

# INDUSTRIAL DATA PROCESSING APPLICATIONS REPORT

**Applications** Data Collection  
**Type of Industry** Power Equipment Manufacturer  
**Name of User** Schutte and Koerting Co.  
Cornwall Heights, Pa.

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**Equipment Used** IBM 1620 Data Processing System  
IBM 357 Data Collection System

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## Synopsis

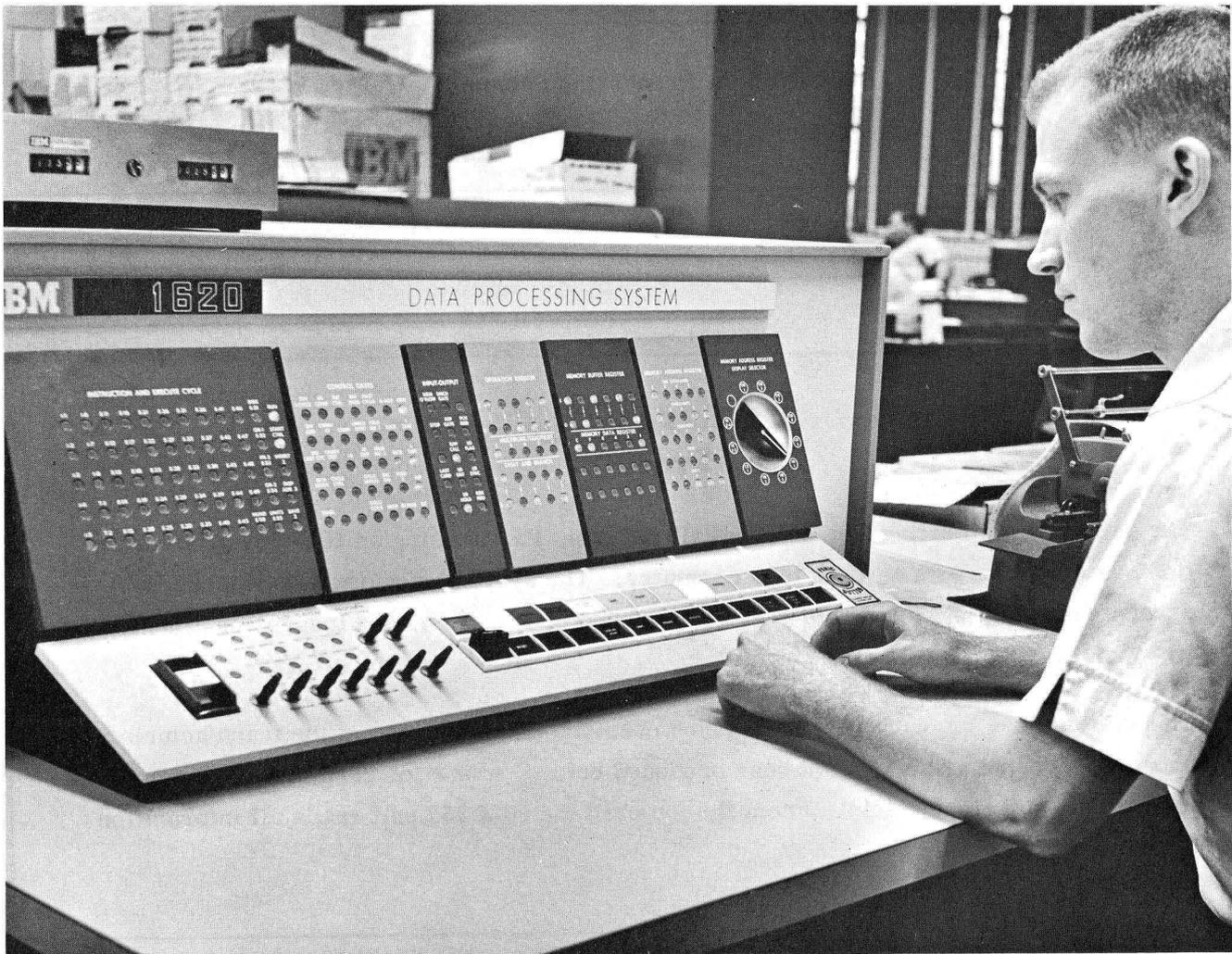
The Schutte and Koerting Co. of Cornwall Heights, Pa. is using an IBM 357 data collection system along with an IBM 1620 computer. The system provides supervisors with current information, maintains greater timekeeping accuracy, and insures on-time delivery of orders.

The system uses job cards, each of which describes a single step in the manufacturing process. When an item has not been produced before, a new job card must be created for each manufacturing step. From the job card the IBM 357 unit reads all information pertaining to the job.

The ability to capture both production and labor data at the source and then computer process it to meaningful management information is an important new production control tool at Schutte and Koerting Co. in Cornwall Heights, Pa.

This data collection installation at Schutte and Koerting's 400-employee plant is comparable to several employed in the job shops of much larger companies. Experience shows that it works as well for a smaller plant, paying off in added production and better efficiency.

The Schutte and Koerting Co., a manufacturer of power equipment and process instruments since 1869 when Dr. Ernst Koerting designed a steam-powered injector to control boiler feedwater, today consists of three departments: Power, Process Equipment and the SK Instrument Division.



AN IBM 1620 COMPUTER IS USED TO PROCESS JOB SCHEDULING AND WORK STATUS REPORTS.



REPORTS FROM THE PLANT FLOOR ARE COLLECTED AT TWO PRINTING CARD PUNCHES.

Competition has forced Schutte and Koerting Co. to concentrate on production control as a way to control costs and improve deliveries. Investigations showed that without timely information from the plant floor it was virtually impossible for management to exercise tight production controls as well as quality control. Management's attention wasn't flagged until it was too late to take effective action.

Presently, with an IBM 357 data collection system and a 1620 computer, information flows into the data processing department as production is occurring. Computer processing of this data enables Schutte and Koerting to:

- (1) provide shop supervisors with current data to control employees and order progress;
- (2) maintain greater timekeeping accuracy; and
- (3) increase on-time delivery of orders.

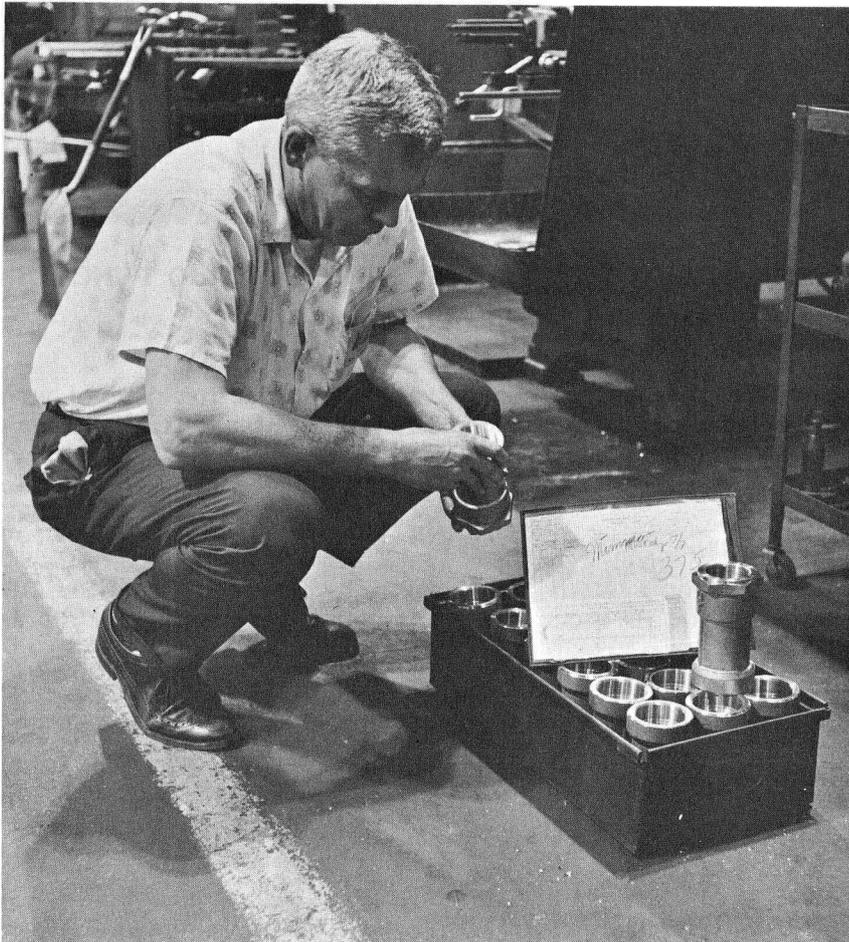
These benefits have paid for the data processing system.

THE SYSTEM

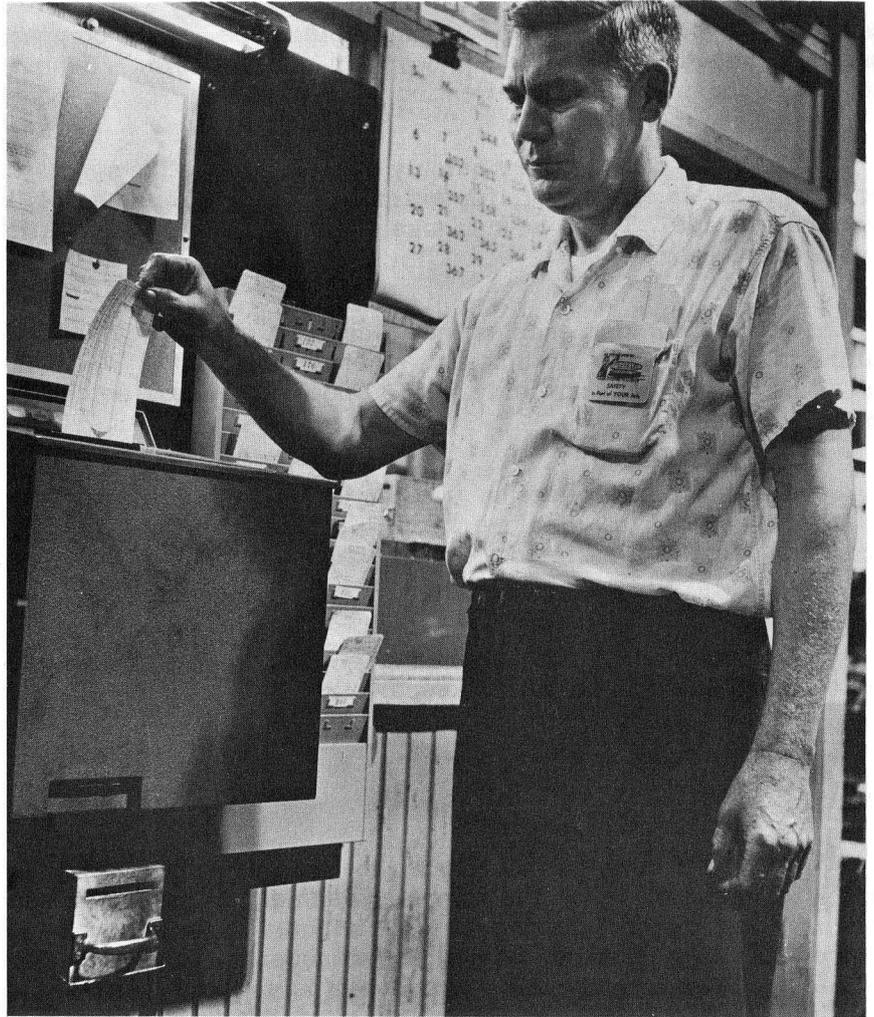
The starting point of the system is production of a process sheet, or work order, which indicates the work to be done to fill an order. When the process sheet describes an item which has been previously manufactured, a standard deck of prepunched job cards is taken from the files. Each job card in the deck describes one step in manufacturing the item. When the item has not been produced before, job cards must be created for each manufacturing step. Instructions on these punched cards includes the name of the part, its set up times, drawing number and quantity.

The deck of job cards is fed into an IBM 1620 computer which is programed to schedule starting dates for each operation, based on a table of standard times required for each operation. At the same time, additional punched cards are created for initiating piece work and for requisitioning needed materials. Move tickets are also created and are put into a job folder along with the process sheet. This folder then accompanies the item through production.

The cards in the folder are used as the required machining and assembly operations are completed. The appropriate card is taken from the folder, is used to report through an IBM 357 data collection station and is then returned to production control. One station is located in each of Schutte and Koerting's five major production departments.



JOB FOLDER,  
DESCRIBING WORK  
TO BE DONE,  
ACCOMPANIES EACH  
JOB ON THE  
PLANT FLOOR.



EMPLOYEE REPORTS IN  
ON AN IBM 357 DATA  
DATA COLLECTION STATION.

When an employe is required to clock off an operation before completing it, he also takes the appropriate job card from the folder and feeds this along with his identification card into the 357 station in his department.

From the job card, the 357 reads all information pertaining to the job. The man's identification card, station number and keyed-in data provide all the information on the present status of the job.

The station then transmits this to the data processing department where a card with the information is created. This activity card is then matched with a card in the work-in-process tub file. At present, the cards in this tub file are run through the computer each week to produce a management report showing what work is on hand, and how many hours are scheduled for each group of machines.

Soon, however, the tub file will be replaced by a direct access disc drive. The work-in-process data will be stored on interchangeable discs. The computer will then take the activity reports and use this to update the work-in-process file. Behind schedule items can then be listed separately for management attention.

The ability to measure quickly current production against the schedule helps management in several ways. In expediting, for example, it shows immediately what orders are due in and which ones are overdue. Thus, we can take steps to correct the situation or notify the customer of a change in delivery schedule.

The system also enables the calculation of shipping dates based on the anticipated receipt of materials and the time it takes to machine the part. While this could be done manually, time and effort make it an unwieldy job. Once programed on the computer, however, the task is easily handled.

The 357 data collection system is also employed for attendance reporting. When reporting in or leaving, the employe takes his time card and inserts this into the 357 station. Thus, a card is created in data processing which accounts for arrivals and departures of all production people.

This method of time reporting permits a degree of speed and accuracy not possible when employes reported in to a timekeeper.

## RESULTS

The 357 system has eliminated the manual handling and the inaccuracies which often occurred. Time information is fed to the computer each day to produce a report on time worked and premiums earned. Each morning the report is distributed to foremen so that employes can see what they did the previous day. If there is any question about the listing, the employe can talk to his foreman immediately. Thus, the attendance reporting is not only faster -- but fairer to everyone concerned.

Schutte and Koerting's computer is basically an engineering machine. It was initially rented for and is still employed for many engineering calculations. By attaching a printer capable of producing reports at several hundred lines a minute, the system has worked effectively in its new role to help management tighten its control of production.