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ISRAEL'S AEROSPAC E INDUSTR Y

of Bedek Aviation, IAI's progenitor, since the early days in 1952. It was probably the first company in Israel to develop advanced equipment industrially and its two main operating divisions are today concentrating on digital com-puting systems and on radar, communications and elec-tronic countermeasures. Sales in 1975-76 totalled some $30 million and this produced a net profit of about $1 • 1 million, which is expected to have been comfortably bettered in the year which ended on March 31. Nearly 90 per cent of the work is military, although 60 per cent of sales are outside IAI—the parent company nevertheless generates a good deal of business for which it does not actually sign the orders. Exports of UHF communications equipment alone have been made to 15 countries, this field being one of the company's specialities.

Radars produced at Elta are shipborne, ground-based and airborne. The EL/M-2200 family of S-band surface radars grew mainly out of marine experience—the Israeli Navy was among the first in the world to concentrate heavily on fast patrol boats for its surface force and the requirement for comparatively small and lightweight fire-control equipment could not be met from sources outside Israel. The example is typical of problems which face IAI almost every day—the requirement is different from every-one else's, equipment to meet it is not generally available, there is a distinct lack of time in which to develop it, and even when you have the production run is usually uneconomically short. The radar and its modular trans-ceiver have however been a success and the civil EL/M-2200 has been exported to Guatemala as well as installed at Ben Gurion Airport, Tel Aviv. Other customers are said to be in the course of negotiations.
The most advanced radar built so far at Elta is undoubtedly the EL/M-2001 dual-mode, range-only unit for the Kfir. Again it was a case of necessity being the mother of invention, development of airborne radar having got under way in 1967. When the Israeli Air Force came up with a requirement after the 1973 war for a close-in ranging radar which it could use for ground attack as well as low-level dogfights, Elta nevertheless had to start from scratch since no other company was even developing such a radar. A brassboard unit had been offered to Rockwell for evaluation, and was pronounced sound, but after that the Israeli company was very much on its own.

The EL/M-2001 is claimed as the highest-performance range-only radar on the market, with unmatched clutter rejection. It works in the X-band, is pulse-DoppIer with moving-target indication and uses a medium pulse-repetition frequency. With a claimed "extensive ECM capability," it is also believed to be frequency-agile. It was cleared for export sale at the same time as the Kfir, in June last year.
Mention has already been made of Bedek Aviation as the progenitor of Israel Aircraft Industries, and the com-pany maintains an important position within the overall group. Some 3,500 people are employed in three operating divisions covering aircraft maintenance and overhaul, engines and their accessories, and other accessories. Heli-copter overhaul is included and business is in fact expand-ing in this area so that new premises are having to be found. This shop has also been responsible for develop-ment of the Rotoror night helicopter formation flying aid, which consists of self-contained light sources at each end of the rotor blades. Some of these systems have been sold for export and Sikorsky has taken up the idea, although it wires the lights into an aircraft power source in its version.

A detailed description of Bedek's operation appeared in Flight for April 3, 1975, and the company still derives most of its profit from overhaul work, both civil and military.
It will, for instance, eventually be responsible for all depot-

Bedek Aviation already does repairs and tests on £1 Al's JT9D engines,
one of which is seen here in the test cell at Lod. The company has recently started full overhauls of]T8Ds and aims to work up to the same level with the JT9D some time in the future

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level servicing and any major modification work on the air force's newly acquired McDonnell Douglas F-15s. So far only four of the 25 on order have been delivered (the first ten or so will be refurbished development aircraft), so no work of any significance has yet been done in spite of the air force's achieving a high utilisation of about 200hr during the first two months of operation.
Bedek is one area in which IAI can take particular advantage of its low labour costs, said to be about 60 per cent of those in the USA, for example. The company has specialised in Boeing 707s and 720s for refurbishment— there are currently 33 IAI Boeings flying in various parts of the world, and the Israeli Air Force operates about ten. Such is the package of refurbishment and subsequent maintenance and overhaul offered, IAI says that a small charter airline customer, for example, need hold absolutely no spares at all. Ecuador's Ecuatoriana has been a good customer, with two 720Bs and two 707-320Bs taken so far and a third 720B ready for delivery from Lod. This last aircraft is the first ever to have a cargo door fitted.

After refurbishment the aircraft are generally sold, although a small number have been leased through Grey-hound Leasing. The company has not restricted itself to Boeings deliberately, says Al Schwimmer, and it is looking at the possibility of stepping up efforts in the short/ medium-range market, which would include the DC-9 for instance. "But we must be careful not to get into this business too deeply," says Schwimmer. "It is very hard to gauge what demand will be in four or five years' time. The way things are going, it may pay to re-engine aircraft in the light of environmental and fuel considerations, and we would want to be in on it if it was profitable. We certainly find that refurbishment is good business and it gets us new customers for other products." It also means that IAI has experience of a wide variety of certification authorities—American, British, German and Canadian among others. The two 707s bought from IAI by Quebecair were the first to be registered in Canada, for example. There are hopes for a third order.

A 50:50 split between civil and military sales is some-times talked about at IAI, but even with the help of the Westwind and Bedek it does not seem to be a very realistic target. The longer the periods of peace between Middle East wars, the more export-conscious IAI becomes. Yet, ironically, every war brings a rash of development and new products which, because of their military nature, are often export-sensitive. It is a problem which IAI faces with perhaps surprising equanimity, bearing in mind the ban on Kfir sales to Ecuador. Production remains pre-dominantly military—home demand sees to that—and with a range of products as wide as IAI's, it would be surprising if so-called third-world countries in particular did not con-tinue to recognise the value of operational experience being built into the equipment they buy.