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# NORDIC DATABASE DIRECTORIES

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How to promote Nordic business and economy, industry and culture from the viewpoint of the information and documentation branch? A lot of special know-how is produced in the Nordic countries to facilitate decision-making and to benefit the society as a whole. For 20 years NORDINFO directories of Nordic databases have contributed to facilitating and encouraging more effective use of Nordic "computerised information resources". NORDGUIDE 2001 is a unique resource with information about 1100 Nordic databases that are publicly available for searching.

## The very beginning

Back in 1974, Nordforsk (the Nordic co-operative body for technical and scientific research) took an initiative to an experimental data network for the information and documentation field. The project was called SCANNET and started in 1976 [2]. Up to 1985 SCANNET was a foundation and a project initiated by Nordforsk and financed by NORDINFO. SCANNET also was a data network for information retrieval purposes in the Nordic countries at end of the 1970's. From 1986 to the end of 1992 SCANNET was a long-term project within NORDINFO. Its main goal was to promote usage of Nordic online information resources and to co-ordinate Nordic co-operation in the field.

The first systematic inventory of Nordic databases was made in the late 1970's. NORDINFO set up a working group in 1978 to make an inventory of computerised information resources produced in the Nordic countries. Representatives of four countries made up the group: Ms. Lena Hakulin from Finland (chairwoman), Mr. Mogens Dahl from Denmark, Ms. Tove Molvig from Norway and Ms. Luise Kaiserfeld from Sweden. The primary goal set for the work was twofold: to make an inventory and estimation of databases produced for science, education, business and the economy and society as a whole, and to gather the results in a machine-readable catalogue [5 and 1].

Information of as many as 470 databases was gathered by an enquiry in the Nordic countries; even about manual catalogues and systems that could be foreseen to be later converted into a machine-readable format. About 80 % of the databases were machine-readable and 30 % could be used online. The work resulted in an internal report to NORDINFO in April, 1979, with further recommendations. A later outcome was NORDINFO publication No. 1, "Databasproduktion i Norden 1978" [1], given out in 1981 and presenting information about 300 databases, both bibliographic and non-bibliographic.

The members of the group e.g. recommended updating the information thus gathered, and even converting it into a database of publicly available Nordic databases, itself available online on the SCANNET network. This recommendation resulted in a project proposal called "Nordisk databasguide online". The main tasks of a new project group were [5]):

- § specifying the contents criteria and definitions of the database
- § gathering the necessary information nationally about online information systems and databases
- § planning of building up and testing the database
- § estimating the costs for the various phases
- § choosing information retrieval systems for testing.

Within SCANNET, NORDINFO in 1984 started an inventory of all Nordic databases that are publicly available for online information retrieval.

## Co-ordinating

The work was first co-ordinated as a project within SCANNET from 1984 onwards. SCANNET was to promote usage of Nordic information resources and co-ordinate Nordic efforts in the information and documentation field. After

incorporating SCANNET into NORDINFO's activities, the co-ordinating tasks were continued within NORDINFO by a special NORDGUIDE co-ordinator from 1993 to 1997. In 1998, the tasks of co-ordination, maintenance and development of the NORDGUIDE database were outplaced and commissioned to VTT Information Service in Finland on an annual contract. Malin Edström in Stockholm was the first co-ordinator at SCANNET in the 1980's, followed by Elisabet Mickos and later Maria von Herten at NORDINFO.

## A Nordic team in co-operation

National contact organisations, the same from the very beginning, have been responsible for gathering and updating their own data in NORDGUIDE ever since the co-operation started. In 2001 they are:

Denmark

INFOSCAN / Statens Information (previously Dansk DIANE Center) \*

<http://www.infoscan.dk/>

Finland

VTT Tietopalvelu (VTT Information Service)

<http://www.vtt.fi/inf/>

Norway

RBT, Riksbibliotekstjenesten (National Office for Research Documentation, Academic and Special Libraries)

<http://www.rbt.no/>

Sweden

Kungliga tekniska högskolan. Biblioteket (Royal Institute of Technology Library)

Ämnessökning - IDC

<http://www.lib.kth.se/>

Iceland

Landsbókasafn Íslands - Háskólabókasafn (National and University Library of Iceland)

<http://www.bok.hi.is/>

Faroe Islands

Føroya Landsbókasavn (National Library of the Faroe Islands)

<http://www.flb.fo>

\* From 1. April 2002 named Informationsportalen. In December 2002 the centre closed down. (editors note)

The most recent member Faroe Islands joined the Nordic database co-operation in 2000.

The following persons have been involved in national updating or as national contacts during the years of co-operation:

- § Denmark: Birgit Pedersen, Kirsten Thorkilgaard, Eva Kastrup, Pernille Kofoed, Karen Bonnis, Grethe Svendsen and Katarina Holm
- § Faroe Islands: Arnbjørn Ó. Dalsgarð
- § Finland: Pirjo Sutela, Elisabet Mickos, Merja Lehti
- § Iceland: Andrea Jóhannsdóttir, Sigrún Hauksdóttir, Sveinn Ólafsson
- § Norway: Tove Molvig, Sigrid Tollefsen, Signy Irene Karlsen
- § Sweden: Helena Fernholm, Ylva Rosell, Lena Fahlén.

National information and documentation bodies in the Nordic countries have separately financed national updating and inventories.

## Where to find it?

Continuing from the first NORDINFO publication, six printed directories were compiled and given out by NORDINFO from 1984 to 1996 for sale to those interested. The guidebooks and directories usually bore the title "Nordiska databaser" or "Nordisk databasguide" [9, 10, 11, 12, 13, 14]. In 1983 and 1984 lists of Nordic databases

were published in the newsletter SCANNET Today twice a year [2]. Before that, in 1982, Nordinfo-Nytt in a special issue on SCANNET brought a list of all the databases accessible via SCANNET [3]

The first online version of NORDGUIDE became available in 1988 for information retrieval in all Nordic countries supplied by one or two big national hosts. The online version was updated once or twice a year. The following hosts were involved during the past years:

- § Finland: VTKK (Valtion tietokoneskus, Statens datorcentral, Finnish State Computer Centre) -> TT-Tietopalvelut Oy (TT-Information Services Ltd.)
- § Sweden: DAFA Data Ab -> Sema Group Infodata AB and MIC-KIBIC (MIC vid Karolinska institutets bibliotek och informationscentral, MIC at the Karolinska Institute, Library and Information Center)
- § Norway: NSI A/S (Norsk senter for informatikk) -> Fabritius, Statens Datasentral SDS (Norwegian Government Computer Centre, up to March 1995) and Riksbibliotekstjenesten RBT (Norwegian National Office for Research, Documentation, Academic and Professional Libraries, their WWW server)
- § Denmark: Forskningsbibliotekernes Edb-Kontor FEK (Danish Research Libraries, Computer Department), Dansk Bibliotekscenter DBC (Danish Library Centre) as well as INFOSCAN (1981-1993 known as The Danish DIANE Centre).

NORDGUIDE was made available via NORDINFO's gopher in 1994 and via the World Wide Web. NORDGUIDE has been available for information retrieval free-of-charge as a Web database since 1998 via NORDINFO's home page (<http://otatrip.hut.fi/nordinfo/nordguide/>) via the Internet.

Some of the partner countries have given out their national database guides, either printed or online. DANDOK in 1984 made an inventory of Danish databases [15]. Danish DIANE Centre - later re-named INFOSCAN - started collecting and updating information about Danish databases in 1987; "Danske databaser" has been online since 1988.\*

\*In December 2002 what was left of INFOSCAN was closed by the parent body, National IT and Telecom Agency. "Danske databaser" was for a short time published as a web database. Danish databases can now be found at [www.bibliotek.dk](http://www.bibliotek.dk) (editors note)

RBT started to gather information about Norwegian databases and registers in 1974. The first overview was published in Synopsis No. 1-2 in 1975 [17], listing also databases that were available in Norway even though not of Norwegian origin. Regular updates were published in Synopsis up to winter 1994-1995. NUBA directory was published in Norway about Norwegian databases 1981- 1982 [18]. From 1995 to 2000 RBT updated and maintained NORBASE, a database of Norwegian databases.

VTT Information Service compiled a printed directory of Finnish databases, which was published by the newspaper company Uusi Suomi in 1988 in their Business books series [16]. No special online database of only Finnish databases was made.

Ämnessökning-IDC at KTHB, the Swedish partner organisation, has given out no national versions of Swedish databases. Nevertheless, three directories have been published about all Swedish databases in the 1980's and 1990's, by DFI (Delegationen för vetenskaplig och teknisk informationsförsörjning, Delegation for Scientific and Technical Information) and Televerkets databastjänst together with Tekniska litteratursällskapet (the Swedish Society for Technical Documentation) [19, 20, 21]. Furthermore a number of directories about Swedish database supply in different fields have been given out.

## Principles – why NORDGUIDE?

NORDINFO's main aim is to promote co-operation in Nordic scientific information and documentation. The focus lies on improved availability of information resources, i.e. better and more efficient ways of disseminating information to researchers and other users of scientific and technical information in the Nordic countries. NORDGUIDE co-operation is thus well in line with NORDINFO's tasks.

NORDGUIDE is a good example of long-term Nordic co-operation and a unique information resource. Close and keen co-operation, common methodology and structure, a number of links and various alternatives in searching - these are some of the main strengths of NORDGUIDE.

A co-ordinator and national partner organisations contribute to guarantee the quality and uniformity of information presented. National partner organisations are responsible for gathering and updating their own data annually according to the principles and policy commonly agreed upon. Co-ordination, maintenance and further development of NORDGUIDE are the duties of the co-ordinating organisation.

## Technical background

NORDGUIDE has technically gone through a number of phases from a printed directory to an online database and further to a Web database.

Information for the database register and guide was first recorded and updated with an ordinary word-processing programme. Soon the partners moved over to CDS/ISIS, a freeware by UNESCO. In mid-1990's they started using MS Access for updating and editing the national data [6]. It was the co-ordinator's task to convert and input the data to the Nordic register, database and directory. The present NORDGUIDE, available via the Internet as a Web database, is maintained by TRIP, the established text retrieval programme in the information and documentation branch. TRIP Highway enables searching in the Web.

## Criteria for selection

Criteria for selecting databases to the register and database guide are commonly agreed upon. Well enough formulated at the very start, it has been possible to apply them throughout the years – with some alterations, of course, due to rapid development of the branch. The following criteria are applied in selecting a database:

- § it is produced in a Nordic country (the main criterion) or is available through a Nordic online service
- § it is searchable (cf. Gale directory: "organised for rapid retrieval via a computer"; not any WWW page whatsoever qualifies)
- § it is available online through telecommunication or other networks or direct dialling
- § it is available to the public either direct or by subscription, contract or membership.

Portable databases either on CD-ROM or on diskettes are also included, as well as WWW databases, mainly those for professional purposes.

## Structure and searching

Structuring and designing NORDGUIDE was the principal task of the first SCANNET co-ordinator, Ms. Malin Edström from Sweden. Thanks to her pioneering activity, we have a solid basis, which - with minor changes - is still applicable today [7].

NORDGUIDE is structured into three sections: database descriptions, producer information and host information. Each section has a number of fields to give extensive information to the searcher. The contents of all fields are searchable.

- § Database descriptions include e.g. information about the name of the database (in Nordic language and English), type of database (modification of the Cuadra and Gale directories' classifications), contents, language, geographic coverage, total size, annual growth, time span of contents, main subject and other keywords, availability media and URL address of the database and a link to it.
- § Producer-related fields contain information about the name, address, telephone, fax number, country, e-mail and URL address of the producer and a link to the producer.
- § Host-related fields contain the host's contact information as well as information about the command language, conditions for use (subscription fee, charges, restrictions, permissions) and connection (telecommunications network, Datapak, Internet, direct dialling, telnet etc.).

Each database is given max. three main subject terms in English to describe the contents. These terms are taken out of a short and concise list compiled by the national partners according to well-known thesauri. Other terms are to be suggested by the producers themselves and listed as "keywords" in the national language or English.

The structure allows both simple and advanced searching of the present Web version. Besides searching, mere terms can be browsed. One is able to use Boolean operators and truncate words. Searching is also possible according to all Nordic countries or countrywise. A simple search implies "all fields". The advanced search form has ready-made fields with some pull-down menus or field notations to assist in searching. "Searching all fields" implies the opportunity of using field codes.

In a simple search records are sorted according to relevance: those in which the search terms appear in title, keywords or subject field will appear first on the list. As to advanced searching, one is able to sort the results by database name (alphabetically), producer, host or country. One is also able to choose the number of records to be displayed from 50 to 500.

## Contents

NORDGUIDE has grown steadily; showing a fivefold increase from 1985 to 2001 in the number of databases presented (table 1) [14].

Table 1: Number of Nordic databases (Hertzen 1997 and NORDGUIDE on the Web 2001)

	1985	1987	1990	1992	1994	1996	1998	2000	2001
Denmark	24	70	100	119	138	159	171	290	290
Finland	27	70	124	172	221	261	299	326	329
Iceland					1	3	6	6	6
Norway	45	73	91	125	173	213	231	251	255
Sweden	91	109	124	138	171	195	200	196	211
Faroe Islands									1
Pan-Nordic							8	7	8
Total	207	322	439	554	704	831	915	1076	1100

## Type of database

Classification of databases in the present NORDGUIDE is a modification of Gale directory's definitions a few years back. It was changed from the previous classification (1985 and 1987: reference, factual, full-text, mixed) and based on Cuadra's directories in 1990 and further slightly modified by the Nordic partner team. Two main groups, reference and source, have both been divided into various subgroups:

- § reference: bibliographic or referral
- § source: full-text, numeric, textual-numeric, image, sound, software, transactional.

For many years, bibliographic databases were the largest group (table 2), coming down though from 61 % share in 1985 to 38 % in 2000. During the 1990's they had a steady share of 33 to 35 %. Full-text databases have increased their share from 7 % in 1985 to 24.5 % in 2000 [11, 14].

Table 2: Share of bibliographic and full-text databases in the classification of Nordic databases, % (Nordiska databaser 1990, NORDGUIDE 1996 and NORDGUIDE on the Web 2000)

Type / Year	1985	1987	1990	1992	1994	1996	2000
Bibliographic	61 x)	53 x)	33	35	33	33	38
Full-text	7	8	19	20	19	19	24.5

x) = 1985 and 1987 classification: reference

## Main subject

Each database is given one to three main subject terms to describe its content in NORDGUIDE, determined by the national partners. Science, technology and business prevail as important sources of information in Nordic databases. Databases about law and legal matters also account for a significant share. Library catalogues form

a large part of databases. Scientific and research libraries have traditionally been the core of the network of information resources in all Nordic countries. Libraries were also the first to convert their registers to online format [6].

The list of main subject terms has been revised a few times so successive years are not exactly comparable. Business (business, economics or companies) as the main subject term has, however, ranged from 13 - 15 % (in 2000) to 24 % (in 1990) of Nordic databases during the past years. The share of science and technology has ranged between 16 % (in 1990) and 20 % (in 1985), that of law and legislation between 9 % (in 1992) and 17 % (in 1985).

## Availability media

ASCII (American Standard Code for Information Interchange) or online databases could first be retrieved for searching via packet-switched networks, national or international. Accessing Nordic databases via such networks was possible as follows: 68 % of Nordic databases in 1985, 77 % in 1987, 81 % in 1990, 85 % in 1992, 78 % in 1994, 73 % in 1996 [11, 12, 13]. Due to very rapid development from mid-1990's onwards an ever-growing amount of Nordic databases has become available via the Internet. Online or WWW databases in 2000 cover about 75 % of Nordic supply. Offline media (CD-ROMs, diskettes, magnetic tapes) cover the rest, CD-ROMs being a majority. Still 16 % have a printed counterpart.

## Use and supply

In 1994 NORDINFO made a survey about future aspects of a compiled catalogue and database of Nordic databases. The use of the printed directory of Nordic databases of 1992 was also surveyed. About 300 enquiries were sent to buyers of the 1992 printed guide, and the response rate was almost 70 %.

Over 80 % had utilised the printed directory. Most of them had looked for database contents and contact information. The directory was considered useful by the majority of those who needed only Nordic information and of those who looked both for international and Nordic information. Only half of the respondents knew about the online version of the directory and only a minority had utilised it [4].

## NORDGUIDE 2000

Usage of the present NORDGUIDE Web database is steadily growing, measured either by the number of user sessions or by the number of searches. From 1999 to 2000, the number of user sessions increased from about 6200 to about 8300 and that of searches from 12200 to about 15000. One half of the user sessions and searches are made by Nordic users, the other half by users elsewhere in the world.

NORDGUIDE 2001 lists about 600 databases producers and 400 hosts. Each country has but a few big hosts with dozens of databases, either in a certain field or related fields or covering various fields. The Nordic scene is, however, that of smaller hosts, even those with only one or two databases. A Nordic host supplies an average of 2.5 databases and a Nordic producer produces an average of 1.7 databases.

Besides the Nordic national partners, there are about 100 links to NORDGUIDE internationally on the World-Wide Web. Most of the links are from the Nordic countries, but also from other European countries, as well as from domains .com and .org.

## International co-operation

At the end of the 1980's NORDINFO and NORDGUIDE co-ordinator gradually entered into co-operation with ECHO, the European Commission host organisation, and Cuadra, publishers of the well-known international database directories. They were regarded as a good contribution to promoting awareness and use of Nordic databases.

## ECHO and I'M Guide

In the autumn of 1990 NORDINFO/SCANNET agreed with ECHO (the European Commission Host Organisation) on providing information about Nordic databases for the extended DIANE guide. It was to include information about databases from non-EC countries as well [4, 8].

DIANE Guide then turned out to I'M Guide and NORDINFO started to deliver information about Nordic databases annually to I'M Guide. Such information was separately gathered for EIIA's (European Information Industry Association) Information Market Guide. Its updating procedure differed from that of the Nordic guide, and was not of equally high standards. I'M Guide was given out in print and also as an online version at ECHO and later as a Web version. In 1999 I'M Guide had a link (<http://www2.echo.lu/im-guide/>) direct to NORDGUIDE. The curtain was, however, brought down on I'M Guide in 2000.

## Cuadra, Gale

The 1990's began with other co-operative activities, too, i.e. discussions with Cuadra. SCANNET was to contribute to Cuadra directories by providing Nordic database information [8]. The Cuadra directories later turned to Gale directories, and NORDINFO and Gale entered into further negotiations.

Gale Directory of Databases 2001 covers 11604 unique entries [22]. Information about a large number (over 700) of Danish, Finnish, Norwegian and Swedish databases is included in the directory, though not so up-to-date as in NORDGUIDE. Nordic databases make up approximately 6 % of international database supply - one proof of the marriage of contents and high-class technological infrastructure in the Nordic countries.

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