

SHIP PRODUCTION COMMITTEE
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June 1976
NSRP 0002

THE NATIONAL SHIPBUILDING RESEARCH PROGRAM

Proceedings of the REAPS Technical Symposium

Paper No. 20: A Report on the 1976 AUTOKON Users Club Meeting

U.S. DEPARTMENT OF THE NAVY
CARDEROCK DIVISION,
NAVAL SURFACE WARFARE CENTER

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE JUN 1976	2. REPORT TYPE N/A	3. DATES COVERED -			
4. TITLE AND SUBTITLE The National Shipbuilding Research Program: Proceedings of the REAPS Technical Symposium Paper No. 20: A Report on the 1976 AUTOKON Users Club Meeting		5a. CONTRACT NUMBER			
		5b. GRANT NUMBER			
		5c. PROGRAM ELEMENT NUMBER			
6. AUTHOR(S)		5d. PROJECT NUMBER			
		5e. TASK NUMBER			
		5f. WORK UNIT NUMBER			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Surface Warfare Center CD Code 2230 - Design Integration Tools Building 192, Room 128 9500 MacArthur Blvd Bethesda, MD 20817-5700		8. PERFORMING ORGANIZATION REPORT NUMBER			
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)			
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)			
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 9	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

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Proceedings of the
REAPS Technical Symposium
June 15-16, 1976
Atlanta, Georgia

Research and
Engineering for
Automation and
Productivity in
Shipbuilding

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A REPORT ON THE 1976
AUTOKON USER'S CLUB MEETING

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The AUTOKON User Club was established in 1971 at Kongsberg, Norway. The purpose of the Club was to give all the users of the AUTOKON system a forum where they could discuss common problems, exchange information and present papers on AUTOKON-related subjects. Annual meetings have been held in different places in Europe since then. This year's meeting was arranged on May 11 and 12 in Bandol, a very nice little French town 80 miles from Marseille, hosted by the yard Chantiers Navals De La Ciotat which presented a perfect arrangement. About 50 participants from 13 yards and SRS were present.

The first topic was "A User's Technical and Economical Considerations of AUTOKON." Papers were presented by the hosting yard and the Italian yard Italcantieri. The papers and the following discussions revealed that it is easier to give technical rather than economical considerations. The papers contained a lot of information on the technical operation of the system in the yard, but very little data about the economics. The question arose whether the yards consider this kind of information confidential or if they really do not know too much about it. One of the yards indicated, however, a 16% reduction of people since AUTOKON was installed. For a tanker of 3,60,000 tdw., they used about 9,000 man-hours and 130 cpu hours on their IBM 370/145 computer. No indication was given as to if and how much the use of AUTOKON and N/C was saving in the fabrication of steel.

The Aker Group of Norway presented a "User's Guide to the Norm Packages" developed by the Group. The packages contained between 600 and 700 norms. It was, therefore, considered essential to break this down into smaller, more comprehensible units. By using these norms, it is possible to build a full description of the scantlings of a steel structure and to utilize this

information to produce drawings, material lists, weights, centers of gravity, etc., for assemblies. All the norm packages have been made as general as possible by making a hierarchy where the lower levels of norms are increasingly general. The higher level norms may be modified due to structural requirements, but will still use the same lower level norms. The user's guide describes how to use the norms in sequence to obtain a result within the specified framework.

A paper dealing with the practical use of a norm package was presented by the French yard Chantiers De L'Atlantique. They have used ALKON from layout to production on the double bottom of a container ship. The double bottom is usually a well-delimited part of the ship structure, and a good picture can be obtained from above, that is, looking at a horizontal projection of the tank top. These facts make it a relatively easy start point for design by norms. The actual norm package used was developed in cooperation with the Aker Group and Chantier De L'Atlantique.

As indicated at last year's meeting, the emphasis for further development of AUTOKON would be put on the norms and programs using a more direct communication between software and the users. This policy was reflected this year by the already mentioned papers on norms and by the following session of "Interactive Graphics."

SRS presented thoughts about "Computer Graphics Hardware and Application in Shipbuilding," giving data about available hardware configurations, prices, etc., and future use of interactive techniques. So far SRS has two applications using graphic displays in operation. The first is the interactive nesting program which is working on a mini-computer and a Tektronix 4014 display.*

*Also presented at the 1976 REAPS Technical Symposium. See pp. 133 in this Proceedings.

Another new system is under development and is planned to be an information system for outfitting and pipe production. The system AUTOFIT will be realized in steps; the first step is now operational.

The French company CSEE demonstrated two applications working on a mini-computer and a refresh type of display called Afigraf. The applications were a nesting program and a program for calculating longitudinal strength of a ship in different loading conditions. Even if no new programs are taken into use, a graphical display unit may be utilized, e.g., to make fast verification of output from other programs (AUTOKON-PRELIKON). This is done to a certain extent by the Aker Group and IHC, Holland, which demonstrated this together with some other applications.

Some advice was given about AUTOKON database management, which may be of interest to users in the U.S. as well.

Some users copy the database to a backup file, every time an AUTOKON program is executed. Since the rewriting of AUTOBASE, this is not necessary due to the high security of the system.

The optimum fill percentage of the record catalogues is about 60% to 80%. This means that the database should be initiated with few catalogues and increased as the database grows.

The afternoon of the last day was devoted to a visit to the hosting yard in La Ciotat. The yard is capable of building ships up to 380,000 tons dead weight. In the last two years the throughput has been over 100,000 tons of

steel with 5,900 employees. AUTOKON has been used since 1970 and, at present, they have the intermediate solution on an IBM 370/145 computer.

After the tour of the yard, the conference for 1976 was concluded. The next year's meeting will be held in Trieste, Italy.

The following appendices incorporate those papers presented at the meeting which appear to be of most interest to U.S. shipbuilders:

- A. "Report From Chantiers Navals De La Ciotat," Mr. Gaillard, CNC, France.
- B. "Hull System at Italcantieri Company," Mr. De Luca, ITC, Italy.
- C. "User's Guide to the Norm Packages," Mr. Mack, Aker Group, Norway.
- D. "ALKON From Layout to Production on the Example of a Double Bottom," Mr. J.P. Boisard, Chantier De L'Atlantique, France.
- E. "Computer Graphics Hardware and Application in shipbuilding," Mr. O. Eng., SRS A/S, Norway.
- F. "Interactive Graphics at ICS," Mr. Maisson, IHC, Holland. 26

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