

Ramon

In the Timna Valley, 12 miles (19km) north of the Israeli resort of Eilat, a new airport – due to open in 2017 – is taking shape. **Joe Charlaff** explains the plans and outlines the progress made to date at Ramon International.



▶ The apron fronting the terminal will be able to accommodate up to eight large and nine mid-sized aircraft, with further space available for smaller visitors.

◀ Landscaping will help blend the airport into the desert and re-use topsoil removed during the early phases of construction.

◀ The exterior of the terminal will incorporate polygonal facets clad with aluminium, which will blend in with the surrounding desert and reflect the heat from the sun.



Tourism in southern Israel

The Timna Valley in southeast Israel, a former copper mining region, boasts some spectacular sandstone formations and evidence of human activity dating back to the Bronze Age. The area includes a large park, a nature reserve and a number of walking trails enjoyed by tourists visiting the nearby resort of Eilat, on the Gulf of Aqaba at the northern end of the Red Sea.

The tourist resort of Eilat grew up around its airport, which is now constrained by the city and can accommodate only two large aircraft at a time. The runway and terminals are on land immediately adjacent to the Gulf, which is sought after for development, and aircraft noise causes nuisance in nearby hotels.

The space restrictions and the short runway force most international flights to use Ovda Airport, 37 miles (60km) north of the resort but, with visitor numbers increasing, the need for a new airport has become pressing.

The transfer of flights to Ramon International is part of a larger plan to develop the city by building more hotels and housing, relocating the Port of Eilat closer to the Jordanian border and constructing a high-speed railway enabling trains from Tel Aviv to reach the region in two hours.

The airport will cover an area of 1,976 acres (8km²) and be able to accommodate more than 2 million passengers a year. It is situated at the confluence of two wadis (dry river beds) in an area subject to occasional flash floods that can damage infrastructure and threaten life.

To ensure storms don't affect the airport, drains and a dam under construction will help keep water away from the operational areas. The project has also been planned with 'green' credentials in mind, with building materials excavated locally and asphalt produced at a factory close to the site.

The buildings will not be surrounded by grass but by desert topsoil, which was removed before construction commenced and will be replaced afterwards.

Replacing both Eilat and Ovda airports,



Ramon International will be used by domestic flights as well as becoming Israel's second international airport, catering to tourist traffic from Europe. It will also serve as a diversion point for flights inbound to Ben Gurion (TLV) in Tel Aviv should it temporarily close, and is the first civilian airport to be built in Israel since its independence in 1948.

Yisrael Katz, Israel's Minister of Transportation, underlines the importance of Ramon "as an emergency, full-scale alternate airport" far enough away from Gaza not to be affected by rocket attacks such as those that closed Ben Gurion for periods during 2014.

The go-ahead for the Timna Valley project was given in 2003 and the Israeli Government approved the detailed plans in July 2010. At that time, the transport minister announced the facility would be named after Ilan Ramon, the Israeli payload specialist who died on Space Shuttle Columbia mission STS-107, and his son Assaf who was killed in a Lockheed Martin F-16 during a training accident.

Although construction was authorised on June 24, 2011, advanced planning continued and the cornerstone of the terminal was finally laid in May 2013.

Terminal

One of the principal architects of the project, Professor Moshe Tzur, has described the building and the control tower as based on three-dimensional polygons, explaining that those evident in the building's design provide variation and charm to the structure.

He said: "The architectural shape is derived from the sharp edges of the mountain range in Jordan. The buildings are covered with white aluminium cladding to blend in with the surrounding desert and also reflect the intense heat. Large aluminium canopies will provide shade for the entrances and exits."

The single-level terminal occupies 323,000 sq ft (30,000m²) and will have 32 check-in desks. It will also house the operational and support functions, including security, baggage processing and airline and airport offices.

Eight bus gates will be used to transport passengers to flights and the apron will provide sufficient space to park eight large jets, nine turboprops and additional smaller aircraft. A Hold Baggage Screening (HBS) system similar to the one in operation at Ben Gurion Airport will be installed in the building, as experts regard this as necessary for airport security in Israel.





The airport's control tower will be 148ft (45m) high, in accordance with international standards. Aluminium sheets will cover its core concrete structure, with the top encased in steel cladding.

Technology to be deployed in the tower includes an Advanced Surface Movement Guidance and Control System (A-SMGCS) supplied by Saab Sensis Corporation, which will be integrated with conflict detection and alerting algorithms to give controllers visual and audible warning of potential runway incursions.

An Electronic Flight Strip (EFS) system, which automates the production, distribution and management of flight plan information and air traffic control data, will replace the paper strips traditionally used by air traffic controllers.

The airport's runway will measure 11,800 x 148ft (3,600m x 45m), longer than those at either Eilat or Ovda. With shoulders adding a further 49ft (15m) to the width, aircraft up to Boeing 747-400 size will be able to use the facility even when temperatures are at their highest in the peak summer months.

The runway will consist of four 8in (20cm) layers of asphalt, with the last going down

close to the airport's opening date to preserve the surface from temperatures that can climb as high as 41oC (106oF).

Shay Bar Ratzon, Chief Engineer at the IAA, told Airports of the World that the airport's budget is US\$405 million, all of which is being provided by the Israel Airport Authority (IAA). The total cost of the project, including upgrades to the surrounding expected to be close to US\$500m.

Progress

Construction of the new airport, which started in late May 2013, is now proceeding rapidly - with spend currently running at around \$5.2 million per month but expected to increase threefold as further phases of the project begin.

Five contractors are currently engaged around the site. Initial work involved ground levelling between the roads and the airport, after which construction began on the runway, control tower, apron control and broadcasting station buildings plus a tunnel connecting a power distribution centre to the terminal.

On August 28 Israeli construction company

Danya Cebus was selected to build the terminal and work will soon start on the taxiways, apron and landscaping. Another contractor is building the dam and ducts that will help prevent the airport flooding in winter.

The IAA anticipates building work will be completed by the end of 2016, and certification and testing will take place in the first quarter of 2017. Flights are expected to be transferred from Eilat and Ovda to Ramon in the second quarter. Chief Engineer Ratzon said: "We're within the budget and time schedule to open the terminal."

The IAA will be responsible for the transition from the old facilities to the new and for the day-to-day running of the airport. Guided by the successful opening of Terminal 3 at Ben Gurion more than ten years ago, 35 teams of staff will be deployed, each managing an aspect of the transition.

They will use ORAT (Operational Readiness, Activation and Transition) methodology to manage the transfer of business from the existing airports, which will include preparing detailed plans, writing procedures, testing, purchasing, training staff and checking aircraft compatibility.

▼ The lower layers of the 11,800ft (3,600m) runway surface have already been laid.

► The spacious terminal will be able to handle more than two million passengers per annum and will incorporate passenger and baggage screening systems demanded as part of Israel's national security measures.

ORAT was used during the commissioning of new terminals at Toronto and Munich, which were opened on time with minimal impact on users.

Sharon Ben Ezra, Operations Manager and Head of ORAT for IAA, explained that the methodology de-risks the introduction of new services and facilities at airports. "In practice, this means checking and testing every detail from developing new operational processes through to ordering new uniforms; from facilitating staff training programmes to implementing new road signage schemes.

"Complete readiness is the focus, not just operational readiness. Some well known international airports failed to open on time because of lack of readiness and lack of training."

Getting Set for Growth

Ramon International Airport is initially expected handle some 1.4 million domestic and 400,000 international passengers, but it's thought the new facility will spark an increase in tourism to southern Israel -so, while its capacity of around 2m ppa is likely to be adequate in the short term, it will probably



require expansion as throughput increases.

Amir Halevi, Director-General of the Israel Ministry of Tourism, commented: "The region has huge potential for tourism in general and desert tourism in particular.

"It's our belief that this international airport will bring a significant increase to incoming tourism into these desert areas,

from the Red Sea to the Dead Sea and from Eilat to the Ramon Crater."

On August 27, transport minister Yisrael Katz noted: "The International Ramon Airport is a top-priority national project which will contribute to the development of employment, construction and tourism in Eilat." ✂