DATABASES IN THE FIELD OF AEROSPACE AND RELATED FIELDS

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ABSTRACT:

In this paper we review databases in the field of photogrammetry and remote sensing (also indicated as aerospace) and the related subject fields: geodesy, cartography and geoinformation systems.

Four categories of databases are distinguished:

A. Databases on aerospace.
B. Databases on related subject fields.
C. Multidisciplinary databases.
D. Databases on specific sciences using remote sensing techniques.

The list includes names of the hosts and the suppliers, description, time span, file size and update.

KEY WORDS: Databases, Aerospace, Photogrammetry, Remote Sensing.

1. INTRODUCTION

Scientists in the field of photogrammetry and remote sensing have a variety of databases at their disposal for on-line searching for scientific literature. The main problem, however, is that none of them offers a very comprehensive coverage. Further, when considering the choice of the most suitable database for a query, the nature of the subject should be taken into consideration; i.e., whether it is theoretical or applied.

In the appendix of this paper there is a review of appropriate databases. It concentrates on the subject "aerospace" in the broadest sense, having a connection with geodesy, cartography and geoinformation systems: subject fields which are closely related to the earth observation aspects of aerospace.

2. REVIEW OF APPROPRIATE DATABASES

The review is divided over four tables: A, B, C and D, according to the character of the databases in question.

2.1 Databases on aerospace (table A)

Databases which in some way have to do with aerospace, including earth observation (construction of) platforms, flight data, imagery etc. are listed here.

2.2 Databases on related subject fields (table B)

In this respect we may think of databases in the field of geodesy, cartography and geoinformation systems, or possibly geography including photogrammetry and remote sensing.

Another example is a database on physics which includes literature on the physical principles of remote sensing.

2.3 Multidisciplinary databases (table C)

The databases under this heading cover a broad spectrum of subject fields and incorporate the disciplines which fall within the scope of this paper.

2.4 Databases on specific sciences using remote sensing techniques (table D)

Here we list databases on subject fields which in a given case may make use of remote sensing techniques. These include vegetation, agriculture, forestry, geology, environmental activities.

The most important and appropriate databases are given here as examples, but the list should not be considered as exhaustive. In fact it could be extended to almost unlimited proportions.

Practice has taught that databases within this category usually provide the most satisfactory results in response to queries concerning the application side of remote sensing.

3. CONCLUDING REMARKS

Besides the databases listed in this paper, there are others which, although publicly accessible and falling within the scope of this review, receive little attention because of their limited geographical or linguistic coverage. They may nevertheless contain valuable scientific publications.

Further, there may be databases which are not publicly

accessible and which are only destined for a limited group of users, e.g., for the staff of certain organizations.

Looking at the whole scene of automated information storage and retrieval, we may conclude that much effort worldwide has been invested in various kinds of databases. But, as noted in the Introduction, there is no single database for the whole field of aerospace. In each individual case of an on-line search it is up to the user to select the most appropriate database or combination of databases. One important advancement is that nowadays the best known hosts offer the possibility of cluster searching, i.e., when starting the retrieval procedure, you may combine some appropriate databases and search them as if they were one single database.

We hope that this paper will help users to make the best choice of databases for an on-line search.

APPENDIX

Table A: Databases on aerospace

Database	Supplier	Host	Description (field coverage, features)	Time span	File size (approx.)	Update
NASA	NASA	ESA DIALOG	Worldwide literature on the science and technology of space and aeronautics in the broadest sense.	1962 - present	1.800.000	5000/monthly
EAD (in development)	ESA	ESA	Unpublished (grey) aerospace literature in Europe.	1962 - present	140.000	450/monthly
RESORS	Horler Information, Ottawa, Canada	Horler ESA ORBIT	Remote Sensing; instrumentation, techniques and applications.	1948 - present	80.000	450/monthly
Sateldata	ESA	ESA	Satellite equipment produced in Europe.	1985 only	1.064	No longer updated
Space Glossary	ESA	ESA	Translations of specialised aerospace terms; English-German-French.	1984 - 1990	4.758	No longer updated
Space Patents	ESA	ESA	Patents in the field of space technology.	1984 - 1988	2.080	No longer updated
Space Components	ESA	ESA	Spacecraft components.	1970 - 1983	11.323	No longer updated
Spacesoft	University of Georgia, Athens, USA	ESA	Description of computer programs of interest to the aerospace industry and other high technology sectors.	1985-1988	1.000	No longer updated
Spaceflight	Space Flight Data Applications, Schagen, The Netherlands	ESA	Overview information on unmanned launch vehicles, unmanned spacecraft and bodies in terrestrial orbit.	1982 - present	5.600	Monthly

Table A (continued)

Database	Supplier	Host	Description (field coverage, features)	Time span	File size (approx.)	Update
Aerospace Daily	McGraw-Hill, Washington DC, USA	ESA	Full text information on all aspects of the aerospace industry: worldwide. Equivalent to the "Aerospace Daily Newsletter".	1982 - present	41.000	Daily
Jane's Defense & Aerospace News/ Analysis	Jane's Information Group, Alexandria, USA	DIALOG	Publications from Jane's, Interavia and DMS; articles that summarize, highlight, and interpret worldwide events in the defense and aerospace industry.	1982 - present	82.000	Weekly
PTS Aerospace/ Defense Markets and Technology	Predicasts, Cleveland, USA	DIALOG DATASTAR	Fact-filled abstracts and full-text articles covering worldwide aerospace and defense activities.	1982 - present	250.000	Daily
Flightline	Reed Business Publishing, Sutton, UK	ESA DATASTAR	All aspects of the international aerospace industry. It is the fulltext equivalent to "Flight International" and "Airline Business".	1988 - present	25.000	100/weekly
ESA-PID	ESA	ESA	Information source for identification, location and overview descriptions of datasets of interest to the earth and space science research community.	current	1.200	50/biweekly
LEDA	ESA	ESA	Catalogue of imagery of: Landsat (1 to 5), NOAA/TIROS-N, MOS.	1972 - present	1.800.000	1400/weekly
DALI	SPOT Image	SPOT Image	Catalogue of SPOT (1 and 2) imagery.	1986 - present	unknown	Daily

Table B: Databases on related subject fields

Database	Supplier	Host	Description (field coverage, features)	Time span	File size (approx.)	Update
GEOBASE	GEO Abstracts, Norwich, UK	DIALOG ORBIT ESA (in preparation)	Worldwide literature on ecology, geology, physical and human geography, remote sensing, photogrammetry and cartography.	1980 - present	400.000	Monthly
INSPEC 2	Inspec Marketing Dpt., Stevenage, UK	ESA DIALOG STN DATASTAR ORBIT BRS	Physics, including physical aspects of remote sensing.	1971 - present	4.000.000	Weekly

Table C: Multidisciplinary databases

Database	Supplier	Host	Description (field coverage, features)	Time span	File size (approx.)	Update
PASCAL	INIST-CNRS, Vandoeuvre-les-Nancy, France	ESA DIALOG Questel	Multidisciplinary.	1973 - present	8.500.000	40.000/monthly
NTIS	NTIS, Springfield, USA	ESA DIALOG DATASTAR INKA STN ORBIT	Multidisciplinary: covers report literature from USA.	1964 - present	1.600.000	2.500/biweekly
Conference Papers Index	Cambridge Information Group, Bethesda, USA	ESA DIALOG	Papers presented at scientific and technical conferences and meeting throughout the world.	1972 - present	1.500.000	10.000/bimonthly
World Translations Index	International Translations Centre, Delft, The Netherlands and INIST-CNRS, France	ESA	Translation announcements of literature in all fields of science and technology; from any source language into Western languages.	1977 - present	310.000	2.500/monthly

Table D: Databases on specific sciences using remote sensing techniques

Database	Supplier	Host	Description (field coverage, features)	Time span	File size (approx.)	Update
CAB	CAB International, Wallingford, UK	ESA DIALOG DIMDI	All agricultural sciences.	1973 - present	2.700.000	10.000/monthly
AGRIS	FAO, Rome, Italy	ESA DIALOG DIMDI	Information on agriculture from input supplied by over 100 national centres.	1975 - present	1.700.000	10.000/monthly
AGRICOLA	US Nat. Agr. Library, Beltsville, USA	DIALOG DIMDI	Database of the National Agricultural Library; worldwide journal literature and monographs on agriculture and related subjects.	1970 - present	2.800.000	Monthly
Tropical Agriculture	Royal Tropical Institute, Amsterdam, The Netherlands	ORBIT	Worldwide literature on tropical and subtropical agriculture.	1975 - present	75.000	Quarterly
GEOARCHIVE	Geosystems, Oxon, UK	DIALOG	Geology and related sciences	1974 - present	660.000	Monthly
GEOREF	Amer. Geol. Institute, Alexandria, USA	DIALOG STN ORBIT	Geology and related sciences; 40% originates from the USA, the remainder from outside the USA.		1.600.000	Monthly
			North American material:	1785 - present		
			Worldwide material:	1933 - present		
OCEANIC	Cambridge Information Group, Bethesda, USA	ESA DIALOG	All aspects of the oceans.	1964 - present	230.000	Monthly
GEOLINE	Bundesanstalt für Geowis., Hannover, Germany	FIZ-Technik	Geology and related sciences with emphasis on publications in German and on European literature.	1970 - present	650.000	Monthly