

System 4-70, providing up to 25 per cent more power, and two machines will be used initially. Each machine will have 393 K binary digits of store and a backing store of drums, multiple disks and phase encoded magnetic tape units.

Known as LACES (London Airport Cargo Electronic-Data-Processing-Scheme), this system will be operated by NDPS on behalf of the airlines, agents and HM Customs. It is hoped that not only will this system speed up the process, but that it will drastically reduce paperwork and provide a better measure of control over cargo imports. The system will be linked to more than 200 visual display terminals through which the agent or airline can key information into the computer system. As parcels arrive, they will be keyed into the system as a parcels entry by the airline, then as a customs entry. In this way, customs will know when a consignment is expected and the decision whether to look at the documentation only, physically to inspect the consignment, or simply to let it through, will be made by the computer according to criteria laid down by the customs. This will greatly speed up the process, and agents and airlines will know the precise position of each parcel going through customs. This visual display has been designed by Cossor Electronics and has been thoroughly tested by the GPO at Heathrow in conditions of maximum noise and vibration and in the presence of radar and other signals.

LACES will be implemented in stages, and it is likely to be extended later to include accounting for airlines and agents and export cargo. Other countries are planning similar systems and it is hoped that the Heathrow scheme will be the basis for an international airfreight data-processing network. The placing of the order with the British computer industry will put ICL in a very favourable position to tender for future contracts at overseas airports.

COMPUTERS

IBM Tries Again

IBM's recent announcement that two new computers are under development—the System/360-model-195 and the System/3—is an indication of the company's determination to capture a larger share of the extremes of the computer market. The 360-195 will be the largest and most powerful computer in their production line, while the System/3 will be one of IBM's smallest computer packages.

The system 360-195 is designed for solving computing problems for a large range of applications, but the 360-85 which is also in production at the moment is designed chiefly for the commercial market, so it seems likely that the 195 will be geared more towards the scientific and time-sharing markets. It will have an internal processing speed about twice as fast as the 360-85, with a basic machine cycle of 54 nanoseconds. The storage capacity will be up to four million bytes, organized into eight or sixteen interleaved elements, a modification which speeds up the cycle process. The 195 will be completely compatible with other models in the 360 series. It will be able to run programs from other large 360 models, and most input/output devices used with other 360 models can be attached to the new computer. Moreover, the machine is large enough to cope with several programs concurrently, using the

System/360 MVT (multiprogramming with a variable number of tasks).

At the other extreme, the System/3 is designed for small firms employing between 100 and 1,000 people. In essence, it will be an accounting machine aimed at providing a company with greater automation at a price not much higher than it is currently paying. It will use punched cards about one third the size of those used in current machines, which means that present equipment in IBM's range which uses punched cards will become obsolete. It also means that the System/3 will not be compatible with other brands of computer, which suggests that this model is aimed at a new and restricted market.

Several aspects of the IBM announcement have given rise to considerable comment in the computer world. In the past, IBM has been notably unsuccessful in the large computer field. The 360-90 series did not come up to expectations, and only 20 were sold, while its predecessor, the 'Stretch', hardly reached the production stage. The 360-195 is therefore IBM's third attempt to muscle into the market for large computers. If 360-195 fails, IBM is unlikely ever to break into the large computer market. For some time, IBM's American rival, Control Data Ltd, has had the largest share of the market for giant computers with its 6600 series, which is being superseded by the 7600. IBM's announcement will probably give Control Data cause for concern because not only does it represent a major assault on the market, but also the announcement of the 195, eighteen months before its scheduled delivery date, may affect advance orders for the 7600. In the past, Control Data has complained about IBM's tactics of announcing products far in advance of the delivery date; it claimed, for example, that the announcement of the 360-90 series in 1964 was aimed at scooping the 6600 model. Many computer firms are adopting a "wait and see" attitude to the IBM announcement, and several are sceptical of IBM's ability to achieve production by the 1971 delivery date.

The 195 will be available at a rental of between \$165,000 and \$300,000 a month, and the purchase price will be between \$7 million and \$12 million. The System/3 by contrast will cost from \$42,375, and can be rented at a cost of \$945 a month.

FISHERIES

An Industry Floundering

THE British fishing industry is in trouble on every front. The loss of three Hull trawlers and their crews in January and February 1968 and the *Report of the Holland-Martin Committee of Inquiry into Trawler Safety* (HMSO, 14s 6d), set up after these accidents, exposed the archaic conditions of the industry, by a large margin the most hazardous occupation in Britain. The recently published *Annual Report for 1968 of the Torry Research Station* (HMSO, 6s 6d), the Government laboratory responsible for improving methods of handling fish from the time it is caught until it is in the shopping bag, adds to the gloom. Its opening sentences read: "At the time of writing the UK fishing industry is facing problems widely attributed to an over-supply of some of the major species such as cod. It is certainly true that distressingly large quantities of fish