

ICE

Information
Controlling
Entscheidung

A web-based information system to support higher education policy

ICE stands for Information, Controlling, Entscheidung (in English: information, controlling, decision). It is a web-based information system, developed to support higher education policy decision making. In principle it is able to manage **an infinite amount of data** that can systematically be accessed and freely be combined among each other.

ICE is able to manage data from **different sources**. ICE flexibly suits to given requirements and is able to process data from the most various sources: data of the official statistics, data of the administrative systems of universities, colleges, and other establishments, labour statistics, survey results...

ICE is the long-term memory for statistical data. It is ideal for **developing time series**. Frequencies for updating can be set up as required. Old data always remain available. Anytime it is possible to recall the history to compare old with new data.

The main analysis tool is the **flexible table generation** that provides interactive compiling of user-defined tables out of the existing data stock. Furthermore, tables created with the flexible table generation can be saved as so-called **ICE-standard tables** that can be updated automatically, after importing more recent data stocks.

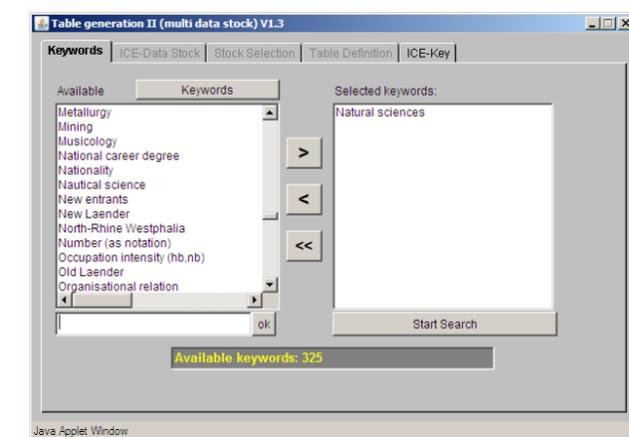
Web-application. ICE is accessible with a Java capable web browser via Internet or intranet.

Platform independency. On the server-side, the system can be installed under LINUX, UNIX (Solaris) or Microsoft Windows. Prerequisite for the client is a Java capable web browser. MySQL, Oracle, and Informix can be used as database backend (PostgreSQL is in preparation).

Flexible data import. Data with any structure and depth of structure can be imported. Individual or aggregated data can be used. The system is flexible and can be expanded to include new topics.

Flexible data analysis. You can present any parts of the data stocks as summary tables using the so-called "flexible table generation". It is possible to combine data of multiple data stocks.

Staff groups	Occupation intensity	Gender	1998	1999	2000	2001	2002	2003	
Total of academic and creative arts staff (3 D)	Regular occupation	Male	197 917	118 301	117 016	118 337	117 200	116 009	116 709
	Secondary occupation	Male	24 400	24 241	24 241	24 241	24 241	24 241	24 241
Professors	Regular occupation	Female	67 110	65 241	65 241	65 241	65 241	65 241	65 241
	Secondary occupation	Female	22 300	21 200	21 200	21 200	21 200	21 200	21 200
Lectors and assistants	Regular occupation	Male	34 010	34 010	34 010	34 010	34 010	34 010	34 010
	Secondary occupation	Male	3 010	3 010	3 010	3 010	3 010	3 010	3 010
Scientists and creative arts staff	Regular occupation	Male	12 182	11 991	11 204	11 014	10 845	10 702	10 709
	Secondary occupation	Male	4 001	3 902	3 902	3 902	3 902	3 902	3 902
Teachers with special assignments	Regular occupation	Male	67 310	66 602	66 443	66 317	66 160	66 000	65 840
	Secondary occupation	Male	21 410	20 904	20 904	20 904	20 904	20 904	20 904
	Regular occupation	Female	2 902	2 902	2 902	2 902	2 902	2 902	2 902
	Secondary occupation	Female	2 902	2 902	2 902	2 902	2 902	2 902	2 902



Flexible table generation

Flexible data export with the ICE-publishing tool. ICE provides the following output formats: (X)HTML, MS EXCEL, Open Document (e.g. for Open Office), and PDF. An XML interface allows data exchange with third party programmes.

The screenshot shows a web interface for 'Study demand (Enrolled students) by Subject Groups (Stud), Gender, Year'. It displays a table with columns for 'Year' (2003, 2004) and 'Gender' (Male, Female). The table lists various subject groups and their corresponding student numbers. Below the table, there are options to export the data in different formats: HTML, PDF, Excel, and Open Office.

Table output in various formats

Intelligent system. All data included in the system are provided with a standardised ICE-key. ICE-key, equivalence, and implication rules allow to sort and compare data of various stocks or - where required - of various sources.

Data harmonisation with an integrated automatic update function. All results tables that are produced by using the flexible table generation can be stored as so-called ICE-standard tables. Standard table libraries can be provided for third parties as sources of information on the Internet or an intranet. The very special feature of the standard tables is the automatic update function. At the push of a button existing tables can be updated with data that has been imported to the system at a later date.

ICEland - A data offering for the higher education policy

The future extended data structure of ICEland allows analyses by academic subjects at the level of higher education institutions and enables comparisons among the institutions. For this reason ICEland becomes appealing to all facilities in the field of higher education and in particular to the institutions of higher education.

At this time, the following data is available in ICEland:

Higher educational basic data of the official statistics

- student statistics
- degree statistics
- staff statistics
- finance statistics
- reference data
- projected: areal data

Data from His surveys

- social origin
- Bruttostudierquote ("gross study ratio")
- projected:
 - graduates data
 - employment data
 - and more

For a cost contribution of clearly below 1000 €/year, ICEland is available for all official facilities of the higher education area and in particular for institutions of higher education.

Standard Tables
Select statistical data from ready fixed standard tables:

- **Catalogue:** Here you get direct access to all available tables of the various libraries.
- **Search:** This tool enables you to browse through the existing table stock for desired information.
- **Update:** Use this tool to update standard tables with recent data.
- **Table management:** A tool for further management of standard tables.
- **Users and groups:** Here you can change your password. Furthermore administrators use this tool for users and groups management.

Table Generation
Create new tables out of the existing data stock:

- **Data catalogue:** Through this you get an overview of the existing data stock.
- **Keylists:** [pdf] [rtf]
- **Single data stock table generation:** This tool enables you to select the desired data out of a single data stock, to create a table, and to save it in various formats.
- **Multi data stock table generation:** This tool enables you to select the desired data out of various data stocks, to create a table, and to save it in various formats.
- **New development** of the multi data stock table generation.

Homepage of the ICE information system

Usage and practice of ICE so far

At present, information systems based upon the ICE technology, that has been developed by HIS on behalf of the BMBF, are used by the following institutions:

- BMBF - StaGuS (currently only intranet)
- Länder - ICEland (joint system of all länder and the Wissenschaftsrat)
- DAAD - ICEww (www.wissenschaft-weltoffen.de)
- MWK Nds - ICEnds (intranet)

Project objectives 2007

- Completion of the extensive refactoring
- Enlargement of the user group to include more institutions of higher education and other establishments
- Providing the ICE as open source software

Information

Please contact the project group for any questions, messages, and suggestions.

HIS Hochschul-Informationssystem GmbH
ICE-Gruppe
Informationssysteme und Onlineforschung
Goseriede 9
30159 Hannover
Germany

Contact:

Peter Müßig-Trapp muessig@his.de +49 511-1220-193
Helena Kopp kopp@his.de +49 511-1220-287

For more information:

ICE website <http://ice.his.de>
HIS website <http://www.his.de>