

an expensive quick-cooling step. A State Technical Services man pointed out that permeability was unaffected by additional heat in that temperature range and that the new process would not solve the problem. (Probably the new pieces were heavier.)

An Ohio company needed a short method of determining bacteria counts in a lubricating coolant—extensive efforts of their own had failed to shorten the analysis from 48 hours. The State Technical Services Referral Network Office at Cleveland State University recommended a consulting biochemist who provided a method which can be completed in 8 hours.

A State Technical Services field engineer from Georgia Tech assisted a manufacturer of hydrocyclones (for separating sand and gravel) in the development of a liner to replace rubber liners which last about a year on metal ones which last a week. After a literature search, metallurgical consultation, and advice from the Engineering Experiment Station, some design changes were made. The new polyurethane liner has been in use more than a year with no apparent wear.

A small manufacturer of vacuum-formed and thermoplastic parts obtained assistance from a State Technical Services man and a member of the Chemistry Department faculty at Eastern Michigan University in selecting instruments and techniques for quality control of raw materials.

A Georgia manufacturer of hubs for computer and video-tape reels used an acid cleaner for its castings, and acid fumes and splashes were damaging to facilities. Planning a move to a new building, the company requested State Technical Services assistance in plant design. Referral was made to another Georgia company which formulated a special protective coating for their use.

Three Illinois construction companies participated jointly in a State Technical Services project using a time-shared computer. One of the companies estimated savings up to \$60,000 in direct-labor costs alone during the first year. Starting in January, the project was expanded to serve 16 companies from a single direct-access computer with potential annual savings approaching \$5 million.

A Michigan tool-and-die manufacturer asked the State Technical Services field engineer at Ferris State College for assistance in butt-welding stainless-steel sheets to permit him to produce an item at lower cost than outside purchase. Together with the NASA Technology Utilization Center at Wayne State University, the field engineer assembled applicable technical information and located a metallurgical consultant at Ferris State. The company not only learned to make the butt-welded product but is now planning to broaden its product line as a result.

West Virginia has a large number of small manufacturers who spray paint their products. Spray painting has been an inefficient operation as up to 50 percent of the paint is wasted and rejects often occur. The Applied Technology Center of West Virginia University, with STS support, is encouraging the use of an electrostatic paint process based on unlike charges of electricity causing the paint to adhere quickly and evenly. This process has great advantage as the front and back of the workpiece can be painted at the same time and with practically no paint loss. With paint equipment contributed by a manufacturer, West Virginia University is demonstrating this up-to-date method to manufacturers. Savings in paint, labor, equipment, rejects, floor space, and maintenance are being realized.

Community Television of Southern California, KCET, Channel 28, Los Angeles, produced and presented a series of one-hour programs under the title R&D REVIEW. An additional series of half-hour programs entitled INNOVATIONS has been approved. The use of educational television as a method of disseminating technical information to industry is in itself an innovation in communication. In addition to being shown on educational television stations in California, these programs are being shown on stations in 20 other States and the District of Columbia through the "BONUS circulation" of National Educational Television Network. Although only 22 percent of the R&D REVIEW telecasts and 15 percent of the INNOVATIONS telecasts had been aired up to January 1, 1968, a total of 221 mail and telephone referrals had been serviced.

In Georgia, a new type of compressed brick composed of sand rather than clay was introduced through the STS program. This is a wholly new product with only one other plant in operation in North America. A faculty member of the school of Ceramic Engineering worked closely with this company. In a similar fashion, new developments in the use of plastics instead of clay for bricks have been furnished to the brick industry in Georgia.

A Florida company interested in manufacturing light weight aggregate for construction blocks was provided technical assistance through the STS program