



FLOWER TERMINAL ON TARGET

The Emirate Dubai, the desert country which has earned untold riches from oil, is preparing for the time, in approximately 15 years, when the oil reserves will be depleted. The magic words for the future of the land are trade, logistics and tourism. The country produces one wonder after the other, the worlds highest building, the worlds largest airline and now the first fully automatic Cargo Terminal for cut flowers and perishable goods. The geographic location for a perishable goods transshipment hub is ideal. Dubai lies at the interface of the important producing and consuming countries of Asia, Africa and Europe. On the other hand the climatic conditions require a high technical expenditure to meet the international standards for the storage and process of perishable goods. With summer temperatures of up to 60°C in the shade even

This year in late summer the Dubai Flower Centre (DFC), the first of its kind Cargo Terminal will go into operation. This is the first phase of a gigantic transshipment hub for perishable goods currently being built at Dubai International Airport.

the transport from the aircraft to the storage terminal airlock has to be by chilled dollies. All the facilities' storage bays are equipped with airlocks. Using modern refrigeration technology the complete ter-



Construction is on its way and nearly completed.



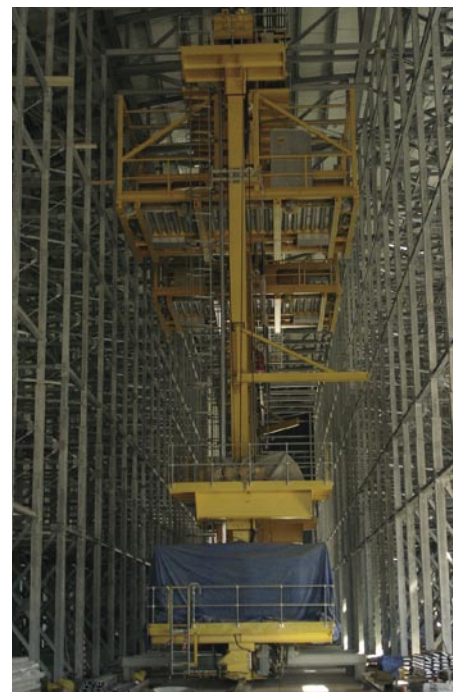
minal is cooled with distinct temperature zones ranging from +2 to +16°C to provide the ideal storage temperature for the various cut flowers. Besides special cool and deep freezing chambers are integrated.

All movements fully automated

The contract value of the cut flower terminal is about 11.5 million Euro. The Terminal will have an annual capacity of over 325 000 tons and will cover an area of 100 000 square meters. The logistic center is basically divided into the in and out storage lanes, the ULD storage areas and workstations. All areas are networked by the control system. All movements within these areas of the terminal are fully automated. ICM Airport Technics have the total responsibility for this project including planning and overall project management. Specialist partners of ICM are the firms Unitechnik Cieplik & Poppek AG and Vollert GmbH+Co.KG. The equipment manufacturer Vollert in Weinsberg, Germany is a specialist firm for the storage and transport of heavy loads. Vollert have delivered the Elevating Transfer Vehicle (ETV) for the ULD store, this is the mechanical back bone of such a system. Unitechnik, since last year a major share holder of ICM, provides the 'Brain' of the system. The Inventory Control System (ICS) co-ordinates the movements within the terminal. Five stationary operational PC's and 11 wireless pocket computers constantly communicate, via a redundant network, with the duplex computer system to achieve a consistent and actual level of data. In addition Unitechnik is responsible for the complete control system, this system ensures the fully automatic operation of the terminal

A typical sequence

A freight aircraft lands. The freight containers (ULDs) are unloaded and can be identified immediately. The world wide standard alpha-numeric identity code is transmitted to the Inventory Control System via a pocket PC over the wire-



The ULD warehouse in Dubai.

less LAN. The identification via bar coded label is already prepared. The ULDs are driven to the terminal and pass through the airlock. The ETV transports the ULD to a free storage shelf in the appropriate temperature zone. In this same shelf are pre-prepared ULDs ready to be transferred to the freight aircraft for shipment to its next destination. The aim is to keep the ground time of the aircraft as short as possible. In off peak hours the workstations come into play. Commissions are broken down and combined. The completed commissions, in ULDs, are the buffer stored in the ULD storage area ready and waiting to be called for just in time

Present site status

The construction work is nearing completion. The storage racks and equipment have been delivered. Control cabinets are delivered and the software is ready. The next step is to install the cabling and the conveyors and commission the installation. For basic installation work local manpower is used, however, for commissioning the control system, the IT infrastructure and logistics the specialist from Germany will fly in.