Data released by Ilyushin indicate a predicted cruise of 500km /hr at 6,000m, and a range of 1,000km with a 5,400kg payload. That compares with the ATP's 485km/hr cruise and 2,037km range with the same payload. The Il-114's maximum payload capability of 6,000kg is about 730kg less than that of the British aircraft, and its range when so loaded is well short at 835km, compared with 1,570km for the ATP.
The An-24 which the 11-114 will replace, first flew in 1960, and large numbers of this pressurised twin-turbine, high-wing aircraft are in service. Aeroflot has 250, and others are operated "worldwide", according to Ilyushin chief designer Igor Katyrev. Requirements for the replacement aircraft included the ability to reach airports in Siberia from Moscow without refuelling, and operation from unpaved runways. The Il-114's maximum range is expected to be 4,900 kilometres.

Electronic cockpit
Features of the aircraft include milled airframe parts, structural bonding, compo-sites in the secondary structure, and— uniquely for a Soviet aircraft of this size— electronic flight instrumentation (EFIS). Unlike the An-24, it has low-set wings. Passengers will be seated at 0 • 75m pitch ina cabin that 2 • 5m wide and 1 • 9m high, and divided by an 0-45m aisle. Overhead bins will give each passenger 0-05m3

of
storage space.
There are front and rear entrance doors to the cabin, and emergency exits at the rear and over the wing roots between the sixth and seventh seat rows. Baggage compart-ments are provided at the front and rear, and at the rear there is a buffet counter, toilet, and cloakroom. Up to 68 seats could be fitted into the cabin, says Katyrev.
In the cockpit the two crew have five EFIS screens of the type fitted to the 11-96-300 now being flight-tested. The rudder and elevators are actuated mechanically and without assis-tance, but the flaps, and the spoilers moun-ted just forward of the outboard flap sections, are actuated hydraulically. Ilyushin's litera-ture says this is part of a fly-by-wire system.

Integrated systems
The integrated flight and navigation systems include automatic flight controls, an air-data system, and warnings for "dangerous modes". Equipment failures are displayed separately from working systems data. The cockpit voice recorder provides data on the latest 30min of flight.
Two Isotov TV7-117 turboprop engines drive six-bladed synchronised CB-34 propellers. They are started by an electronic-ally controlled air starter, by an onboard auxiliary power unit, or by a ground starter. Fuel is stored in the wing torsion boxes, and can be loaded by a pressure refuelling system. Anti-icing protection for the wing, tail, propellers, and propeller spinners is

nw n EZl

Double-slotted flaps with

10°, 20' and 40° settings

Emeraency exit doors
(botrrsides), 910X510rnm

Weather radar aerial

Nose landing gear Entrance door No. 1 Folding airstair integrated Highly economical automatically 1700x900mm into fuselage structure controlled turboprop TB7-117
' 2,500 shp take-off thrust

provided by an "electrothermal" system. The windshield is also protected.
The primary airframe structure is all-metal, and appears to be conventional, although, according to Katyrev, parts are milled from solid and there is some use of bonding. Ilyushin did not use composite materials
in the primary structure because of the possi-bility of damage during operation from unpaved strips, but synthetic materials are used in secondary structures, such as the fair-ings between the wing and fuselage, and in the cabin, where trim consists of glass-reinforced plastic panels, some areas being stiffened by a honeycomb core.

Production rates are intended to build up rapidly, and will involve two factories in the Soviet Union. Factories in other East Euro-pean countries may also supply components (Poland makes the 11-96-300 tailplane and other items, amounting to some 16 per cent of the aircraft). Talks with Poland, Bulgaria, and Romania are in progress, says Katyrev. Soviet trade officials have yet to release the price or availability of the II-114 in the West,
but now that the Czech-made Let-610
40-seat commuter has flown, Eastern Europe
may soon be offering a pair of new-
generation regional turboprops to Western
operators.

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