

July 1988

EUROPEAN ORGANIZATION FOR EXPERIMENTAL PHOTOGRAMMETRIC RESEARCH

SUMMARY OF REPLIES TO QUESTIONNAIRE ON LAND INFORMATION SYSTEMS

COMMISSION V — LAND INFORMATION SYSTEMS

By Gerhard Eichhorn



Official Publication N° 20

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Summary of Replies to Questionnaire on Land Information Systems

Commission V — Land Information Systems

(with 49 Tables and 1 Annex)

By Gerhard Eichhorn

Technische Hochschule Darmstadt

Table of Contents

	page
Abstract, Résumé, Zusammenfassung	13
Preface	15
Sequence of countries	19
Existing small-scale LIS/Data bases in the countries A, B, CH, D, F, GB, I, N, NL, S and SF (one table per country)	21
Existing small-scale LIS/Data bases of items 1 to 16 (one table per item)	57
Existing large-scale LIS/Data bases in the countries A, B, CH, D, F, GB, I, N, NL, S and SF (one table per country)	91
Existing large-scale LIS/Data bases of items 1 to 16 (one table per item)	111

After page 130:
List of OEEPE publications

Summary of Replies to Questionnaire on Land Information Systems

Commission V — Land Information Systems

By Gerhard Eichhorn

Technische Hochschule Darmstadt

ABSTRACT: The acquisition, processing, and use of land-related data has gained a growing importance during the last few years due to the developing electronic data processing and computer science. The establishment of Land Information Systems aims therefore at collecting these data, partly obtained from different bases, in a common system by means of clearly defined reference units. In order to sum up the problems related and to be able to work in the future with Land Information Systems in the member countries of the OEEPE, the cooperators of Application Commission V tried to take an inventory of existing collections and data files for land-related conditions. As to the application for the data collections it seemed to be very helpful to make a differentiation concerning on the one hand the use for regional tasks and plans and on the other hand for local tasks. This publication presents the results of this acquisition. It applies to approximately July 1987. Some countries dispose already of additional concepts to solve the integration problems and the practical realization is going on.

RÉSUMÉ: L'acquisition, le traitement et l'utilisation de données relatives au sol sont devenus de plus en plus importants pendant les dernières années grâce à l'évolution du traitement électronique des données et de l'informatique. Ces données, ayant en partie des sources différentes, doivent être rassemblées pour former un système commun à l'aide d'unités de référence clairement définies. C'est pourquoi on établit les systèmes d'information du territoire. Vis-à-vis des problèmes y liés et pour les travaux futurs avec les systèmes d'informations du territoire dans les pays membres de l'OEEPE, les collaborateurs de l'Application Commission V ont essayé de dresser un inventaire des collections et fichiers déjà existants concernant les faits relatifs au sol. Il est devenu évident de faire des distinctions dans l'inventaire entre l'application pour des tâches et planifications régionales et entre celle pour les domaines communaux. L'article présente le résultat de cet inventaire. Il est valable à peu près pour le mois de juillet 1987. En outre, quelques-uns des pays concernés disposent déjà de conceptions pour la solution des problèmes d'intégration et la réalisation est en cours.

ZUSAMMENFASSUNG: Die Erfassung, Verarbeitung und Nutzung bodenbezogener Daten hat durch die Entwicklung der elektronischen Datenverarbeitung und der Informatik in den letzten Jahren zunehmend an Bedeutung gewonnen. Der Aufbau von Landinformationssystemen hat nun zum Ziel, diese Daten, die teilweise auf verschiedenen Grundlagen beruhen, mit Hilfe eindeutig definierter Bezugseinheiten in einem gemeinsamen System zusammenzufassen. Für die damit verbundene Problematik und für das künftige Arbeiten mit Landinformationssystemen in den Mitgliedsländern der OEEPE versuchten die Mitarbeiter der Application Commission V, eine Bestands-

aufnahme der bereits bestehenden Sammlungen bzw. Dateien für bodenbezogene Gegebenheiten vorzunehmen. In dieser Bestandsaufnahme erschien es sinnvoll, hinsichtlich der Zielsetzung in der Nutzung der Datensammlungen zu unterscheiden zwischen der Anwendung für regionale Aufgaben und Planungen und derjenigen für kommunale Bereiche. Die vorliegende Veröffentlichung beinhaltet das Ergebnis dieser Erfassung. Es gilt in etwa für den Zeitpunkt Juli 1987. In einzelnen Ländern bestehen darüber hinaus bereits Konzepte für die Lösung der Integrationsprobleme, und die praktische Realisierung ist im Gang.

Preface

Since its foundation in 1984 the Application Commission V "Land Information Systems" of the OEEPE has been dealing with the acquisition of existing data collections regarding different land-related data which are suitable for the establishment of Land Information Systems LIS in the individual member countries. As the objectives with regard to the use of the data may diverge to a considerable extent within the individual countries as well as from country to country, a first differentiation was made concerning on the one hand the use for regional tasks and plannings — that means for larger areas on small scales — and on the other hand for local tasks as well as for measures of planning and realization in the towns and municipalities — that means for smaller areas on large scales. The differentiation between the two fields of application should be at a scale of about 1 : 25,000.

A second distinction for each of the two categories has been defined according to 16 different items ranging from "Topographic data" to "Socio-economic data". In particular, questions on data collections concerning the following subjects were to be answered:

1. Scale of LIS/Data bases: Small

Item	Definition
1	Topographic elevation data
2	Hydrographic data (rivers, lakes, coast lines, bathymetry, etc.)
3	Infrastructural data (roads, railroads, traffic density, etc.)
4	Land use/land cover (forests, urban areas, agricultural lands, etc.)
5	Environmental data (immissions, agricultural/forest damages, etc.)
6	Ecological data (wildlife habitat, national parks, etc.)
7	Geologic data (geologic units, extensive rock exposures, etc.)
8	Soil data (soil type, soil humidity, etc.)
9	Climatic data (temperature, precipitation, etc.)
10	Energy/water supplies and demands (electric power lines, drinking water facilities, water reservoirs, etc.)
11	Sanitary utilities (waste disposal, waste water utilities, etc.)
12	Communication utilities (telephone lines, postal offices, radio/TV stations, etc.)
13	Juridical data (political boundaries of city, county and state, number of inhabitants, etc.)
14	Administrative data (public health facilities, social welfare administrations, security facilities such as police/fire stations, etc.)
15	Educational, cultural and recreational facilities (kindergarten, school, university, theatre, museum, recreational grounds, etc.)
16	Socio-economic data (density and migration of population, language distribution, regional types of economy, commuters, etc.)

2. Scale of LIS/Data bases: Large

Item	Definition
1	Topographic elevation data
2	Hydrographic data (rivers, lakes, other waterbodies, etc.)
3	Infrastructural data (roads, railroads, traffic density, etc.)
4	Land use/land cover (forests, urban areas, agricultural lands, etc.)
5	Environmental data (immissions, agricultural/forest damages, etc.)
6	Ecological data (wildlife habitat, national parks, etc.)
7	Geologic data (geomorphologic data, hangslide-dangered areas, etc.)
8	Soil data (soil type, soil humidity, etc.)
9	Climatic data (local temperature, local precipitation, etc.)
10	Energy/water supplies and demands (electric power lines, drinking water facilities, water reservoirs, etc.)
11	Sanitary utilities (waste disposal, waste water utilities, etc.)
12	Communication utilities (telephone lines, postal offices, radio/TV stations, etc.)
13	Juridical data (political boundaries of city, county and state, number of inhabitants, cadastral/land parcel data, owners, legal servitudes, etc.)
14	Administrative data (public health facilities, social welfare administrations, security facilities such as police/fire stations, etc.)
15	Educational, cultural and recreational facilities (kindergarten, school, university, theatre, museum, recreational grounds, etc.)
16	Socio-economic data (density and migration of population, language distribution, local types of economy, commuters, etc.)
17*	Information System at local level

* additional from the Federal Republic of Germany

For this differentiation both interdisciplinary cooperation and mutual information are essential. On that account the acquisition of existing data collections beyond the field of surveying within the individual countries has proved to be very difficult and time-consuming. Therefore special thanks are due to the cooperators of the Commission who endeavoured to receive such information.

This applies especially to Messrs.:

W. Miklau, Bundesamt für Eich- und Vermessungswesen, Wien, Austria

J. Wilmet, Université Catholique de Louvain, Louvain-La-Neuve, Belgium

J. J. Chevallier, Ecole Polytechnique Fédéral, Lausanne, Switzerland

W. Göpfert, Technische Hochschule Darmstadt, Federal Republic of Germany

J. Denègre, Conseil National de l'Information Géographique, Paris, France

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A. Corradino, Istituto Geografico Militare, Firenze, Italy

O. Einevoll/S. Moldestad, Norwegian Institute of Land Inventory, Ås, Norway

H. I. G. L. Aalders, Hoofddirectie Kadaster en de Openbare Registers, Apeldoorn, The Netherlands

A. Morén, National Land Survey, Gävle, Sweden

K. Makkonen, Geodetic Institute, Helsinki, Finland

The revision ready for publication was made by Prof. Dr. *W. Göpfert*, TH Darmstadt.

In general it can be noticed that the development towards the establishment of LIS is progressing steadily in the member countries. For this reason the current data collected represents only a momentary situation and is valid for approximately the first six months of 1987. Nevertheless, the summary gives an interesting insight into the state of the works and offers the possibility of mutual contact to the national data-keeping institutions.

Generally, it is remarkable that in the 11 countries which answered the questions there are actually more activities at the regional level of the small scales. In this respect 88 informations have been received whereas at the local level only 50 answers could have been delivered. However, it can also be noted in case of the small scales that the number of the information given differs considerably. So only for "Topographic elevation data" there exist data collections in all of the 11 countries or are in preparation, whereas for only 1 country corresponding information on item 12: Communication utilities — telephone lines, postal offices, radio/TV stations are known. Moreover, in case of the small scales there are also very limited information possibilities on data collections regarding the items:

- 6 Ecological data (Wildlife habitat, national parks, etc.)
- 9 Climatic data (Temperature, precipitation, etc.)
- 10 Energy/water supplies and demands
- 11 Sanitary utilities (Waste disposal, waste water utilities, etc.)
- 15 Educational, cultural and recreational facilities.

In the Federal Republic of Germany it was possible to refer in 14 cases of the 16 items to already existing data collections or data collections in preparation. Also Great Britain, Italy and Norway delivered information on more than half of the mentioned items.

It must be pointed out especially that in 1987 in Great Britain a report on "Handling Geographic Information" was given to the British Government by an investigating commission under chair of *Lord Chorley* of the Department of the Environment, with the aim, to establish a corresponding information system which considers many users.

In the Federal Republic of Germany the representatives of the states (Länder) of the "Cooperative Boards of the Supreme Survey Authorities — Arbeitsgemeinschaft der Vermessungsverwaltungen AdV" have decided to further primarily the establishment of an

"Official Topographic-Cartographic Information System — Amtliches Topographisch-Kartographisches Informationssystem ATKIS" within the individual Länder of the FRG. This program includes first of all the automation of the National Map Series on the basis of a modified storage model of the "Automated Legal Parcel Map — Automatisierte Liegenschaftskarte ALK" with a uniform data-base interface.

With regard to the contents ATKIS shall comprise on the one hand the classical geometric and qualitative information of the topographic National Map Series, like boundaries, residential areas, industrial plants, traffic networks, waters, topographic single objects, soil, vegetation respectively land use, natural features, geographic names and control points; and on the other hand also information on supply- and communication-utilities as well as data for the protection of nature, landscape and environment. In this connection it is planned to establish a "Digital Landscape Model — Digitales Landschaftsmodell DLM" on a scale of 1 : 1, from which subsequently the different "Digital Cartographic Models — Digitale Kartographische Modelle DKM" shall be derived step by step on a long-term basis. It is intended to begin with the scales 1 : 25,000, 1 : 50,000 with the geometric precision of the German Base Map 1 : 5,000. For the whole program both a feature-code-catalogue and a cartographic-symbol-catalogue shall be employed.

As expected, in case of the large scales for the tasks of the towns and municipalities there exist most of the data collections for the items:

- 1 Topographic elevation data
- 3 Infrastructural data (roads, railroads, traffic density, etc.)
- 13 Juridical data (political boundaries, cadastral/land parcel data, etc.),

whereas no country has delivered information ready for data processing on the items:

- 5 Environmental data (immissions, forest damages, etc.)
- 7 Geological data (geomorphological data, etc.)
- 9 Climatic data (local temperature, local precipitation, etc.)
- 11 Sanitary utilities (waste disposal, waste water utilities, etc.).

In 1987 in Switzerland the establishment of the "Reform of the Official Surveying — Reform der amtlichen Vermessung RAV" has been demanded by the Swiss Justice- and Police-Department for the whole country. Pilot projects in different cantons on the basis of the cadastre for various spatial data collections for the establishment of Land Information Systems have proved to be very successful.

In the Federal Republic of Germany one has been working on the conversion of the Land Registry via the "Automated Cadastral Inventory — Automatisiertes Liegenschaftsbuch ALB" and the "Automated Legal Parcel Map — Automatisierte Liegenschaftskarte ALK" into a comprising real-estate data base for years. Now the institution of the "Deutscher Städtetag" aims in connection with the Automated Land Registry at a "Maßstabsorientierte Einheitliche Raumbezugsbasis für Kommunale Informationssysteme MERKIS". This shall become a uniform storage model for all geometric data on surface and on specialized subjects for local demands.

One can hope that the possibilities of processing land-related data by means of the automatic data-processing will be used as intensively as possible in all European countries in order to establish LIS to the advantage of citizens, of state, the administration and economy.

Sequence of countries *

A	Austria
B	Belgium
CH	Switzerland
D	Federal Republic of Germany
F	France
GB	United Kingdom of Great Britain and Northern Ireland
I	Italy
N	Norway
NL	The Netherlands
S	Sweden
SF	Finland

* according to the official license numbers

**Existing small-scale LIS/Data bases in the countries
A, B, CH, D, F, GB, I, N, NL, S and SF**
(one table per country)

Scale of LIS/Data Bases: Small

Country: Austria (A)

Respondent's Name: W. Miklau

Respondent's Address: Bundesamt für Eich- u. Vermessungswesen
Hinter Zollamtstrasse 4
A-1030 Wien

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	b) Aerial photo			90 %	Austrian Elevation Data Base	BEV ¹⁾	a) Federal agencies b) Orthophoto production, ecological investigations (slope conditions)
	a) 1 : 50,000			100 % of Styria	Graz Terrain Model (GTM)	IIGG ²⁾	
5	b) Aerial photo 1 : 10,000		100 % Vorarlberg		Vorarlberger Waldstandserhebung	VL ³⁾	
7	b) Field work		W		Geologic outcrop documentation GEOPUNKT	GBA ⁴⁾	
	b) Chemical analysis		W		Geochemical element distribution in waterbodies	GBA ⁴⁾	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small
Country: Belgium (B)

Respondent's Name: Prof. J. Wilmet
Respondent's Address: Université Catholique de Louvain
Place Louis Pasteur 3
B-1348 Louvain-La-Neuve

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
1	a) 1 : 250,000		100 %	R	Elevation contours	IGN ¹⁾	a) Administration, private companies
14	a) 1 : 300,000 1 : 500,000	100 %	100 %	W	Administrative boundaries	IGN ¹⁾	a) Administrations

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Institut Géographique National

Scale of LIS/Data Bases: Small

Country: Switzerland (CH)

Respondent's Name: J. J. Chevallier

Respondent's Address: EPF²⁾ Géodésie et mensuration
GR-Ecublens, CH-1015 Lausanne

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 25,000 a) 1 : 25,000		W	100 %	250m-grid elevations Elevation contours (Swiss national map)	OFTT ¹⁾ BfL ⁴⁾	a) Military, federal agencies c) Confidentiality
3		R	R		Road network with specifications	EPF ²⁾ Lausanne	a) Road administrations b) Analysis and development of traffic c) Homogeneity cantonal/national level
4	b) 1 : 25,000 aerial photos			W	Swiss Area Statistics 100m-grid	OFS ³⁾	a) Government agencies b) Decision-making information
7	b) Field work a) 1 : 10,000			W	Gravity data	Instituts de Géophysique	a) Geologists

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Country: Switzerland (CHD)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
7 cont.	a) 1 : 25,000			38 %	50m-grid of numerical relief (Fichier relief)	UNI Lausanne and EPF ²⁾ Zürich	b) Research on geologic structures, etc.
	a) 1 : 25,000		W		Swiss geologic atlas	Swiss geologic commission	b) Engineering
8	a) 1 : 50,000 — 1 : 500,000		W		Swiss soil map		

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Office Fédéral des Troupes de Transmission, Berne

2) Ecole Polytechnique Fédérale

3) Office Fédéral de la Statistique, Berne

4) Bundesamt für Landestopographie

Scale of LIS/Data Bases: Small

Respondent's Name: W. Göpfert

Country: Federal Republic of Germany (D)

Respondent's Address: Technische Hochschule Darmstadt, FB 12
 Petersenstrasse 13
 D-6100 Darmstadt

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
1	a) 1 : 1,000,000 1 : 500,000	100 %			Spot elevations, mountain ranges (location, name)	IfAG ¹⁾	a) Federal agencies b) Digital mapping Thematic processing Rectification of Imagery
	a) 1 : 1,000,000		100 %		Elevation contours		
	a) 1 : 200,000			R	Map plate of contours		
	a) 1 : 25,000 — 1 : 50,000			100 %	50 x 50 m raster of elevations	IABG ²⁾	b) Planning purposes
	a) 1 : 50,000			100 %	1" x 1" raster of elevations	AMI/Geo ³⁾	b) Planning purposes
2	a) 1 : 25,000 — 1 : 50,000	W	W		ATKIS = Amtliches Topographisches Kartographisches Informationssystem	Adv ¹³⁾	
	a) 1 : 500,000 a) 1 : 1,000,000	100 %	100 %		Lakes, rivers (location, name) Coast lines, bathymetric contours, rivers, etc.	IfAG ¹⁾	a) Federal agencies b) Thematic processing, resource management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Scale of LIS/Data Bases: Small

Country: Federal Republic of Germany (D)

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
2 cont.	a) 1 : 200,000			R	Map plate of waterbodies		
	a) Various	3 %	3 %		Cables, wrecks, bathymetric contours, etc.	DHI ⁴⁾	b) Digital mapping
	a) 1 : 200,000 — 1 : 500,000		100 %		Hydrographic basin boundaries	BfG ⁵⁾	b) Quantitative analysis
3	a) 1 : 500,000	100 %			Cities and settlements, location and specifications, e.g. airports, stations, ferries)	IfAG ¹⁾	b) Mapping
	a) 1 : 1,000,000		100 %		Roads, railroads, navigable rivers, channels	IfAG/ BFANL ⁶⁾	b) Planning
	a) 1 : 200,000			R	Map plates of roads, railways, cities, etc.	IfAG ¹⁾	b) Mapping

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Scale of LIS/Data Bases: Small
Country: Federal Republic of Germany (D)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
3 cont.	a) 1 : 1,000,000 a) 1 : 100,000 — 1 : 250,000		100 % 100 %		Main-traffic roads All types of air and road traffic routes	BfLR ⁷⁾ GUW ⁸⁾	b) Suitability studies b) Planning
4	a) 1 : 1,000,000 a) 1 : 200,000 a) 1 : 1,000,000 a) 1 : 1,000,000 a) < 1 : 100,000		100 % 100 % 100 % 100 %	R	Land uses, e.g. boundary lines of major cities, swamps, glaciers, sand dunes Map plates of forest areas, settlements, etc. Forest areas Land use boundaries Settlement boundaries	IFAG ¹⁾ BFANL ⁶⁾ BFANL ⁶⁾ GUW ⁸⁾	b) Mapping b) Quantitative analyses b) Site selection planning
5	b) Various a) 1 : 1,000,000	100 %	100 %		SO ₂ -Emission for all counties Smog- and immission-endangered areas	UBA ¹⁰⁾ BfLR ⁷⁾	b) Analyses and planning

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Scale of LIS/Data Bases: Small

Country: Federal Republic of Germany (D)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
5 cont.	b) Field survey	100 %			Water quality measuring station data base	BfG ⁵⁾	b) Control of water condition
	b) Various		100 %		Boundaries of radiological impacts (8 classes)	GUV ⁸⁾	b) Analyses in connection with nuclear plant site selections
	b) Various	100 %			Data base EMUKAT, containing types, sizes and producers of emissions	UBA ¹⁰⁾	b) Analyses for air pollution control
	b) Various	100 %			Measuring stations for water pollution by heavy metals	BGR ¹¹⁾	b) Chemical analyses and controls of water
	a) 1 : 1,000,000 b) Field survey		100 %	100 %	Forest boundaries for damage classification 4km-grid of forest damage	BFANL ⁶⁾ BML ⁹⁾	b) Map reference for forest damage analyses b) Damage assessment

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small
Country: Federal Republic of Germany (D)
Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
6	a) 1 : 25,000 — 1 : 50,000	100 %			Centroid coordinates of nature reserve areas Boundaries of nature reserve areas Biotopkataster Nordrhein-Westfalen (NRW)	BFANL ⁶⁾ BFANL ⁶⁾ LÖLF ¹²⁾	b) Ecological projects and plannings
	a) 1 : 200,000		100 %				
	a) 1 : 25,000		100 % of NRW				
7	a) 1 : 1,000,000	100 %			Oil fields, mines, etc. Entire content of geological maps	IfAG ¹⁾ BGR ¹¹⁾	a) Federal agencies b) Digital mapping Thematic processing
	a) Various b) Field data		R	R			
8	a) 1 : 1,000,000		100 %		Soil type boundary data base	BFANL ⁶⁾	b) Analyses for nature protection
9	a) 1 : 1,000,000		100 %		Average annual rainfall Average rainfall in January	BFANL ⁶⁾	b) Analyses for nature protection
			100 %				

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Continuation

Country: Federal Republic of Germany (D)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
9 cont.	a) 1:1,000,000 cont. a) 1:500,000 and b) Various		100 %		Average annual temperature	BFANL ⁶⁾	b) Analyses for nature protection
			100 %		Average duration of the vegetation phase		
			100 %		Snow coverage (days/yr)		
10	a) 1:1,000,000 a) 1:1,000,000		100 %		3 km x 4.5 km raster of monthly rainfalls	BfG ⁵⁾	b) Interrelation studies between rainfall and hydrology
		100 %	100 %		Groundwater boundaries Public water supply lines and stations		
13	b) Various a) 1:500,000 a) 1:500,000	100 %			Custom stations Administrative boundaries (state, county)	IfAG ¹⁾	a) Federal agencies b) Digital mapping Thematic processing
			100 %				

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Scale of LIS/Data Bases: Small
Country: Federal Republic of Germany (D)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
13 cont.	a) 1 : 200,000 b) Census a) 1 : 500,000 a) 1 : 300,000	100 %	100 %	R	Map plate of boundaries Number of inhabitants of settlements shown in 1 : 500,000 map Boundaries of urban and rural settlements	IfAG ¹⁾ BfLR ⁷⁾	a) Federal agencies b) Mapping, analyses
14	a) 1 : 1,000,000		100 %		Administrative boundaries of agencies of Dept. of Labour	BfLR ⁷⁾	b) Mapping of statistical data
15	a) 1 : 500,000		100 %		Recreation grounds	BFANL ⁶⁾	b) Analyses for nature protection

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Country: Federal Republic of Germany (D)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
16	b) Various	100 %			Migration of population, distribution of foreign workers (for all counties)	BfLR ⁷⁾	b) Analyses and mapping

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

- 1) Institut für Angewandte Geodäsie, Frankfurt am Main
- 2) Industrieanlagen — Betriebsgesellschaft mbH, Ottobrunn
- 3) Amt für Militärisches Geowesen, Euskirchen
- 4) Deutsches Hydrographisches Institut, Hamburg
- 5) Bundesanstalt für Gewässerkunde, Koblenz
- 6) Bundesforschungsanstalt für Naturschutz und Landschaftsökologie, Bonn
- 7) Bundesforschungsanstalt für Landeskunde und Raumordnung, Bonn
- 8) Gesellschaft für Umweltüberwachung mbH, Aldenhoven
- 9) Bundesminister für Ernährung, Landwirtschaft u. Forsten, Bonn
- 10) Umweltbundesamt Berlin
- 11) Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover
- 12) Landesanstalt für Ökologie, Landschaftsentwicklung und Forstplanung NRW, Recklinghausen
- 13) Arbeitsgemeinschaft der Vermessungsverwaltungen der Länder der Bundesrepublik Deutschland

Scale of LIS/Data Bases: Small

Respondent's Name: J. Denègre

Respondent's Address: C.N.I.G., 140 rue de Grenelle
75700 Paris

Country: France (F)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 25,000		100 %		Spot elevations		a) Topographers, Geographers
	b) Aerial photos 1 : 60,000		100 %		Elevation contours		b) Automation in cartographic drawing Rectification of imagery Thematic processing
	Digital contours			R	250m-grid elevations	IGN ¹⁾	c) Copyright and confidentiality
2	a) Variable scales (French maps)	100 %	100 %		Spot depths, sea-marks, etc. Coastlines, bathymetric contours	SHOM ²⁾	a) Hydrographers, Geophysicists, private companies, etc. b) Studies, sea mapping
3	b) Various a) 1 : 1,000,000 a) 1 : 250,000	100 %	100 % W		Road technical descriptions Roads, railways, etc.	SETRA ³⁾ IGN ¹⁾	a) Road specialists, land-planners, government agencies b) Technical and cartographic information

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Country: France (F)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
4	b) Photo-interpretation, field survey b) 1 : 50,000 (Field survey)	4 %	4 %	4 %	French coastline land use data bank Statistics of land use Land use boundaries and areas Agricultural lands data bases	IPLI ⁽⁴⁾ and IGN ⁽¹⁾ Ministère de l'Agriculture	a) National and local authorities land planners b) To follow the evolution of urbanization and land management a) Administration, professional people local authorities b) To assess and to follow the evolution of agricultural lands
7	b) Field work	100 %			Geologic Borehole Data (GEOBANQUE)	BRGM ⁽⁵⁾	a) Geologists, land planners, general public b) To disseminate information on the subsoil through the telecommunications public network ("Minitel", i.e. -display) c) Confidentiality in some cases

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
7 cont.	a) 1 : 50,000			W	Digital geologic map	BRGM ⁵⁾	a) Geologists b) Automation of map production at BRGM
8	b) 1 : 100,000 b) 1 : 50,000			W W	Soil data Soil data	INRA ⁶⁾ and IGN ¹⁾ Chambre d'Agriculture Région Centre	a) Scientific and agricultural professional organizations b) To assess soil ability for agriculture; to conduct scientific and operational studies on soils
13	a) 1 : 250,000 a) 1 : 100,000 and 1 : 1,000,000	100 %	100 %	100 %	Location of communes Administrative boundaries	IGN ¹⁾	a) Government agencies, statisticians economists, research workers b) To locate statistics and to allow its cartographical representation c) Copyright for applications

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Country: France (F)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
14	b) Census All administrative sources	100 %			All kinds of informations concerning French communes (Base de données locales BDL)	INSEE ⁷⁾ et al.	a) National and local agencies b) To know and follow the equipment and activities of local communities
16	b) Census 1982	100 %			Population general census	INSEE ⁷⁾	a) National and local authorities, economists, land planners, research workers b) Socio-economic studies c) Confidentiality (in some aspects)

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Institut Géographique National

2) Service Hydrographique et Océanographique de la Marine

3) Service d'Etudes Techniques des Routes et Autoroutes

4) Inventaire Permanent du Littoral

5) Bureau de Recherches Géologiques et Minières

6) Institut National de la Recherche Agronomique

7) Institut National de la Statistique et des Etudes Economiques

Scale of LIS/Data Bases: Small
Country: United Kingdom (GB)

Respondent's Name: *Peter Dale*

Respondent's Address: Dept. of Land Surveying
North East London Polytechnic
Longbridge Road, Dagenham,
Essex RM8 2AS

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
1	a) 1 : 1,000,000		100 %		Elevation contours	TIS ²⁾	
2	a) 1 : 1,000,000 b) Various	100 %	100 %		Bathymetry, coastline water pattern Wreck information	TIS ²⁾ HD ³⁾	
3	a) 1 : 250,000 b) Various	100 %	100 %		Railroads, roads Airfields, air obstructions	TIS ²⁾ HD ³⁾	
4	a) 1 : 250,000 a) 1 : 625,000 a) 1 : 63,360	100 % 100 %	100 % 100 %		Selected topographic features Landcover National parks, areas of beauty	TIS ²⁾ FC ⁴⁾ DOE ⁵⁾	
5	a) 1 : 100,000				SO ₂ /Smoke contours of 1975-1976	DOE ⁵⁾	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small
Country: United Kingdom (GB)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
7	a) 1 : 50,000 b) Fieldwork				Conductivity, pH-Values (5 digital maps 1 : 250,000)	BGS ⁷⁾ NERC ¹⁾	
8	a) 1 : 625,000 (generalised)		100 %		Soil boundaries	FC ⁴⁾	
10	a) 1 : 625,000		100 %		Water supply areas 1976	DOE ⁵⁾	
11	a) 1 : 625,000		100 %		Water sewage areas 1976	DOE ⁵⁾	
13	a) 1 : 100,000		100 %		Administrative boundaries	FC ⁴⁾	
14	a) 1 : 1,250,000		100 %		Health areas — 1974	DOE ⁵⁾	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
15	a) 1 : 625,000		100 % R		Route Planning Map	OS ⁶⁾	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) National Environment Research Council

2) Thematic Information Service

3) Hydrographic Dept., Ministry of Defense

4) Forestry Commission, Farnham, Surrey

5) Dept. of the Environment, London

6) Ordnance Survey, Southampton

7) British Geological Service

Scale of LIS/Data Bases: Small

Country: Italy (I)

Respondent's Name: Ten. Col. Agostino Corradino

Respondent's Address: IGM⁽¹⁾, Via C. Battisti 10
I-50100 Firenze

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 500,000		100 %		Elevation contours	IGMI ⁽¹⁾	a) Government agencies b) Studies and research c) Copyright
2	a) 1 : 500,000		100 %		Rivers, lakes, waterbodies, etc.	IGMI ⁽¹⁾	a) Government agencies b) Studies and research c) Copyright
3	a) 1 : 250,000		100 %		Infrastructural data	IGMI-ENEA ⁽⁴⁾	a) Government agencies b) Studies and research c) Copyright
	a) 1 : 250,000		100 %		Hydrography	IGMI-ENEA ⁽⁴⁾	a) Government agencies b) Studies and research c) Copyright
4	a) 1 : 100,000	7 %			500m-grid of urban, forested and agricultural areas	Regional agencies	a) Government b) Management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
7	b) Field work a) 1 : 50,000 a) 1 : 100,000	100 %		100 %	Geologic information 250m-grid gravity data	SGI ²⁾	a) Government, universities, private companies b) Research
9	b) Field station	100 %			Climatological data	SIM ³⁾	a) Government, private companies b) Energy consumption, weather forecasts, damage expertise
13	b) Census 1981 a) 1 : 100,000	100 %	100 %		Statistic data about communities Administrative boundaries	ISTAT ⁵⁾ IGMI ¹⁾	a) Government, private companies b) Information system c) Copyright
14	b) Various b) Various	100 %		100 %	Population density 1km-grid of population density	ENEA ⁴⁾	a) Government agencies b) Security facilities

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Scale of LIS/Data Bases: Small

Country: Italy (I)

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
16	b) Census 1981	100 %			Statistic data	ISTAT ⁵⁾	a) Government b) Statistic information, research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

- 1) Istituto Geografico Militare Italiano
- 2) Servizio Geologico d'Italia
- 3) Servizio Meteorologico dell' Aeronautica

- 4) Comitato Nazionale per la Ricerca e per lo Sviluppo dell'Energia Nucleare e delle Energie Alternative
- 5) Istituto Superiore di Statistica

Scale of LIS/Data Bases: Small
Country: Norway (N)

Respondent's Name: *Ola Einevoll/Svein Moldestad*

Respondent's Address: Norwegian Institute of Land Inventory
Drøbakveien 11, N-1430 Ås

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 500,000 a) 1 : 50,000		100 %	W	Elevation contours 3" x 6"—grid elevations	SK ¹⁾	a) Royal Norwegian Air Force b) Radar simulation c) Copyright
2	a) Various scales b) Field survey	100 % 100 %	100 %		Coastline, Depth-contours, nautical borderlines, navigational lines, etc. Database for wrecks and obstructions	NHS ²⁾	a) Royal Norwegian Navy b) Boating, sailing, cruising b) Navigation
3	a) Various scales	100 %			Road register: Traffic flow, accidents, speed limits, etc.	DPR ³⁾	a) Road administrations and other agencies b) Planning
4	a) Various b) Aerial photos			100 %	6km- and 12km-grid National land use account	CBS ⁴⁾	a) Government b) Planning, research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small
Country: Norway (N)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
5	b) Field survey	W			Emission of air pollutants	CBS ⁴⁾	a) Air pollution authority b) Research
	b) Questionnaire	100 %			Physical impact of hydropower generation on riversystems and fishpopulation	CBS ⁴⁾	a) Government b) Research
7	b) Fieldwork	40 %	40 %		Sand and gravel deposits (statistics and outlines)	GSN ⁶⁾	a) Government, private companies, planning authorities b) Planning, research
8	b) Fieldwork Lab'analysis	W			Soil profile analysis	JRI ⁵⁾	a) Government, universities b) Land use planning, resource management
11	b) Information from cities, counties	100 %			Municipal waste treatment plants; waste water treatment plants	CBS ⁴⁾	a) Government, private companies b) Planning, research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country: Norway (N)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
16	a) Maps various scales b) Various		100 %		Population density	SK ¹⁾ CBS ⁴⁾	a) Government agencies, private companies b) Research
		100 %					

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Statens Kartverk (Norwegian Mapping Authority)

4) Central Bureau of Statistics, Oslo

2) Norwegian Hydrographic Service, Stavanger

5) Norwegian Institute of Land Inventory (Jordregisterinstituttet), Ås

3) Directorate of Public Roads (Vegdirektoratet), Oslo

6) Geological Survey of Norway

Scale of LIS/Data Bases: Small

Country: The Netherlands (NL)

Respondent's Name: H. J. G. L. Alders

Respondent's Address: Hoofddirectie Kadaster
afd Coördinatie Onderzoek
Waltersingel 1, NL-7314 NK Apeldoorn

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 50,000			10-100 %	3" x 6"—grid elevations	Topographic Service	a) Military, aviation, mapping agencies b) Radar simulation, orthophoto production
3	a) 1 : 500,000 a) 1 : 12,500 a) 1 : 25,000 b) Police depts.		100 % 2 % 100 % 100 %		Roads, railroads, etc. Traffic accident locations Traffic accident data	Topographic Service VOR-Heerlen	a) Military, mapping agencies b) Digital mapping, and special purpose maps a) Police, road maintainer b) Traffic control
4	a) 1 : 25,000 b) CBS data a) 1 : 25,000		60 % 60 %	100 % 60 % 60 %	100m-grid of 35 categories of land use data Land use data (points, lines)	CBS RPD	a) Universities, ministries, publishing companies b) Planning, finance, mapping

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Country: The Netherlands (NL)

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
7	b) Seismic data		20 %		Seismic profiles (60,000 km over sea, 45,000 km over land)	RGD	a) Government, oil companies b) Oil and gas exploration c) Confidentiality in some cases
8	b) Field survey a) Various Topographic and soil maps	65 %	65 %		soil data	Striboka	a) Agriculture, planning agencies
9	b) Field data	100 %			WMO climatological data	KNMT	a) Government, insurance companies, gas and electricity companies b) Energy consumption, damage expertise, weather forecasts

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small
Country: The Netherlands (NL)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
13	a) 1 : 400,000		100 %		Administrative boundaries (municipal, province, state)	TDM	a) Government, universities, etc. b) Various

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small
Country: Finland (SF)

Respondent's Name: *Kirsi Makkonen*
Respondent's Address: Geodetic Institute
Helsinki

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 200,000 and 1 : 20,000		W	W	Digitized contours 200 m x 200 m raster	National Board of Survey	a) Land use planners, engineers b) Digital terrain models
2	a) 1 : 20,000 b) Satellite imagery		W	R	Digitized boundary lines of waterbodies 25 m x 25 m raster	National Board of Survey	a) Land use and landscape planners b) Source information
3	b) Field data a) 1 : 600,000 1 : 200,000 b) Satellite imagery	100 %	100 %	R	Road register Road network 25 m x 25 m raster	National Board of Roads and Waterways	a) Planners b) Source data
4	b) Census	100 %			Building register	Census bureau	a) Land use planners

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Continuation

Country: Finland (SF)

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
4 cont.	b) Various b) Satellite imagery		W	R	Agricultural boundary lines 25 m x 25 m raster	National Board of Survey	b) Source
5	b) Registers b) Satellite imagery	R	R		Environmental attributes Environmental boundary lines	Ministry of Environment	
6	b) Registers	R			Ecological registers	Ministry of Environment	
7	a) Various		W		Mapping of pre-quaternary rocks	Geological Survey of Finland	a) Planners

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
8	b) Various		W		Quaternary deposits	Geological Survey of Finland	a) Planners
9	b) Field data	W			Climatic data	Finnish Meteorological Institute	
12			R		Communications network	Post and telecomm. of Finland	
13	b) Census a) Various	100 %	100 %		Information about inhabitants Boundaries of communities, counties and postal areas	Statistics Bureau National Board of Survey	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Existing small-scale LIS/Data bases of items 1 to 16
(one table per item)

Scale of LIS/Data Bases: Small Item No. 1: Topographic elevation data

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
A	b) Aerial photos a) 1 : 50,000			90 %	Austrian elevation data base	BEV	a) Federal agencies b) Orthophoto production, ecological investigations
				100 % Styria	Graz Terrain Model (GTM)	IIGG	
B	a) 1 : 250,000		100 %	R	Elevation contours	IGN	a) Administrations, private companies
CH	a) 1 : 25,000 a) 1 : 25,000		W	100 %	250m-grid elevations Elevation contours	OFTT BfL	a) Military, federal agencies c) Confidentiality
	a) 1 : 1,000,000 1 : 500,000 a) 1 : 1,000,000 a) 1 : 200,000 a) 1 : 25,000 — 1 : 50,000 a) 1 : 50,000	100 %	100 %	R 100 % 100 %	Spot elevations, mountain ranges (location, name) Elevation contours Map plate of contours 50 x 50 m raster of elevations 1" x 1" raster of elevations	HAG IABG AMiGeo	a) Federal agencies b) Digital mapping Thematic processing Rectification of imagery b) Planning purposes b) Planning purposes

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No. 2: Hydrographic data (rivers, lakes, coast lines, bathymetry, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
D	a) 1 : 500,000	100 %			Lakes, rivers (location, name)	IfAG	a) Federal agencies
	a) 1 : 1,000,000		100 %		Coast lines, bathymetric contours, rivers, etc.		b) Thematic processing resource management
	a) 1 : 200,000			R	Map plate of waterbodies		
	a) Various	3 %	3 %		Cables, wrecks, bathy- metric contours, etc.	DHI	b) Digital mapping
F	a) 1 : 200,000		100 %		Hydrographic basin boundaries	BfG	b) Quantitative analyses
	— 1 : 500,000						
F	a) Variable scales (French maps)	100 %			Spot depths, sea-marks, etc.	SHOM	a) Hydrographers, geophysicists, private companies, etc.
			100 %		coastlines, bathymetric contours		b) Studies, sea mapping
GB	a) 1 : 1,000,000		100 %		Bathymetry, coastline water pattern	TIS	
	b) Various	100 %			Wreck information	HD	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
I	a) 1 : 500,000		100 %		Rivers, lakes, waterbodies	IGMI	a) Government agencies b) Studies and research c) Copyright
N	a) Various scales b) Field survey	100 % 100 %	100 %		Coastline, depth contours, nautical borderlines, navigational lines, etc. Database for wrecks and obstructions	NHS	a) Royal Norwegian Navy b) Boating, sailing, cruising b) Navigation
S	a) 1 : 250,000 a) 1 : 500,000 a) 1 : 1,000,000		100 % 100 % 100 %		Coast lines, rivers, lakes, waterbodies, etc.	NLS	b) Digital mapping
SF	a) 1 : 20,000 b) Satellite imagery		W	R	Digitized boundary lines of waterbodies 25 m x 25 m raster	National Board of Survey	a) Land use and landscape planners b) Source information

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
CH		R	R		Road network with specifications	EPF Lausanne	a) Road administrations b) Analysis and development of traffic c) Homogeneity cantonal/national level
D	a) 1 : 500,000	100 %			Cities and settlements, (location and speci- fications, e.g. airports, stations, ferries)	IFAG	b) Mapping
	a) 1 : 1,000,000		100 %		Roads, railroads, navi- gable rivers, channels	IFAG/BFANL	b) Planning
	a) 1 : 200,000				Map plates of roads, railways, cities, etc.	IfAG	b) Mapping
	a) 1 : 1,000,000 a) 1 : 1,000,000 — 1 : 250,000		100 % 100 %		Main-traffic roads All types of air and road traffic routes	BfLR GUW	b) Suitability studies b) Planning
F	b) Various	100 %			Road technical descriptions	SETRA	a) Cartographers, landplanners government agencies

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
F cont.	a) 1 : 1,000,000 a) 1 : 250,000		100 % W		Roads, railways, etc.	IGN	b) Technical and cartographic information
GB	a) 1 : 250,000 b) Various	100 %	100 %		Railroads, roads Airfields, air obstructions	TIS HD	
I	a) 1 : 250,000		100 %		Infrastructural data	IGMI-ENEA	a) Government agencies b) Studies and research c) Copyright
	a) 1 : 250,000		100 %		Hydrography	IGMI-ENEA	a) Government agencies b) Studies and research c) Copyright
N	a) Various scales	100 %			Road register: traffic flow, accidents, speed limits etc.	DPR	a) Road administrations and other agencies b) Planning
NL	a) 1 : 500,000 a) 1 : 12,500		100 % 2 %		Roads, railroads, etc.	Topographic Service	a) Military, mapping agencies b) Digital mapping, and special purpose maps

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
NL cont.	a) 1 : 25,000 b) Police depts.	100 %	100 %		Traffic accident locations Traffic accident data	VOR- Heerlen	a) Police, road maintainer b) Traffic control
S	a) 1 : 250,000 a) 1 : 500,000 a) 1 : 1,000,000 a) 1 : 3,000,000		100 % 100 % 100 % 100 %	100 %	Roads, railroads, navigable rivers, channels electrical power lines Aeronautical map data, e.g. airfields, obstacles	NLS NLS and SAF	b) Digital mapping
SF	b) Field data a) 1 : 600,000 a) 1 : 200,000 b) Satellite imagery	100 %	100 %	R	Road register Road network 25 m x 25 m raster	National Board of Roads and Waterways	a) Planners b) Source data

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LJS/Data Bases: Small

Item No. 4: Land use/land cover (forests, urban areas, agricultural lands, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
CH	b) 1:25,000 aerial photos			W	Swiss area statistics 100m-grid	OFS	a) Government agencies b) Decision-making information
D	a) 1:1,000,000		100 %		Land uses, e.g. boundary lines of major cities, swamps, glaciers, sand dunes	IfAG	b) Mapping
	a) 1:200,000			R	Map plates of forest areas, settlements, etc.		
	a) 1:1,000,000		100 %		Forest areas	BFANL	b) Quantitative analyses b) Site selection planning
	a) 1:1,000,000		100 %		Land use boundaries	BFANL	
	a) < 1:100,000		100 %		Settlement boundaries	GUW	
F	b) Photo-inter- pretation field survey	4 %	4 %	4 %	French coastline land use data bank; Statistics of land use; Land use boundaries and areas	IGN/IPLI	a) National and local authorities; land planners b) To follow the evolution of urbanization and land management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small Item No. 4 — Continuation

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
F cont.	b) 1 : 50,000 field survey		W		Agricultural lands data bases	Ministère de l'Agriculture	a) Administration b) To assess and to follow the evolution of agricultural lands
GB	a) 1 : 250,000 a) 1 : 625,000 a) 1 : 63,360	100 % 100 %	100 % 100 %		Selected topographic features Landcover National parks, areas of beauty	TIS FC DOE	
I	a) 1 : 100,000	7 %			500m-grid of urban, forested and agricultural areas	Regional agencies	a) Government b) Management
N	a) Various b) Aerial photos			100 %	6km- and 12km-grid national land use account	CBS	a) Government b) Planning, research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Item No. 4 — Continuation

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
NL	a) 1 : 25,000			100 %	100m-grid of 35 categories of land use data	CBS	a) Universities, Ministries, publishing companies b) Planning, finance, mapping
	b) CBS data a) 1 : 25,000	60 % 60 %	60 % 60 %		Land use data (points, lines)	RPD	
	a) 1 : 250,000 a) 1 : 500,000 a) 1 : 1,000,000		100 % 100 % 100 %		Boundaries for densely built-up areas		b) Digital mapping
SF	b) Census	100 %			Building register	Census Bureau	a) Land use planners b) Source
	b) Various b) Satellite imagery		W	R	Agricultural boundary lines 25 m x 25 m raster	National Board of Survey	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small Item No. 5: Environmental data (immissions, agricultural/forest damages, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
A	b) Aerial photo 1 : 10,000		100 % Vorarl- berg Pro- vince		Vorarlberger Waldstandserhebung	VL	
D	b) Various	100 %			SO ₂ -Emission for all counties	UBA	b) Analyses and planning
	a) 1 : 1,000,000		100 %		Smog- and immission- endangered areas	BfLR	
	b) Field survey	100 %			Water quality measuring station data base	BfG	b) Control of water condition
	b) Various		100 %		Boundaries of radiological impacts (8 classes)	GUW	b) Analyses in connection with nuclear plant site selections
	b) Various	100 %			Data base EMUKAT, containing types, sizes and producers of emissions	UBA	b) Analyses for air pollution control

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Item No. 5 — Continuation

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
D cont.	b) Various	100 %			Measuring stations for water pollution by heavy metals	BGR	b) Chemical analyses and controls of water
	a) 1 : 1,000,000		100 %		Forest boundaries for damage classification	BFANL	b) Map reference for forest damage analyses
	b) Field survey			100 %	4km-grid of forest damage	BML	b) Damage assessment
GB	a) 1 : 100,000				SO ₂ /Smoke contours of 1975-1976	DOE	
N	b) Field survey	W			Emission of air pollutants	CBS	a) Air pollution authority b) Research
	b) Question- naire	100 %			Physical impact of hydropower generation on riversystems and fishpopulation	CBS	a) Government b) Research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
SF	b) Registers	R			Environmental attributes	Ministry of Environment	
	b) Satellite imagery		R		Environmental boundary lines		

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Item No. 6: Ecological data (wildlife habitat, national parks, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
D	a) 1:25,000	100 %	100 %		Centroid coordinates of nature reserve areas	BFANL	b) Ecological projects and plannings
	— 1:50,000				Boundaries of nature reserve areas	BFANL	
	a) 1:200,000				Biotopkataster Nordrhein-Westfalen (NRW)	LÖLF	
SF	a) 1:25,000		100 % of NRW				
	b) Registers	R			Ecological registers	Ministry of Environment	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
A	b) Field work		W		Geologic outcrop documentation GEOPUNKT	GBA	
	b) Chemical analyses		W		Geochemical element distribution in waterbodies	GBA	
	b) Field work			100 %	Digital Density Model (DDM) Austria	MUL	b) Determination of earth parameters, correction of levelling and triangulation data
	b) Books b) Aero survey	W		100 %	Geological plan- documentation Aeromagnetic survey of Austria	GBA GBA	b) Geophysical exploration
CH	b) Field work a) 1:10,000 a) 1:25,000			W 38 %	Gravity data 50m-grid of numerical relief (Fichier relief)	Instituts de Géophysique UNI Lausanne and EPF Zürich	a) Geologists b) Research on geologic structures, etc.

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
CH cont.	a) 1:25,000		W		Swiss geologic atlas	Swiss geol. comm.	b) Engineering
D	a) 1:1,000,000 a) Various b) Field data	100 % R	R	R	Oil fields, mines, etc. Entire content of geological maps	IfAG BGR	a) Federal agencies b) Digital mapping Thematic processing
F	b) Field work	100 %			Geologic Borehole Data (GEOBANQUE)	BRGM	a) Geologists, land planners, general public b) To disseminate information on the subsoil through the telecommunications public network ("Minitel") c) Confidentiality in some cases
	a) 1:50,000			W	Digital geologic map	BRGM	a) Geologists b) Mapping
GB	a) 1:50,000 b) Field work				Conductivity, pH-Values (5 digital maps 1:250,000)	BGS, NERC	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
I	b) Field work a) 1 : 50,000 a) 1 : 100,000	100 %		100 %	Geologic information 250m-grid gravity data	SGI	a) Government, universities, private companies b) Research
N	b) Field work	40 %	40 %		Sand and gravel deposits (statistics and outlines)	GSN	a) Government, private companies, planning authorities b) Planning, research
NL	b) Seismic data		20 %		Seismic profiles (60,000 km over sea, 45,000 over land)	RGD	a) Government, oil companies b) Oil and gas exploration c) Confidentiality in some cases
SF	a) Various		W		Mapping of pre-quaternary rocks	Geological Survey of Finland	a) Planners

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Item No. 8: Soil data (soil type, soil humidity, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
CH	a) 1 : 50,000 — 1 : 500,000		W		Swiss soil map		
D	a) 1 : 1,000,000		100 %		Soil type boundary data base	BFANL	b) Analyses for nature protection
F	b) 1 : 100,000 b) 1 : 50,000			W W	Soil data	IGN/INRA	a) Scientific and agricultural professional organizations b) To assess soil ability for agriculture; to conduct scientific and operational studies on soils
GB	a) 1 : 625,000		100 %		Soil boundaries	FC	
N	b) Field work Lab'analysis	W			Soil profile analysis	JRI	a) Government, universities b) Land use planning, resource management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
NL	b) Field survey a) Various Topographic and soil maps	65 %	65 %		Soil data	Stiboka	a) Agriculture, planning agencies
SF	b) Various		W		Quaternary deposits	Geological Survey of Finland	a) Planners

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases [*]			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
D	a) 1 : 1,000,000 b) 1 : 500,000 and Various		100 %		Average annual rainfall	BFANL	b) Analyses for nature protection
			100 %		Average rainfall in January		
			100 %		Average annual temperature		
			100 %		Average duration of the vegetation phase		
			100 %	100 %	Snow coverage (days/yr) 3 km x 4.5 km raster of monthly rainfalls		
NL	b) Field data	100 %			WMO climatological data	KNMT	a) Government, insurance companies, gas and electricity companies b) Energy consumption, damage expertise, weather forecasts

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
I	b) Field station	100 %			Climatological data	SIM	a) Government, private companies b) Energy consumption, weather forecasts, damage expertise
SF	b) Field data	W			Climatic data	Finnish Meteorological Institute	

* Numbers = approx. coverage of country in %; R = research status; W = work in progress

Scale of LIS/Data Bases: Small

Item No. 10: Energy/water supplies and demands (electric power lines, drinking water facilities, water reservoirs, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
D	a) 1 : 1,000,000		100 %		Groundwater boundaries	BfG	b) Analyses for hydrology and water supplies b) Mapping of water supply features
	a) 1 : 1,000,000	100 %	100 %		Public water supply lines and stations		
GB	a) 1 : 625,000		100 %		Water supply areas 1976	DOE	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
GB	a) 1 : 625,000		100 %		Water sewage areas 1976	DOE	
N	b) Information from cities counties	100 %			Municipal waste treatment plants; waste water treatment plants	CBS	a) Government, private companies b) Planning, research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Small

Item No. 12: Communication utilities (telephone lines, postal offices, radio/TV stations, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
SF			R		Communications network	Post and telecomm. of Finland	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
A	a) 1 : 50,000		100 %		Administrative boundaries data base	BEV	a) Federal agencies b) Thematic mapping
D	b) Various	100 %			Custom stations	IfAG	a) Federal agencies b) Digital mapping Thematic processing
	a) 1 : 500,000		100 %		Administrative bound- aries (state, county) Map plate of boundaries Number of inhabitants of settlements shown in 1 : 500,000 map	IfAG	a) Federal agencies
	a) 1 : 200,000 b) Census a) 1 : 500,000	100 %			Boundaries of urban and rural settlements	BfLR	b) Mapping, analyses
F	a) 1 : 250,000 a) 1 : 100,000 and 1 : 1,000,000	100 %	100 %	100 %	Location of communes Administrative boundaries	IGN	a) Government agencies, statisticians economists, research workers b) To locate statistics and to allow its cartographical representation c) Copyright for applications

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
GB	a) 1 : 100,000		100 %		Administrative boundaries	FC	
I	b) Census 1981 a) 1 : 100,000	100 %	100 %		Statistic data about communities Administrative boundaries	ISTAT IGMI	a) Government, private companies b) Information system c) Copyright
NL	a) 1 : 400,000		100 %		Administrative boundaries (municipal, province, state)	TDM	a) Government, universities, etc. b) Various
S	a) 1 : 250,000 a) 1 : 500,000 a) 1 : 1,000,000		100 % 100 % 100 %		Administrative boundaries	NLS	a) State agencies b) Digital mapping
SF	b) Census a) Various	100 %	100 %		Information about inhabitants Boundaries of communities, counties and postal areas	Statistics Bureau National Board of Survey	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No. 14: Administrative data (public health facilities, social welfare administrations, security facilities such as police/fire stations, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
B	a) 1 : 300,000 b) 1 : 500,000	100 %	100 %	W	Administrative boundaries	IGN	a) Administrations
D	a) 1 : 1,000,000		100 %		Administrative boundaries of agencies of Dept. of labour	BfLR	b) Mapping of statistical data
F	b) Census	100 %			Public equipments of French communities	INSEE	a) National and local agencies b) To know and follow the equipment and activities of local communities
GB	a) 1 : 1,250,000		100 %		Health areas ~ 1974	DOE	
I	b) Various b) Various	100 %		100 %	Population density 1km-grid of population density	ENEA	a) Government agencies b) Security facilities

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
D	a) 1 : 500,000		100 %		Recreation grounds	BFANL	b) Analyses for nature protection
GB	a) 1 : 625,000		100 %		Route planning map	OS	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
A		100 %			Census 1981	ÖSZ	
D	b) Various	100 %			Migration of population, distribution of foreign workers (for all countries)	BfLR	b) Analyses and mapping
F	b) Census 1982	100 %			Population general census	INSEE	a) National and local authorities, economists, land planners, research workers b) Socio-economic studies c) Confidentiality (in some aspects)
I	b) Census 1981	100 %			Statistic data	ISTAT	a) Government b) Statistic information research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
N	a) Maps various scales b) Various		100 %		Population density	SK CBS	a) Government agencies, private companies b) Research
S	b) CBS Census 1980	100 %			Statistic data about population groups (pensioners, school children, etc.)	CFD CBS	a) CFD, CBS b) Population mapping

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Existing large-scale LIS/Data bases in the countries

A, B, CH, D, F, GB, I, N, NL, S and SF

(one table per country)

Scale of LIS/Data Bases: Large

Country: Austria (A)

Respondent's Name: W. Miklau

Respondent's Address: Bundesamt für Eich- u. Vermessungswesen
Hintere Zollamtstrasse 4
A-1030 Wien

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
2	b) Echo-Sounder		100 % Donau		"Donau-Stromsohlen-vermessung"	WSD ¹⁾	b) Contouring of river-bottom, control of ship-traffic
3, 4, 10, 12, 14	b) Aerial photo field survey		20 % Vienna		"Multi-purpose-map Vienna"	MW ²⁾	b) City-mapping, utility documentation
4	a) 1 : 2,000	W	100 % of Vienna		"Realnutzungskartierung Wien"	MW ²⁾	b) Area dedication
	a) —		100 % of Vienna		Digital City-Map Linz	ML ³⁾	
	a) 1 : 2,000		30 % of Graz		Generalized area dedication	MW ²⁾	
	a) Land registration map				Digital City-map Graz	MG ⁴⁾	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Continuation

Scale of LIS/Data Bases: Large

Country: Austria (A)

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
10	a) — b) Survey		W		Utility cadastral data	M ⁵⁾	
13	b) Land registration	100 % Austria			Grundstücksdatenbank GDB	BEV ⁶⁾	a) Public user c) Some data are restricted by law

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Wasserstraßendirektion

2) Magistrat Wien-ADV-GDV

3) Magistrat Linz

4) Magistrat Graz

5) Magistrate von Salzburg, Linz, Klagenfurt, Wien, Wolfsberg und Schwechat

6) Bundesamt für Eich- und Vermessungswesen, Wien

Scale of LIS/Data Bases: Large
Country: Belgium (B)

Respondent's Name: Prof. J. Wilmet
Respondent's Address: Université Catholique de Louvain
Place Louis Pasteur 3
B-1348 Louvain-La-Neuve

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
13	b) Field surveys	W			Cadastral data	ACSG ¹⁾	a) Administrations, land re-allocation services, owners, etc.

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Administration du Cadastre-Service des Grands Levés

Scale of LIS/Data Bases: Large
Country: Switzerland (CH)

Respondent's Name: *J. J. Chevallier*
Respondent's Address: EPP²⁾, Géodésie et mensuration
GR-Ecublens, CH-1015 Lausanne

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
10	a) Plans b) Field survey		W		Utility cadastral data ("Leitungskataster")	Municipalities	
12	a) Plans b) Field survey		R		Installation of PTT	PTT ¹⁾	
13	a) Plans b) Field survey	40 %	30 %		Swiss cadastral data	Schweizerische Kataster- vermessung	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Régie fédérale des Postes, Télégraphes et Téléphones

2) Ecole Polytechnique Fédérale

Scale of LIS/Data Bases: Large

Country: Federal Republic of Germany (D)

Respondent's Name: W. Göpfert

Respondent's Address: Technische Hochschule Darmstadt, FB 12
Petersenstrasse 13
D-6100 Darmstadt

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	b) Aerial photos	43 %			Terrain profile data for generation of orthophotos 1 : 10,000	LVA ¹⁾	a) Cartographers, landplanners
	b) Aerial photos	W	W		Spot elevations, elevations contours, and elevations grid		b) Orthophotomapping, road construction aids, etc.
	a) 1 : 5,000 b) Aerial photos 1 : 5,000 — 1 : 10,000			W	Elevation grid of ± 0.1 m accuracy for an area of 2,500 km ²		a) Communities, cities b) Planning aids, etc.
3	see Item 13				Autom. Liegenschaftskarte (ALK)		
4	b) Orthophotos 1 : 2,000 — 1 : 10,000	W	W		Letterings (1,400 km ² complete) Boundary lines of land uses (1,400 km ² complete)	Umlandverband Frankfurt	a) Forestry agencies, agricultural agencies, cities, etc. b) Land use statistics, planning aids

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country: Federal Republic of Germany (D)

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
13	a) 1 : 5,000		R/W		Real property boundaries (Autom. Liegen-schaftskarte "ALK")	LVA ¹⁾	a) Government agencies land owners, surveyors
	b) Land and property register books	100 %			Real property information (Autom. Liegen-schaftsbuch "ALB")	LVA ¹⁾	b) Management information retrieval
17	1 : 500 - 1 : 1,000 1 : 2,500 - 1 : 5,000 1 : 10,000 - 1 : 20,000	R/W	R/W		MERKIS = Maßstab-orientierte einheitliche Raumbezugsbasis für Kommunale Informationssysteme	DSt ²⁾	Stadtgrundkarte, Bebauungsplan, Topographische Stadtkarte, Stadtplan, Top. Stadüber-sichtskarte

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) State surveying agencies (Landesvermessungsämter)

2) Deutscher Städtetag

Scale of LIS/Data Bases: Large

Country: France (F)

Respondent's Name: A. Cridlig

Respondent's Address: Bureau III A1

1, rue des Mathurins, F-75009 Paris

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	b) Aerial photos 1 : 15,000 b) 1 : 2,500 — 1 : 4,000 and field survey		W		Elevation contours 6000 km ² covered	IGN ¹⁾	
			W		Elevation contours 18 major cities covered	Municipalities	
3	b) Terrestrial photos	80 %			Description of national roads and traffic for drawing at 1 : 2,000 or 1 : 15,000	SETRA ²⁾	
10	a) Maps b) Field survey		W		Electricity/gas/water network	Municipalities or specific agencies	b) Work coordination, management and planning

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large
Country: France (F)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
12	a) Cadastral map b) Field survey		100 %		Telephone line nets for drawing at 1 : 200 — 1 : 1,000	Postes et Télécom-munications	
13	b) Cadastral data b) Aerial photos and field survey	100 %			Literal description of land properties, premises and owners. National repertory of addresses Boundaries of land parcels and hold on ground of buildings. Major cities are covered, about 1,700 km ²	DGI (cadastral survey department) DGI (cadastral survey department)	a) Administrations, municipalities, private surveyors, land owners b) Fiscal, juridical, technical and economical a) Administrations, municipalities, private surveyors, land owners b) Fiscal, juridical, technical and economical

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Institut Géographique National

2) Service d'Etudes Techniques des Routes et Autoroutes

Scale of LIS/Data Bases: Large
Country: United Kingdom (GB)

Respondent's Name: *Peter Dale*

Respondent's Address: Dept. of Land Surveying
North East London Polytechnic
Longbridge Road, Dagenham, Essex

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1:7,500 a) 1:7,500		A17 A17		Bathymetric contours Elevation contours	MAC ¹⁾	
2	a) 1:1,250 - 1:2,500		D3		Water pattern	OS ²⁾	
3	a) 1:1,250 - 1:2,500		D3		Roads and railways	OS ²⁾	b) Used by utilities as base for overlays
4	a) 1:1,250 - 1:2,500		D3		Urban built-up areas, vegetation limits		
10	a) 1:1,250 - 1:2,500		D3		Electricity lines and pylons		
12	a) 1:1,250 - 1:2,500		D3		Telephone lines and boxes		

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large
 Country: United Kingdom (GB)
 Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
15	a) 1:1,250 — 1:2,500		D3		Schools, universities, recreational facilities	OS ²⁾	b) Used by land registry for registering title to land
16	a) 1:1,250 — 1:2,500		D3		Miscellaneous socio-economic boundaries		

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

A17, D3 = complete coverage of the area corresponding to this map number

1) Macaulay Soil Survey Institute, Aberdeen AB9 2QJ

2) Ordnance Survey, Southampton

Scale of LIS/Data Bases: Large

Country: Italy (I)

Respondent's Name: Ten. Col. Agostino Corradino

Respondent's Address: IGM, Via C. Battisti, 10
I-50100 Firenze

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
1	a) 1 : 25,000		30 %		Elevation contours	IGMI ¹⁾	a) Government, private companies c) Copyright
2	a) 1 : 25,000		15 %		Rivers, channels, lakes, aqueducts, etc.	IGMI ¹⁾	a) Government, private companies c) Copyright
3	b) Aerial photos		W		Highways Railroads	— Società Autostrade — Ferrovie dello Stato	b) Management
12	a) Maps		W		Telephone lines	SIP ²⁾	b) Management
13	a) 1 : 2,000		5 %		Cadastral data	UTE ³⁾	b) Management, information retrieval

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Istituto Geografico Militare Italiano

3) Ufficio Tecnico Eriale

2) Società Italiana per l'Esercizio delle Telecomunicazioni

Scale of LIS/Data Bases: Large

Country: Norway (N)

Respondent's Name: *Ola Einevoll/Svein Moldestad*Respondent's Address: Norwegian Institute of Land Inventory
Drøbakveien 11, N-1430 Ås

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	a) 1 : 5,000 b) Aerial photos		W		Digital contour lines	SK ³⁾	a) Government, private companies b) Orthophoto production
3	a) 1 : 1,000	R	R		Road network	DPR ¹⁾	a) Private companies, government b) Planning, land management
4	a) 1 : 5,000 b) Field work	W	53 %		Land coverage boundaries (complete for 172.283 km ²)	JRI ²⁾	a) Government, planning authorities b) Planning
12	a) Various scales b) Field survey	W	W		Telephone lines and boxes; utility maps	Telecommunications, Municipalities	a) Municipalities, Telecommunications, private companies b) Planning

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) Directorate of Public Roads (Vegdirektoratet)

3) Statens Kartverk

2) Jordregisterinstituttet (Norwegian Institute of Land Inventory)

Scale of LIS/Data Bases: Small
Country: The Netherlands (NL)

Respondent's Name: *H. J. G. L. Alders*
Respondent's Address: Hoofddirectie Kadaster
Apeldoorn

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
1	b) High order levelling	100 %			High order bench marks	Min. Transport & Public Works	a) Government b) Management
2	a) 1:2,000 — 1:5,000		R		River (analog data) and coastal (digital data) maps	Min. Transport & Public Works	a) Government b) Management
4	a) 1:10,000 b) Field survey	3 %	3 %		Reallotment areas Farmer identification	ICW	b) Reallotment, planning, research
10	a) 1:500 b) Field survey		W	W	Energy/water network data (complete for city of Rotterdam) Unvisible utility data (complete for city of Utrecht)	City of Rotterdam City of Utrecht	a) City administration b) Coordination of works, management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large
Country: The Netherlands (NL)

Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
10 cont.	b) Aerial photos		2 %		Utility data	Cadastre	
13	a) 1:1,000 and 1:2,000 b) Field survey b) Field survey b) Various	99 % 15 %	15 %		Property boundary data Centroid coordinates Administrative data	Cadastre	a) Cadastre, municipalities, others b) Legal protection of property

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Country: Sweden (S)

Respondent's Name: *Anders Morén*

Respondent's Address: NLS¹⁾, S-801 12 Gävle

Item No.	Data Source a) Map, b) Other	Status of Data Bases [*]			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
13	b) Land and property register books a) Property register maps	60 %	85 %		The Swedish Land Data Bank System: Real property register data Centroid coordinates	CFD ³⁾	a) Land register agencies b) Information retrieval, e.g. register, extracts, and other documents
16	b) SCB ²⁾ census every 5th year	100 %			Statistic data about population groups (pensioners, school children, etc.)	SCB ²⁾	a) Local authorities and government agencies b) Population and census mapping c) Confidentiality

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

1) National Land Survey, Gävle

2) Statistics Sweden (SCB)

3) Central Board for Real Estate Data (CFD)

Scale of LIS/Data Bases: Large
Country: Finland (SF)

Respondent's Name: *Kirsi Makkonen*
Respondent's Address: Geodetic Institute
Helsinki

Item No.	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
1	a) 1 : 500 - 1 : 5,000		W		Contour lines	Municipalities	a) Town/Land use planners b) Mass evaluation, water/rain flow evaluation
2	a) 1 : 500 - 1 : 5,000		W		Digitized boundary lines of waterbodies	Municipalities	a) Town/Land use planners b) Mass evaluation, water/rain flow evaluation
3	b) Accident register	W	W		Accident register Road, railroad network	Municipalities	a) Land use planners, street planners b) Inventory, plannings
6	a) 1 : 500 - 1 : 5,000		W		Protected areas	Municipalities	a) Land use planners b) Inventory
8	b) Soil layers b) Bore hole data	W W			Soil register Bore hole data	Municipalities	a) Geotechnical designer street planners b) Site analysis

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large
Country: Finland (SF)
Continuation

Item No.	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
10	b) 1 : 1,000 — 1 : 5,000		W		Utility networks	Municipalities	a) Utility planners
13	a) 1 : 1,000 — 1 : 10,000		W		Real estate boundaries		

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Existing large-scale LIS/Data bases of items 1 to 16

(one table per item)

Scale of LIS/Data Bases: Large

Item No. 1: Topographic elevation data

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
D	b) Aerial photos	43 %			Terrain profile data for generation of orthophotos 1 : 10,000	State surveying agencies	a) Cartographers, landplanners b) Orthophotomapping, road construction aids, etc.
	b) Aerial photos	W	W		Spot elevations, elevations contours, and elevations grid	(Landesver- messungs- ämter)	
	a) 1 : 5,000			W	Elevation grid of ± 0.1 m accuracy for an area of 2,500 km ²	Geodata, Olpe	a) Communities, cities b) Planning aids, etc.
	b) Aerial photos 1 : 5,000 — 1 : 10,000			W			
F	b) 1 : 15,000 aerial photos		W		Elevation contours 6000 km ² covered	IGN	
	b) 1 : 2,500 — 1 : 4,000 and field survey		W		Elevation contours 18 major cities covered	Municipalities	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
GB	a) 1 : 7,500 a) 1 : 7,500		A17 A17		Bathymetric contours Elevation contours	MAC	
I	a) 1 : 25,000		30 %		Elevation contours	IGMI	a) Government, private companies c) Copyright
N	a) 1 : 5,000 b) Aerial photos		W		Digital contour lines	SK	a) Government, private companies b) Production of orthophotos
NL	b) High order levelling	100 %			High order bench marks	Min. Transport & Public Works	a) Government b) Management
SF	a) 1 : 500 — 1 : 5,000		W		Contour lines	Municipalities	a) Town/Land use planners b) Mass evaluation, water/ rain flow evaluation

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 2: Hydrographic data (rivers, lakes, other waterbodies, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
A	b) Echo-Sounder		100 % Donau		Donau-Stromsohlenvermessung	WSD	b) Contouring of river-bottom, control of ship-traffic
GB	a) 1:1,250 — 1:2,500		D3		Water pattern	OS	
I	a) 1:25,000		15 %		Rivers, channels, lakes, aqueducts, etc.	IGMI	a) Government, private companies c) Copyright
NL	a) 1:2,000 — 1:5,000		R		River (analog data) and coastal (digital data) maps	Min. Transport & Public Works	a) Government b) Management
SF	a) 1:500 — 1:5,000		W		Digitized boundary lines of waterbodies	Municipalities	a) Town/Land use planners b) Mass evaluation, water/rain flow evaluation

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 3: Infrastructural data (roads, railroads, traffic density, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
A	b) Aerial photo field survey		20 % of Vienna		Multipurpose-Map "Vienna"	MW	b) City-mapping, utility documentation
D	a) 1:5,000		R/W		Automat. Liegen- schaftskarte (ALK)	LVA	a) Cartographers b) Multi-purpose
F	b) Terrestrial photos	80 %			Description of national roads and traffic for drawing at 1:2,000 or 1:15,000	SETRA	
GB	a) 1:1,250 - 1:2,500		D3		Roads and railways	OS	
I	b) Aerial photos		W		Highways Railroads	Società Autostrade Ferrovie dello Stato	b) Management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 3 — Continuation

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
N	a) 1:1,000	R	R		Road network	DPR	a) Private companies, Government b) Planning, land management
SF	b) Accident register	W	W		Accident register Road, railroad network	Municipalities	a) Land use planners, street planners b) Inventory, plannings

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 4: Land use/land cover (forests, urban areas, agricultural lands, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
A	a) 1:2,000		100 % of Vienna		Realnutzungskartierung Wien	MW	b) Area dedication
	a) —	W			Digital City-Map Linz	ML	
	a) 1:2,000		100 % of Vienna		Generalized area-dedication	MW	
	a) Land registration map		30 % of Graz		Digital City-Map Graz	MG	
D	b) Orthophotos 1:2,000 — 1:10,000 see under Item No. 3	W	W		Letterings (1,400 km ² complete) Boundary lines of land uses (1,400 km ² complete)	Umland- verband Frankfurt	a) Forestry agencies, agricultural agencies, cities, etc. b) Land use statistics, planning aids

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 4 — Continuation

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
GB	a) 1:1,250 — 1:2,500		D3		Urban built-up areas, vegetation limits	OS	
N	a) 1:5,000 b) Field work	W	53 %		Land coverage boundaries (complete for 172,283 km ²)	JRI	a) Government, planning authorities b) Planning
NL	a) 1:10,000 b) Field survey	3 %	3 %		Reallotment areas Farmer identification	ICW	b) Reallotment, planning, research

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 6: Ecological data (wildlife habitat, national parks, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
SF	a) 1 : 500 — 1 : 5,000		W		Protected areas	Municipalities	a) Land use planners b) Inventory

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 8: Soil data (soil type, soil humidity, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
SF	b) Soil layers	W			Soil register	Municipalities	a) Geotechnical designer, street planners
	b) Bore hole data	W			Bore hole data		b) Site analysis

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 10: Energy/water supplies and demands (electric power lines, drinking water facilities, water reservoirs, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
A	a) — b) Survey see also under Item No. 3		W		Utility cadastral data	M	
CH	a) Plans b) Field survey		W		Utility cadastral data ("Leitungskataster")	Municipalities	
F	a) Maps b) Field survey		W		Electricity/gas/water network	Municipalities or specific agencies	b) Work coordination, management and planning
GB	a) 1:1,250 — 1:2,500		D3		Electricity lines and pylons	OS	
NL	a) 1:500		100 %		Energy/water network data (complete for city of Rotterdam)	City of Rotterdam	a) City administration b) Coordination of works, management

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No. 10 — Continuation

Scale of LIS/Data Bases: Large

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
NL cont.	a) 1 : 500 b) Field survey		100 %		Unvisible utility data (complete for city of Utrecht) Utility data	City of Utrecht Cadastre	
	b) Aerial photos		2 %				
SF	a) 1 : 1,000 — 1 : 5,000		W		Utility networks	Municipalities	a) Utility planners

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 12: Communication utilities (telephone lines, postal offices, radio/TV stations, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α -num.	Vector	Raster			
A	see under Item No. 3						
CH	a) Plans b) Field survey		R		Installation of PTT	PTT	
F	a) Cadastral map b) Field survey		100 %		Telephone line nets for drawing at 1 : 200 - 1 : 1,000	Postes et Télécom-munications	
GB	a) 1 : 1,250 - 1 : 2,500		D3		Telephone lines and boxes	OS	
I	a) Maps		W		Telephone lines	SIP	b) Management
N	a) Various scales b) Field survey	W	W		Telephone lines and boxes; utility maps	Telecom-munications, municipalities	a) Municipalities, telecom-munications, private companies b) Planning

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 13: Juridical data (political boundaries of city, county and state, number of inhabitants, cadastral/land parcel data, owners, legal servitudes, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
A	b) Land registration	100 % of Austria			Grundstücksdatenbank (GDB)	BEV	a) Public user c) some data are restricted by law
B	b) Field surveys	W			Cadastral data	ACSL	a) Administrations, land re-allocation services, owners, etc.
CH	a) Plans b) Field survey	40 %	30 %		Swiss cadastral data	Schweizerische Katastervermessung	
D	a) 1 : 5,000 b) Land and property register books	100 %	R/W		Automat. Liegenschaftskarte (ALK) Automat. Liegenschaftsbuch (ALB)	LVA	a) Government agencies land owners, surveyors b) Management information retrieval

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
F	b) Cadastral data b) Aerial photos and field survey	100 %		W	Literal description of land properties, premises and owners. National repertory of addresses. Boundaries of land parcels and hold on ground of buildings. Major cities are covered, about 1,700 km ²	DGI (cadastral survey department) DGI (cadastral survey department)	a) Administrations, municipalities, private surveyors, land owners b) Fiscal, juridical, technical and economical a) Administrations, municipalities, private surveyors, land owners b) Fiscal, juridical, technical and economical
I	a) 1:2,000		5 %		Cadastral data	Ufficio Tecnico Eranale	b) Management, information retrieval

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Item No. 13 — Continuation

Scale of LIS/Data Bases: Large

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
NL	a) 1:1,000 and 1:2,000 b) Field survey b) Field survey b) Various	99 % 15 %	15 %		Property boundary data Centroid coordinates Administrative data	Cadastral	a) Cadastre, municipalities, others b) Legal protection of property
S	b) Land and property register books a) Property register maps	60 %	85 %		The Swedish Land Data Bank System: Real property register data Centroid coordinates	CFD	a) Land register agencies b) Information retrieval, e.g. register, extracts, and other documents
SF	a) 1:1,000 — 1:10,000		W		Real estate boundaries		

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 15: Educational, cultural and recreational facilities (Kindergarten, school, university, theatre, museum, recreational grounds, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases*			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
GB	a) 1:1,250 - 1:2,500		D3		Schools, universities recreation facilities	OS	

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

Scale of LIS/Data Bases: Large

Item No. 16: Socio-economic data (density and migration of population, language distribution, local types of economy, commuters, etc.)

Country	Data Source a) Map, b) Other	Status of Data Bases *			Description of Data Bases	Responsible Agency	Details about Users: a) Category, b) Purpose c) Problems
		α-num.	Vector	Raster			
GB	a) 1 : 1,250 — 1 : 2,500		D3		Miscellaneous socio-economic boundaries	OS	b) Used by land registry for registering title to land
S	b) SCB census every 5th year	100 %			Statistic data about population groups (pensioners, school children, etc.)	SCB	a) CFD, CBS b) Population and census mapping c) Confidentiality

* Numbers = approx. coverage of country in %; R = research status; W = work in Progress

LIST OF THE OEEPE PUBLICATIONS

State — July 1988

A. Official publications

- 1 *Trombetti, C.*: „Activité de la Commission A de l'OEEPE de 1960 à 1964" — *Cunietti, M.*: „Activité de la Commission B de l'OEEPE pendant la période septembre 1960—janvier 1964" — *Förstner, R.*: „Rapport sur les travaux et les résultats de la Commission C de l'OEEPE (1960—1964)" — *Neumaier, K.*: „Rapport de la Commission E pour Lisbonne" — *Weele, A.J. v. d.*: „Report of Commission F." — Frankfurt a. M. 1964, 50 pages with 7 tables and 9 annexes.
- 2 *Neumaier, K.*: „Essais d'interprétation de »Bedford« et de »Waterbury«. Rapport commun établi par les Centres de la Commission E de l'OEEPE ayant participé aux tests" — „The Interpretation Tests of »Bedford« and »Waterbury«. Common Report Established by all Participating Centres of Commission E of OEEPE" — „Essais de restitution »Bloc Suisse«. Rapport commun établi par les Centres de la Commission E de l'OEEPE ayant participé aux tests" — „Test »Schweizer Block«. Joint Report of all Centres of Commission E of OEEPE." — Frankfurt a. M. 1966, 60 pages with 44 annexes.
- 3 *Cunietti, M.*: „Emploi des blocs de bandes pour la cartographie à grande échelle — Résultats des recherches expérimentales organisées par la Commission B de l'O.E.E.P.E. au cours de la période 1959—1966" — „Use of Strips Connected to Blocks for Large Scale Mapping — Results of Experimental Research Organized by Commission B of the O.E.E.P.E. from 1959 through 1966." — Frankfurt a. M. 1968, 157 pages with 50 figures and 24 tables.
- 4 *Förstner, R.*: „Sur la précision de mesures photogrammétriques de coordonnées en terrain montagneux. Rapport sur les résultats de l'essai de Reichenbach de la Commission C de l'OEEPE" — „The Accuracy of Photogrammetric Co-ordinate Measurements in Mountainous Terrain. Report on the Results of the Reichenbach Test Commission C of the OEEPE." — Frankfurt a. M. 1968, Part I: 145 pages with 9 figures; Part II: 23 pages with 65 tables.
- 5 *Trombetti, C.*: „Les recherches expérimentales exécutées sur de longues bandes par la Commission A de l'OEEPE." — Frankfurt a. M. 1972, 41 pages with 1 figure, 2 tables, 96 annexes and 19 plates.
- 6 *Neumaier, K.*: „Essai d'interprétation. Rapports des Centres de la Commission E de l'OEEPE." — Frankfurt a. M. 1972, 38 pages with 12 tables and 5 annexes.
- 7 *Wiser, P.*: „Etude expérimentale de l'aérottriangulation semi-analytique. Rapport sur l'essai »Gramastetten«." — Frankfurt a. M. 1972, 36 pages with 6 figures and 8 tables.

- 8 „Proceedings of the OEEPE Symposium on Experimental Research on Accuracy of Aerial Triangulation (Results of Oberschwaben Tests)“
Ackermann, F.: „On Statistical Investigation into the Accuracy of Aerial Triangulation. The Test Project Oberschwaben“ — „Recherches statistiques sur la précision de l'aérottriangulation. Le champ d'essai Oberschwaben“ — *Belzner, H.*: „The Planning. Establishing and Flying of the Test Field Oberschwaben“ — *Stark, E.*: „Testblock Oberschwaben, Programme I. Results of Strip Adjustments“ — *Ackermann, F.*: „Testblock Oberschwaben, Program I. Results of Block-Adjustment by Independent Models“ — *Ebner, H.*: „Comparison of Different Methods of Block Adjustment“ — *Wiser, P.*: „Propositions pour le traitement des erreurs non-accidentelles“ — *Camps, F.*: „Résultats obtenus dans le cadre du project Oberschwaben 2A“ — *Cuniatti, M.*; *Vanossi, A.*: „Etude statistique expérimentale des erreurs d'enchaînement des photogrammes“ — *Kupfer, G.*: „Image Geometry as Obtained from Rheidt Test Area Photography“ — *Förstner, R.*: „The Signal-Field of Baustetten. A Short Report“ — *Visser, J.*; *Leberl, F.*; *Kure, J.*: „OEEPE Oberschwaben Réseau Investigations“ — *Bauer, H.*: „Compensation of Systematic Errors by Analytical Block Adjustment with Common Image Deformation Parameters.“ — Frankfurt a. M. 1973, 350 pages with 119 figures, 68 tables and 1 annex.
- 9 *Beck, W.*: „The Production of Topographic Maps at 1 : 10,000 by Photogrammetric Methods. — With statistical evaluations, reproductions, style sheet and sample fragments by Landesvermessungsamt Baden-Württemberg, Stuttgart.“ — Frankfurt a. M. 1976, 89 pages with 10 figures, 20 tables and 20 annexes.
- 10 „Résultats complémentaires de l'essai d'«Oberriet» de la Commission C de l'OEEPE — Further Results of the Photogrammetric Tests of «Oberriet» of the Commission C of the OEEPE“
Härry, H.: „Mesure de points de terrain non signalisés dans le champ d'essai d'«Oberriet» — Measurements of Non-Signalized Points in the Test Field «Oberriet» (Abstract)“ — *Stickler, A.*; *Waldhäusl, P.*: „Restitution graphique des points et des lignes non signalisés et leur comparaison avec des résultats de mesures sur le terrain dans le champ d'essai d'«Oberriet» — Graphical Plotting of Non-Signalized Points and Lines, and Comparison with Terrestrial Surveys in the Test Field «Oberriet»“ — *Förstner, R.*: „Résultats complémentaires des transformations de coordonnées de l'essai d'«Oberriet» de la Commission C de l'OEEPE — Further Results from Co-ordinate Transformations of the Test «Oberriet» of Commission C of the OEEPE“ — *Schürer, K.*: „Comparaison des distances d'«Oberriet» — Comparison of Distances of «Oberriet» (Abstract).“ — Frankfurt a. M. 1975, 158 pages with 22 figures and 26 tables.
- 11 „25 années de l'OEEPE“
Verlaine, R.: „25 années d'activité de l'OEEPE“ — „25 Years of OEEPE (Summary)“ — *Baarda, W.*: „Mathematical Models.“ — Frankfurt a. M. 1979, 104 pages with 22 figures.
- 12 *Spiess, E.*: „Revision of 1 : 25,000 Topographic Maps by Photogrammetric Methods.“ — Frankfurt a. M. 1985, 228 pages with 102 figures and 30 tables.

- 13 *Timmerman, J.; Roos, P. A.; Schürer, K.; Förstner, R.*: On the Accuracy of Photogrammetric Measurements of Buildings — Report on the Results of the Test "Dordrecht", Carried out by Commission C of the OEEPE. — Frankfurt a. M. 1982, 144 pages with 14 figures and 36 tables.
- 14 *Thompson, C. N.*: Test of Digitising Methods. — Frankfurt a. M. 1984, 120 pages with 38 figures and 18 tables.
- 15 *Jaakkola, M.; Brindöpke, W.; Kölbl, O.; Noukka, P.*: Optimal Emulsions for Large-Scale Mapping — Test of "Steinwedel" — Commission C of the OEEPE 1981—84. — Frankfurt a. M. 1985, 102 pages with 53 figures.
- 16 *Waldhäusl, P.*: Results of the Vienna Test of OEEPE Commission C.— *Kölbl, O.*: Photogrammetric Versus Terrestrial Town Survey. — Frankfurt a. M. 1986, 57 pages with 16 figures, 10 tables and 7 annexes.
- 17 *Commission E of the OEEPE*: Influences of Reproduction Techniques on the Identification of Topographic Details on Orthophotomaps. — Frankfurt a. M. 1986, 138 pages with 51 figures, 25 tables and 6 appendices.
- 18 *Förstner, W.*: Final Report on the Joint Test on Gross Error Detection of OEEPE and ISP WG III/1. — Frankfurt a. M. 1986, 97 pages with 27 tables and 20 figures.
- 19 *Dowman, I. J.; Ducher, G.*: Spacelab Metric Camera Experiment — Test of Image Accuracy. — Frankfurt a. M. 1987, 112 pages with 13 figures, 25 tables and 7 appendices.

B. Special publications

— Special Publications O.E.E.P.E. — Number I

Solaini, L.; Trombetti, C.: Relation sur les travaux préliminaires de la Commission A (Triangulation aérienne aux petites et aux moyennes échelles) de l'Organisation Européenne d'Etudes Photogrammétriques Expérimentales (O.E.E.P.E.). I^{ère} Partie: Programme et organisation du travail. — *Solaini, L.; Belfiore, P.*: Travaux préliminaires de la Commission B de l'Organisation Européenne d'Etudes Photogrammétriques Expérimentales (O.E.E.P.E.) (Triangulations aériennes aux grandes échelles). — *Solaini, L.; Trombetti, C.; Belfiore, P.*: Rapport sur les travaux expérimentaux de triangulation aérienne exécutés par l'Organisation Européenne d'Etudes Photogrammétriques Expérimentales (Commission A et B). — *Lehmann, G.*: Compte rendu des travaux de la Commission C de l'O.E.E.P.E. effectués jusqu'à présent. — *Gotthardt, E.*: O.E.E.P.E. Commission C. Compte-rendu de la restitution à la Technischen Hochschule, Stuttgart, des vols d'essai du groupe I du terrain d'Oberriet. — *Brucklacher, W.*: Compte-rendu du centre «Zeiss-Aerotopograph» sur les restitutions pour la Commission C de l'O.E.E.P.E. (Restitution de la bande de vol, groupe I, vol. No. 5). — *Förstner, R.*: O.E.E.P.E. Commission C. Rapport sur la restitution effectuée dans l'Institut für Angewandte Geodäsie, Francfort sur le Main. Terrain d'essai d'Oberriet les vols No. 1 et 3 (groupe D). — I.T.C., Delft: Commission C, O.E.E.P.E. Déroulement chronologique des observations. — *Photogrammetria* XII (1955–1956) 3, Amsterdam 1956, pp. 79–199 with 12 figures and 11 tables.

— Publications spéciales de l'O.E.E.P.E. — Numéro II

Solaini, L.; Trombetti, C.: Relations sur les travaux préliminaires de la Commission A (Triangulation aérienne aux petites et aux moyennes échelles) de l'Organisation Européenne d'Etudes Photogrammétriques Expérimentales (O.E.E.P.E.). 2^e partie. Prises de vues et points de contrôle. — *Gotthardt, E.*: Rapport sur les premiers résultats de l'essai d'Oberriet de la Commission C de l'O.E.E.P.E. — *Photogrammetria* XV (1958–1959) 3, Amsterdam 1959, pp. 77–148 with 15 figures and 12 tables.

— *Trombetti, C.*: Travaux de prises de vues et préparation sur le terrain effectuées dans le 1958 sur le nouveau polygone italien pour la Commission A de l'O.E.E.P.E. — Florence 1959, 16 pages with 109 tables.

— *Trombetti, C.; Fondelli, M.*: Aérotriangulation analogique solaire. — Firenze 1961, 111 pages, with 14 figures and 43 tables.

— Publications spéciales de l'O.E.E.P.E. — Numéro III

Solaini, L.; Trombetti, C.: Rapport sur les résultats des travaux d'enchaînement et de compensation exécutés pour la Commission A de l'O. E. E. P. E. jusqu'au mois de Janvier 1960. Tome 1: Tableaux et texte. Tome 2: Atlas. — *Photogrammetria* XVII (1960–1961) 4, Amsterdam 1961, pp. 119–326 with 69 figures and 18 tables.

— „OEEPE — Sonderveröffentlichung Nr. 1“

Gigas, E.: „Beitrag zur Geschichte der Europäischen Organisation für photogrammetrische experimentelle Untersuchungen“ — *N. N.*: „Vereinbarung über die Gründung einer Europäischen Organisation für photogrammetrische experimentelle Untersuchungen“ — „Zusatzprotokoll“ — *Gigas, E.*: „Der Sechserausschuß“ — *Brucklacher, W.*: „Kurzbericht über die Arbeiten in der Kommission A der OEEPE“ — *Cunietti, M.*: „Kurzbericht des Präsidenten der Kommission B über die gegenwärtigen Versuche und Untersuchungen“ — *Förstner, R.*: „Kurzbericht über die Arbeiten in der Kommission B der OEEPE“ — „Kurzbericht über die Arbeiten in der Kommission C der OEEPE“ — *Belzner, H.*: „Kurzbericht über die Arbeiten in der Kommission E der OEEPE“ — *Schwidefsky, K.*: „Kurzbericht über die Arbeiten in der Kommission F der OEEPE“ — *Meier, H.-K.*: „Kurzbericht über die Tätigkeit der Untergruppe „Numerische Verfahren“ in der Kommission F der OEEPE“ — *Belzner, H.*: „Versuchsfelder für internationale Versuchs- und Forschungsarbeiten.“ — Nachr. Kt.- u. Vermess.-wes., R. V, Nr. 2, Frankfurt a. M. 1962, 41 pages with 3 tables and 7 annexes.

— *Rinner, K.*: Analytisch-photogrammetrische Triangulation eines Teststreifens der OEEPE. — Österr. Z. Vermess.-wes., OEEPE-Sonderveröff. Nr. 1, Wien 1962, 31 pages.

— *Neumaier, K.; Kasper, H.*: Untersuchungen zur Aerotriangulation von Überweitwinkelaufnahmen. — Österr. Z. Vermess.-wes., OEEPE-Sonderveröff. Nr. 2, Wien 1965, 4 pages with 4 annexes.

— „OEEPE — Sonderveröffentlichung Nr. 2“

Gotthardt, E.: „Erfahrungen mit analytischer Einpassung von Bildstreifen.“ — Nachr. Kt.- u. Vermess.-wes., R. V, Nr. 12, Frankfurt a. M. 1965, 14 pages with 2 figures and 7 tables.

— „OEEPE — Sonderveröffentlichung Nr. 3“

Neumaier, K.: „Versuch »Bedford« und »Waterbury«. Gemeinsamer Bericht aller Zentren der Kommission E der OEEPE“ — „Versuch »Schweizer Block«. Gemeinsamer Bericht aller Zentren der Kommission E der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., R. V, Nr. 13, Frankfurt a. M. 1966, 30 pages with 44 annexes.

— *Stickler, A.; Waldhäusl, P.*: Interpretation der vorläufigen Ergebnisse der Versuche der Kommission C der OEEPE aus der Sicht des Zentrums Wien. — Österr. Z. Vermess.-wes., OEEPE-Sonderveröff. (Publ. Spéc.) Nr. 3, Wien 1967, 4 pages with 2 figures and 9 tables.

— „OEEPE — Sonderveröffentlichung Nr. 4“

Schürer, K.: „Die Höhenmeßgenauigkeit einfacher photogrammetrischer Kartiergeräte. Bemerkungen zum Versuch »Schweizer Block« der Kommission E der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M., 1968, 25 pages with 7 figures and 3 tables.

- „OEEPE — Sonderveröffentlichung Nr. 5“
Förstner, R.: „Über die Genauigkeit der photogrammetrischen Koordinatenmessung in bergigem Gelände. Bericht über die Ergebnisse des Versuchs Reichenbach der Kommission C der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1969, Part I: 74 pages with 9 figures; Part II: 65 tables.
- „OEEPE — Sonderveröffentlichung Nr. 6“
Knorr, H.: „Die Europäische Organisation für experimentelle photogrammetrische Untersuchungen — OEEPE — in den Jahren 1962 bis 1970.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1971, 44 pages with 1 figure and 3 tables.
- „OEEPE — Sonderveröffentlichung Nr. D-7“
Förstner, R.: „Das Versuchsfeld Reichenbach der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1972, 191 pages with 49 figures and 38 tables.
- „OEEPE — Sonderveröffentlichung Nr. D-8“
Neumaier, K.: „Interpretationsversuch. Berichte der Zentren der Kommission E der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1972, 33 pages with 12 tables and 5 annexes.
- „OEEPE — Sonderveröffentlichung Nr. D-9“
Beck, W.: „Herstellung topographischer Karten 1:10 000 auf photogrammetrischem Weg. Mit statistischen Auswertungen, Reproduktionen, Musterblatt und Kartenmustern des Landesvermessungsamts Baden-Württemberg, Stuttgart.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1976, 65 pages with 10 figures, 20 tables and 20 annexes.
- „OEEPE — Sonderveröffentlichung Nr. D-10“
 Weitere Ergebnisse des Meßversuchs „Oberriet“ der Kommission C der OEEPE.
Harry, H.: „Messungen an nicht signalisierten Geländepunkten im Versuchsfeld „Oberriet“ — *Stickler, A.;* *Waldhäusl, P.:* „Graphische Auswertung nicht signalisierter Punkte und Linien und deren Vergleich mit Feldmessungsergebnissen im Versuchsfeld „Oberriet“ — *Förstner, R.:* „Weitere Ergebnisse aus Koordinatentransformationen des Versuchs „Oberriet“ der Kommission C der OEEPE“ — *Schürer, K.:* „Streckenvergleich „Oberriet“.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1975, 116 pages with 22 figures and 26 tables.
- „OEEPE — Sonderveröffentlichung Nr. D-11“
Schulz, B.-S.: „Vorschlag einer Methode zur analytischen Behandlung von Reseauaufnahmen.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1976, 34 pages with 16 tables.

- „OEEPE — Sonderveröffentlichung Nr. D-12“

Verlaine, R.: „25 Jahre OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1980, 53 pages.

- „OEEPE — Sonderveröffentlichung Nr. D-13“

Haug, G.: „Bestimmung und Korrektur systematischer Bild- und Modelldeformationen in der Aerotriangulation am Beispiel des Testfeldes „Oberschwaben.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1980, 136 pages with 25 figures and 51 tables.

- „OEEPE — Sonderveröffentlichung Nr. D-14“

Spiess, E.: „Fortführung der Topographischen Karte 1 : 25 000 mittels Photogrammetrie“ (in Vorbereitung).

- „OEEPE — Sonderveröffentlichung Nr. D-15“

Timmerman, J.; Roos, P. A.; Schürer, K.; Förstner, R.: „Über die Genauigkeit der photogrammetrischen Gebäudevermessung. Bericht über die Ergebnisse des Versuchs Dordrecht der Kommission C der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1983, 131 pages with 14 figures and 36 tables.

- „OEEPE — Sonderveröffentlichung Nr. D-16“

Kommission E der OEEPE: „Einflüsse der Reproduktionstechnik auf die Erkennbarkeit von Details in Orthophotokarten.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1986, 130 pages with 51 figures, 25 tables and 6 annexes.

- „OEEPE — Sonderveröffentlichung Nr. D-17“

Schürer, K.: „Über die Genauigkeit der Koordinaten signalisierter Punkte bei großen Bildmaßstäben. Ergebnisse des Versuchs „Wien“ der Kommission C der OEEPE.“ — Nachr. Kt.- u. Vermess.-wes., Sonderhefte, Frankfurt a. M. 1987, 84 pages with 3 figures, 10 tables and 42 annexes.

C. Congress reports and publications in scientific reviews

- *Stickler, A.*: Interpretation of the Results of the O.E.E.P.E. Commission C. — Photogrammetria XVI (1959–1960) 1, pp. 8–12, 3 figures, 1 annexe (en langue allemande: pp. 12–16).
- *Solaini, L.; Trombetti, C.*: Results of Bridging and Adjustment Works of the Commission A of the O.E.E.P.E. from 1956 to 1959. — Photogrammetria XVI (1959–1960) 4 (Spec. Congr.-No. C), pp. 340–345, 2 tables.
- *N. N.*: Report on the Work Carried out by Commission B of the O.E.E.P.E. During the Period of September 1956–August 1960. — Photogrammetria XVI (1959–1960) 4 (Spec. Congr.-No. C), pp. 346–351, 2 tables.
- *Förstner, R.*: Bericht über die Tätigkeit und Ergebnisse der Kommission C der O.E.E.P.E. (1956–1960). — Photogrammetria XVI (1959–1960) 4 (Spec. Congr.-No. C), pp. 352–357, 1 table.
- *Bachmann, W. K.*: Essais sur la précision de la mesure des parallaxes verticales dans les appareils de restitution du 1^{er} ordre. — Photogrammetria XVI (1959–1960) 4 (Spec. Congr.-No. C), pp. 358–360.
- *Wiser, P.*: Sur la reproductibilité des erreurs du cheminement aérien. — Bull. Soc. Belge Photogramm., No. 60, Juin 1960, pp. 3–11, 2 figures, 2 tables.
- *Cunietti, M.*: L'erreur de mesure des parallaxes transversales dans les appareils de restitution. — Bull. Trimestr. Soc. Belge Photogramm., No. 66, Décembre 1961, pp. 3–50, 12 figures, 22 tables.
- „OEEPE — Arbeitsberichte 1960/64 der Kommissionen A, B, C, E, F“
 - Trombetti, C.*: „Activité de la Commission A de l'OEEPE de 1960 à 1964“ —
 - Cunietti, M.*: „Activité de la Commission B de l'OEEPE pendant la période septembre 1960–janvier 1964“ —
 - Förstner, R.*: „Rapport sur les travaux et les résultats de la Commission C de l'OEEPE (1960–1964)“ —
 - Neumaier, K.*: „Rapport de la Commission E pour Lisbonne“ —
 - Weele, A. J. van der*: „Report of Commission F.“ — Nachr. Kt.- u. Vermess.-wes., R. V. Nr. 11, Frankfurt a. M. 1964, 50 pages with 7 tables and 9 annexes.
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Annex 1

to *Gerhard Eichhorn*: Summary of Replies to Questionnaire on Land Information Systems
Commission V — Land Information Systems

European Organization for Experimental Photogrammetric Research
Official Publication No. 20

OEEPE APPLICATION COMMISSION V ON LAND INFORMATION SYSTEMS (LIS)

Q U E S T I O N N A I R E *****

ON

S M A L L — SCALE (<1:100,000) LAND INFORMATION SYSTEMS

LIS-Items asked for and their description:

1. Topographic elevation data
2. Hydrographic data (rivers, lakes, coast lines, bathymetry, etc.)
3. Infrastructural data (roads, railroads, traffic density, etc.)
4. Land use/land cover (forests, urban areas, agricultural lands ,etc.)
5. Environmental data (immissions, agricultural/forest damages, etc.)
6. Ecological data (wildlife habitat, national parks, etc.)
7. Geologic data (geologic units, extensive rock exposures, etc.)
8. Soil data (soil type, soil humidity, etc.)
9. Climatic data (temperature, precipitation, etc.)

 * 1. SMALL-SCALE TOPOGRAPHIC ELEVATION DATA part 1*

1.1 DATA TYPE AND ACQUISITION

1.1.1 Analog data (maps)

Map name	:	:
Map status (available/in work/research/not planned)	:	:
Map scale	:	:
Date of generation/latest update	:	/ :
Current/planned degree of land coverage	:	% / :
Responsible mapping agency	:	:

1.1.2 Digital data

1.1.2.1 Alphanumeric data

Data specification and/or description	:	:
Status of data (available/in work/research/not planned)	:	:
Source of data	:	:
Equipment used for data generation	:	:
Data structure (points,lines,segments)	:	:
Size of data set (number of points,etc.)	:	:
Coordinate system	:	:
Resolution	:	:
Accuracy	:	:
Date of generation/latest update	:	/ :
Current/planned status of land coverage	:	% / :
Availability of the data	:	:
Responsible agency	:	:

1.1.2.2 Vector data

Data specification and/or description	:	:
Status of data (available/in work/research/not planned)	:	:
Source of data	:	:
Equipment used for data generation	:	:
Data structure (points,lines,segments)	:	:
Size of data set (number of points,etc.)	:	:
Coordinate system	:	:
Resolution	:	:
Accuracy	:	:
Date of generation/latest update	:	/ :
Current/planned status of land coverage	:	% / :

* 1. SMALL-SCALE TOPOGRAPHIC ELEVATION DATA part 2 *

1.2 USE OF DATA

1.2.1 Category of users

1.2.2 Users' purposes for using the data

1.2.3 Users' requirements to the data (format, accuracy, etc.)

1.2.4 Hardware used for data processing

1.2.5 Legal and/or institutional problems

1.2.6 Other comments

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Content

page

<i>G. Eichhorn</i> : Summary of Replies to Questionnaire on Land Information Systems	13
Commission V - Land Information Systems	