ESDU Data Service:
A Web Reincarnation

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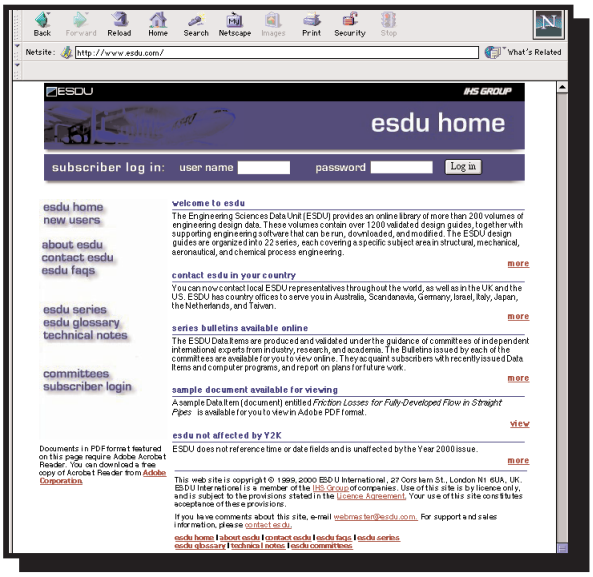

Leave it to IHS (Information Handling Services), Inc. to take a classic engineering data reference source and reincarnate it as a significant Web site. This is the case with ESDU, the Engineering Sciences Data Unit (http://www.esdu.com), which many will recall as the existing multiple sets of loose-leaf notebooks containing engineering graphs and formulas. In recent years, ESDU information was made available on CD-ROM and now, under IHS, on the Web. Formerly an autonomous company spun off from a British government research organization and then part of the Thomson Corporation, ESDU was acquired by IHS in 1999. Since then it has been marketed in its newest format to customers all over the world.

A Classic Source

ESDU began in 1940 as the Technical Department of the United Kingdom's Royal Aeronautical Society (RAeS). The Department evolved into the Engineering Sciences Data Unit with its publications, also known as ESDU, which provided recorded reference data and methods for aeronautical engineers. Since those beginnings, ESDU has expanded to include aerospace, mechanical, structural, and process engineering information. Within these four areas, there are currently a total of 22 validated design guide titles:

Aerodynamics
Aircraft Noise
Composites
Dynamics
Engineering Structures
Fatigue - Endurance Data
Fatigue - Fracture Mechanics
Fluid Mechanics
Internal Flow
Heat Transfer Mechanisms
Physical Data
Chemical Engineering Physical Data
Mechanical Engineering Performance
Sound Propagation
Structures
Stress and Strength
Transonic Aerodynamics
Tribology
Vibration and Acoustic Fatigue
Wind Engineering

These in turn include the documents known as "Data Items" that are numbered by year in sequence. For example, ESDU DATA ITEM No.92032 was published in 1992 and was numbered sequentially as 032.

Product in Brief

ESDU Data Service,
Engineering Science Data Unit
(http://www.esdu.com)

Platform: Internet with Adobe Acrobat Reader and Citrix ICA required. HTML and PDF formats

Price: Varies for commercial or academic.

Producers:
IHS Engineering Products
(http://www.ihs.com)
15 Inverness Way East
Englewood, CO 80112-5776
800-716-3447, ext. 073
or 303-397-2896
800-716-6447 (fax)

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Engineering Design Content

ESDU selects data topics--then collects, evaluates, and refines relevant information—before they are issued as "Data Items." Currently, there are over 1,200 of these available from ESDU in PDF format. They are especially useful in many areas of engineering practice—aircraft design, for example. Academic research and teaching can also utilize them. The Data Items contain graphs, formulas, data charts, diagrams, computer program codes, and occasionally photographs.

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Searching for a Topic

There are two access methods from the index page: a fill-in-the-blank form to search by keyword, and a link to a table of contents for each of the design method titles. A successful keyword search yields a list of "Data Items", i.e., records in a chart listed by number (in no particular order) with a "Show Abstract" link and a "Show Document" link. The abstract page also provides a "Show Data Item Document" link plus a location section that charts the item's place in the information structure of ESDU on the Web. Data Items are then available in PDF or, if they contain a computer program, in VIEWPac, a program that requires the Citrix ICA (Independent Computing Architecture) client (http:// www.citrix.com).

Flying High

The majority of the data in ESDU is related to aerospace engineering. In this test drive, searching by keyword for airfoil or aerofoil in several different fashions—alone, together linked by OR, in singular and plural, and truncated with a question mark or an asterisk—yielded varying record counts. It is interesting to note that although the American term for the basic aerospace engineering structure known here in the U.S. as an airfoil was searchable, all the results only used the British equivalent term aerofoil in the Data Items. This reflects the U.K. origin of ESDU, with a little sensitivity for U.S. users built in.

Web Advantage

Having ESDU available on the Web is certainly an advantage over the previous print format. However, it is an expensive source designed for a specialized group of engineers, both those in practice or those on campus as faculty or as advanced students. The information is certainly necessary in the aircraft design industry, and it would be useful in colleges or schools of engineering and at research centers. A sample Data Item document and links to the ESDU Committees and their bulletins are available on the Web site. Academic trials of the service can also be arranged. Pricing varies by type of user, commercial or academic.

As with many classic information sources, moving ESDU to the Web has added to its usefulness. Scientists and engineers can thank IHS for its role in this transformation.

*A former aviation and aerospace librarian, **Thomas G. De Petro** is the engineering librarian at Texas A&M University and a member of the Special Libraries Association and the American Society for Engineering Education. Communications to the author should be addressed to Thomas G. De Petro, TAMU Mail Stop 5000, College Station, TX 77843-5000; 409/862 1901; tdp@tamu.edu.*