimitation by criterion of density of population	

cont.

Domain	Group	Name	Table of SIRE (name)	Source of data (1996-1997)		Notices
				BDL	other sources	
		National eligibility		-	-	
		Community initiative RECHAR		-	-	
		Community initiative RESIDER		-	-	
		Community initiative RETEX		-	-	
		Community initiative KONVER		-	-	
	x	Eligibility for the regional objectives of the structural funds for the new member states (Austria, Sweden and Finland)	ELLI_NEW_MS			The issue (as yet) is not observed in official statistical surveys; need of beginning of methodological works
		Eligibility for the objective 1		-	-	The objective 1 is related to NUTS 2; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 2		-	-	The objective 2 is related to NUTS 3; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 5b		-	-	The objective 5b is related to NUTS 2 or 3; need of aggregation of data collected at local level (by communes)
		Eligibility for the objective 6		-/+		Need of territorial delimitation by criterion of density of population
	x	Contains the population in zones partially eligible for the objectives 2 and 5b	POPART_ELI_94			Need of territorial delimitation by the adequate demographic criteria
		Population partially eligible for the objective 2		-	-	Need of territorial delimitation by above mentioned criteria
		Population partially eligible for the objective 5b		-	-	Need of territorial delimitation by above mentioned criteria
	x	INFRASTRUCTURE DATA				
	x	Railway station	INF_RAILWAY_STATIONS	-	-/+	Source: registers of the Ministry of Transport
	x	Harbours	INF_PORTS	-	-/+	Source: registers of the Ministry of Transport
	x	Airports	INF_AIRPORTS	-	-/+	Source: registers of the Ministry of Transport
		Local airports		-	-/+	
		National airports		-	-/+	
		International airports		-	-/+	
		Total number of airports		-	-/+	
	x	Motorway accesses	INF_MOTORWAY_ACCESS	-	-/+	Source: registers of the Ministry of Transport

cont.

Domain	Group	Name	Table of SIRE (name)	Source of data (1996-1997)		Notices
				BDL	other	
x	x	Secondary schools and universities	INF_SCHOOLS			
		Number of secondary schools		+		
		Number of universities		-	+	
	x	Hospitals	INF_HOSPITALS			
		Number of hospitals		+		
	x	Culture centres	INF_CULTURE			
		Number of culture centres		-	+	
	x	Rooms in guest houses and their capacity	INF_GUEST_HOUSE			
		Number of rooms in guest houses		+		
		Capacity measured in number of places		+		
	x	Camping sites and their capacity	INF_CAMPINGS			
		Number of camping sites		+		
		Capacity measured in number of places		+		
	x	Hotels and their capacity	INF_HOTELS			
		Number of hotels		+		
		Capacity measured in number of places		+		
			AGRICULTURE			
	x	Type of agricultural zone	AGR_TYPE_ZONE_80 (and 90)	-	-/+	Need of initiation of the official principles of typology of agricultural areas
		Size of agricultural holdings	AGR_HOLDINGS_80 (and 90)			
		Total number of holdings		+		Source: results of Agricultural Census '96
		Holdings where the UAA is up to 3 ha		+		Need of data aggregation
		Holdings where the UAA is from 3 up to 30 ha		+		Need of data aggregation
		Holdings where the UAA is above 30 ha		+		Need of data aggregation
x	Used agricultural area	AGR_UAA_80 (and 90)				
	Used agricultural area in ha					
x	Area with arable land	AGR_ARABLE_LAND_80 (and 90)	+		Source: results of Agricultural Census '96	
	Total number of holdings		-/+		Need of data aggregation	
	Area with arable land in ha		+			

cont

Domain	Group	Name	Table of SIRE (name)	Source of data (1996, 1997)		Notices
				BDL	other	
		Area with cereals in ha		+		
	x	Area with pastures	AGR_PASTURE S_80 (and 90)			
		Total number of holdings		-/+		Need of data aggregation
		Area with pastures in ha		+		
		Area with pastures with rough grazing in ha		-	-	
	x	Area with permanent crops	AGR_CULTURE S_PERM_80 (and 90)	-/+		Source: results of Agricultural Census'96
		Total number of holdings		-		
		Area with permanent crops in ha		-		
	x	Use of pastures	AGR_HIGH_ MOUNTAIN_PA ST_80 (and 90)			
		Area with citrus plantations in ha		-	-	It is not related to the Polish communes
		Area with pastures in mountain areas in ha		-	-/+	Need of delimitation by criterion of "mountain character" of area
		Area with vineyards in ha		-	-	
	x	Total standard agricultural gross margin	AGR_SGM_80 (and 90)			
		Total standard gross margin		-	-	
	x	Labour force in agriculture	AGR_LABOUR_ FORCE_80 (and 90)			Source: results of Agricultural Census'96
		Total labour force		+		
	x	Regular labour force in agriculture	AGR_REGULA R_LF_80 (and 90)			Source: results of Agricultural Census'96
		Total regular labour force		+		
	x	Livestock	AGR_LIVESTO CK_80 (and 90)			Source: results of Agricultural Census'96
		Bovine animals (including buffaloes)		+		
		Number of dairy cows		+		
		Number of sheep		+		
		Number of goats		+		
		Number of pigs		+		
		Number of poultry		+		

Source: autor's own computation.

4. CONCLUSION

An essential divergence between the Local Database and SIRE can be observed in the range of domain "Eligibility for the structural funds". In fact the information assigned to the description of territorial units in the aspect of structural criteria in regional policy of the European Community in Polish public statistics has not been collected. Decisions about the statistic observation of some occurrence of social and economic character will need to take up some methodological works enabling the realization of that project. For such decisions it will be important to establish principles of dividing Polish territory into particular territorial units according to NUTS system. In the range there are huge challenges assigned for Polish statistics and the need of understanding methodological works exists today. For a few information collections of a discussed domain, the contemporary state of the BDL's database makes a quick adjustment possible after aggregate or delimitative measures.

A domain entitled "Infrastructure data" signals an information gap in the Local Database in comparison to SIRE as well. That gap however referring to: railway stations, airports (with divisions into national, local and international) can become complete through administrative sources, for instance registers of Ministry of Transport. However a noticeable compatibility of information appears in data about the educational system and space accommodation management.

The domain "Agriculture" shows some compatibility in information range of the Local Database and SIRE by acquirement of data from Agricultural Census. At the same time it is worth mentioning that census data has been collected in Poland once every few years. However there is a necessity of delimitation of territorial units based on the criteria of "a mountain character" in order to make it possible to acquire data about areas of pastures in mountain areas. There is also a need to undertake methodological works on the presentation of data concerning "standard agricultural gross margin".

Generally it should be noticed, that the acquirement of compatibility of information range between the Local Database and SIRE is necessary in the light of Poland's aspirations of integration with the structures of European Community countries.

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